

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2002

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission file number 001-15885

BRUSH ENGINEERED MATERIALS INC.

(Exact name of Registrant as specified in charter)

OHIO
(State or other jurisdiction of
incorporation or organization)
No.)
17876 ST. CLAIR AVENUE, CLEVELAND, OHIO
(Address of principal executive offices)

34-1919973
(I.R.S. Employer
Identification
44110
(Zip Code)

REGISTRANT'S TELEPHONE NUMBER, INCLUDING AREA CODE 216-486-4200

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

TITLE OF EACH CLASS

NAME OF EACH EXCHANGE ON WHICH REGISTERED

Common Stock, no par value

New York Stock Exchange

SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT:

None

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of Common Stock, no par value, held by non-affiliates of the registrant (based upon the closing sale price on the New York Stock Exchange) on June 28, 2002 was approximately \$206,293,369.

As of March 10, 2003, there were 16,633,843 shares of Common Stock, no par value, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the annual report to shareholders for the year ended December 31, 2002 are incorporated by reference into Parts I, II and IV.

Portions of the proxy statement for the annual meeting of shareholders to be held on May 6, 2003 are incorporated by reference into Part III.

BRUSH ENGINEERED MATERIALS INC.

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On Form 10-K for
Year Ended December 31, 2002

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PART I

Portions of the narrative set forth in this document that are not statements of historical or current facts are forward-looking statements. The Company's actual future performance may materially differ from that contemplated by the forward-looking statements as a result of a variety of factors. These factors include, in addition to those mentioned elsewhere herein:

- The condition of the markets which the Company serves, whether defined geographically or by segment, with the major market segments being telecommunications and computer, optical media, automotive electronics, industrial components, aerospace and defense, and appliance;
- Changes in product mix and the financial condition of particular customers;
- The Company's success in implementing its strategic plans and the timely and successful completion of pending capital expansion projects;
- The availability of adequate lines of credit and the associated interest rates;
- Other financial factors, including tax rates, exchange rates, pension costs, energy costs and the cost and availability of insurance;
- Changes in government regulatory requirements and the enactment of new legislation that impacts the Company's obligations; and,
- The conclusion of pending litigation matters in accordance with the Company's expectation that there will be no material adverse effects.

ITEM 1. BUSINESS

Brush Engineered Materials Inc., through its wholly owned subsidiaries, is a leading manufacturer of high-performance engineered materials serving the global telecommunications and computer, optical media, automotive electronics, industrial components, aerospace and defense and appliance markets. As of December 31, 2002 the Company had 1,862 employees.

The Company's subsidiaries are organized under two reportable segments: the Metal Systems Group and the Microelectronics Group. The Metal Systems Group includes Brush Wellman Inc. (Alloy Products and Beryllium Products) and Technical Materials, Inc. (TMI). The Microelectronics Group includes Williams Advanced Materials Inc. (WAM) and Electronic Products, which in turn consists of Zentrix Technologies Inc. (Zentrix) and Brush Ceramic Products Inc. (a wholly owned subsidiary of Brush Wellman Inc.). Portions of Brush International, Inc. are included in both segments. Included in "All Other" in the Company's financial statements included later in this Form 10-K are the operating results from BEM Services, Inc. and Brush Resources Inc., two wholly owned subsidiaries of the Company. BEM Services charges a management fee for services, such as administrative and financial oversight, to the other businesses within the Company on a cost-plus basis. Brush Resources sells beryllium hydroxide produced through its Utah operations to outside customers and to businesses within the Metal Systems Group. As of December 31, 2002 BEM Services, Inc. and Brush Resources Inc. had 165 employees.

METAL SYSTEMS GROUP

The Metal Systems Group is comprised of Alloy Products, Beryllium Products and TMI. In 2002, 61% of the Company's sales were from this segment (63% in 2001 and 67% in 2000). As of December 31, 2002 the Metal Systems Group had 1,110 employees.

Alloy Products manufactures products that are metallurgically tailored to meet specific customer performance requirements. Copper beryllium alloys exhibit high electrical and thermal conductivities, high strength and hardness, good formability and excellent resistance to corrosion, wear and fatigue. These alloys, sold in strip and bulk form, are ideal choices for demanding applications in the telecommunications and computer, automotive electronics, aerospace, oil exploration, undersea housing for telecommunications equipment, bushings, bearings, appliances and plastic mold tooling markets. These products are sold

domestically through Brush distribution centers and internationally through Company-owned and independent distribution centers and independent sales representatives.

Beryllium Products manufactures products that include beryllium, AlBeMet(R) and E-materials. Beryllium is a lightweight metal possessing unique mechanical and thermal properties. Its specific stiffness is much greater than other engineered structural materials such as aluminum, titanium and steel. Beryllium is extracted from both bertrandite and imported beryl ore. In 2001, the Company purchased land and mineral rights that were previously leased by its mining operations in Utah. Beryllium products are used in a variety of high-performance applications in the defense, electronics, automotive, medical and optical scanning markets. Beryllium-containing products are sold throughout the world through a direct sales organization and through company-owned and independent distribution centers. While the Company is the only domestic producer of metallic beryllium, it competes with other fabricators as well as with designs utilizing other materials.

Alloy Products' only direct competitor in the beryllium alloys field is NGK Insulators, Ltd. of Nagoya, Japan, with subsidiaries in the U.S. and Europe. Alloy Products competes with alloy systems manufactured by Olin Corporation, Wieland Electric, Inc. and Stolberger Metallwerke GmbH, and also with other generally less expensive materials, including phosphor bronze, stainless steel and other specialty copper and nickel alloys which are produced by a variety of companies around the world.

TMI manufactures engineered material systems which are combinations of precious and non-precious metals in continuous strip form, and are used in complex electronic and electrical components in telecommunications systems, automotive electronics, semi-conductors and computers. TMI's products are sold directly and through its sales representatives. TMI has limited competition in the United States and several European manufacturers are competitors for the sale of inlaid strip. Strip with selective electroplating is a competitive alternative as are other design approaches.

METAL SYSTEMS GROUP -- SALES AND BACKLOG

The backlog of unshipped orders as of December 31, 2002, 2001 and 2000 was \$35,064,000, \$60,945,000 and \$140,246,000, respectively. Backlog is generally represented by purchase orders that may be terminated under certain conditions. The Company expects that substantially all of its backlog of orders for this segment at December 31, 2002 will be filled during 2003.

Sales are made to approximately 2,000 customers. Government sales, principally subcontracts, accounted for about 9.2% of Metal Systems Group sales in 2002 as compared to 3.3% in 2001 and 2.3% in 2000. Sales outside the United States, principally to Western Europe, Canada and Asia, accounted for approximately 35% of the Metal Systems Group sales in 2002, 38% in 2001 and 33% in 2000. Other segment reporting and geographic information set forth on pages 43 and 44 in Note M to the consolidated financial statements in the annual report to shareholders for the year ended December 31, 2002 is incorporated herein by reference.

METAL SYSTEMS GROUP -- RESEARCH AND DEVELOPMENT

Active research and development programs seek new product compositions and designs as well as process innovations. Expenditures for research and development amounted to \$2,522,000 in 2002, \$4,679,000 in 2001 and \$5,543,000 in 2000. A staff of 20 scientists, engineers and technicians was employed in this effort as of year end 2002. Some research and development projects, expenditures for which are not material, were externally sponsored.

MICROELECTRONICS GROUP

The Microelectronics Group is comprised of WAM and Electronic Products, which consists of Zentrix and Brush Ceramic Products Inc. In 2002, 37% of the Company's sales were from this segment (36% in 2001 and 32% in 2000). As of December 31, 2002 the Microelectronics Group had 587 employees.

WAM manufactures and fabricates precious metal and specialty metal products for the optical media, magnetic head, including magnetic resistive (MR) and giant magnetic resistive (GMR) materials, electron tube markets and the wireless, semiconductor, photonic and hybrid segments of the microelectronics market.

WAM's major product lines include vapor deposition materials, clad and precious metals preforms, high temperature braze materials, ultra fine wire, sealing lids for the semiconductor/hybrid markets and restorative dental alloys.

WAM's products are sold directly from WAM's facilities in Buffalo, New York; Brewster, New York; Wheatfield, New York; Singapore and the Philippines, as well as through direct sales offices and independent sales representatives throughout the world. Principal competition includes companies such as Sumitomo Metals, Praxair, Inc., Honeywell International Inc. and a number of smaller regional and national suppliers.

Zentrix produces electronic packaging, circuitry and powder metal products. Production sites include Oceanside, California; Tucson, Arizona and Newburyport, Massachusetts. These products are used in wireless telecommunication, fiberoptics, automotive and defense applications. Zentrix's products are sold directly and through its sales representatives. Zentrix's principal competitor in the beryllia ceramics market is CBL Ltd. Other competitors of Zentrix include Kyocera Corporation, Semx Corporation, Aeroflex, Inc., American Technical Ceramics and Anaren Microwave, Inc. Competitive materials include alumina, aluminum nitride and composites.

MICROELECTRONICS GROUP -- SALES AND BACKLOG

The backlog of unshipped orders as of December 31, 2002, 2001 and 2000 was \$19,833,000, \$20,458,000 and \$31,225,000, respectively. Backlog is generally represented by purchase orders that may be terminated under certain conditions. The Company expects that substantially all of its backlog of orders for this segment at December 31, 2002 will be filled during 2003.

Sales are made to approximately 1,700 customers. Government sales, principally subcontracts, accounted for less than 1% of Microelectronics Group sales in 2002 as compared to 2.8% in 2001 and 1.2% in 2000. Sales outside the United States, principally to Western Europe, Canada and Asia, accounted for approximately 18% of Microelectronics Group sales in 2002, 13% in 2001 and 15% in 2000. Other segment reporting and geographic information set forth on pages 43 and 44 in Note M to the consolidated financial statements in the annual report to shareholders for the year ended December 31, 2002 is incorporated herein by reference.

MICROELECTRONICS GROUP -- RESEARCH AND DEVELOPMENT

Active research and development programs seek new product compositions and designs as well as process innovations. Expenditures for research and development amounted to \$1,743,000 for 2002, \$1,648,000 in 2001 and \$1,894,000 in 2000. A staff of 6 scientists, engineers and technicians was employed in this effort as of year end 2002.

GENERAL

AVAILABILITY OF RAW MATERIALS

The principal raw materials used by the Company are beryllium (extracted from both imported beryl ore and bertrandite mined from the Company's Utah properties), copper, gold, silver, nickel, platinum and palladium. Ore reserve data in Management's Discussion and Analysis on pages 20 and 21 of the Company's annual report to shareholders for the year ended December 31, 2002 is incorporated herein by reference. The Company has agreements to purchase stated quantities of beryl ore, beryllium metal and beryllium-copper master alloy from the Defense Logistics Agency of the U.S. Government. In addition, the Company has a long-term supply arrangement with Ulba/Kazatomprom of the Republic of Kazakhstan and its marketing representative, Nukem, Inc. of New York, to purchase quantities of beryllium-copper master. The availability of these raw materials, as well as other materials used by the Company, is adequate and generally not dependent on any one supplier.

PATENTS AND LICENSES

The Company owns patents, patent applications and licenses relating to certain of its products and processes. While the Company's rights under the patents and licenses are of some importance to its operations,

the Company's business is not materially dependent on any one patent or license or on all of its patents and licenses as a group.

REGULATORY MATTERS

The Company is subject to a variety of laws including those which regulate the use, handling, treatment, storage, discharge and disposal of substances and hazardous wastes used or generated in the Company's manufacturing processes. For decades the Company has operated its facilities under stringent standards of inplant and outplant discharge. The inhalation of airborne beryllium particulate may present a health hazard to certain individuals. The Occupational Safety and Health Administration ("OSHA") is currently reviewing its beryllium standards.

AVAILABLE INFORMATION

The Company makes available, free of charge through its internet website, www.beminc.com, this annual on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act, as soon as reasonably practicable after it electronically files such material with, or furnishes it to, the Securities and Exchange Commission.

ITEM 2. PROPERTIES

The material properties of the Company, all of which are owned in fee except as otherwise indicated, are as follows:

MANUFACTURING FACILITIES

BREWSTER, NEW YORK -- A 35,000 square foot leased facility on a 6.0 acre site for manufacturing services relating to non-precious metals.

BUFFALO, NEW YORK -- A complex of approximately 97,000 square feet on a 3.8 acre site providing facilities for manufacturing, refining and laboratory services relating to high purity precious metals.

DELTA, UTAH -- An ore extraction plant consisting of 86,000 square feet of buildings and large outdoor facilities situated on a 4,400 acre site. This plant extracts beryllium from bertrandite ore from the Company's mines as well as from imported beryl ore.

ELMORE, OHIO -- A complex containing approximately 856,000 square feet of building space on a 439 acre plant site. This facility employs diverse chemical, metallurgical and metalworking processes in the production of beryllium, beryllium oxide, beryllium alloys and related products.

FREMONT, CALIFORNIA -- A 16,800 square foot leased facility for the fabrication of precision electron beam welded, brazed and diffusion bonded beryllium structures.

JUAB COUNTY, UTAH -- 7,500 acres with respective mineral rights in Juab County, Utah from which the beryllium-bearing ore, bertrandite, is mined by the open pit method. A small portion of the mineral rights is held under lease. Ore reserve data set forth on pages 20 and 21 in the annual report to shareholders for the year ended December 31, 2002 is incorporated herein by reference.

LINCOLN, RHODE ISLAND -- A manufacturing facility consisting of 140,000 square feet located on 7.5 acres. This facility produces reel-to-reel strip metal products which combine precious and non-precious metals in continuous strip form and related metal systems products.

LORAIN, OHIO -- A manufacturing facility consisting of 55,000 square feet located on 15 acres. This facility produces non-beryllium metal alloys in electronic induction furnaces which are continually cast into bar stock and heat treated.

NEWBURYPORT, MASSACHUSETTS -- A 30,000 square foot manufacturing facility on a 4 acre site that produces alumina, beryllia ceramic and direct bond copper products.

OCEANSIDE, CALIFORNIA -- Two leased facilities totaling 20,200 square feet on 1.25 acres of leased land. Over three-quarters of these facilities are comprised of clean rooms for the production of thick-film circuits and other complex circuits.

SANTA CLARA, CALIFORNIA -- A 5,800 square foot leased facility that provides bonding services relating to physical vapor deposition (PVD) materials.

SHOEMAKERSVILLE (READING), PENNSYLVANIA -- A 123,000 square foot plant on a 10 acre site that produces thin precision strips of copper beryllium and other alloys and copper beryllium rod and wire.

SINGAPORE -- A 4,500 square foot leased facility for the assembly and sale of precious metal hermetic sealing lids.

SUBIC BAY, PHILIPPINES -- A 5,000 square foot leased facility that manufactures Combo-Lid(R) and performs preform assembly, inspection and packaging.

TUCSON, ARIZONA -- A complex containing approximately 63,000 square feet of building space on a 10 acre site for the production of beryllium oxide ceramic substrates and copper/tungsten heatsinks for use in electronic applications.

WHEATFIELD, NEW YORK -- A 29,000 square foot facility on a 10.2 acre site for manufacturing services relating to braze material and specialty alloys.

RESEARCH FACILITIES AND ADMINISTRATIVE OFFICES

CLEVELAND, OHIO -- A 110,000 square foot building on an 18 acre site housing corporate and administrative offices, data processing and research and development facilities.

SERVICE AND DISTRIBUTION CENTERS

ELMHURST, ILLINOIS -- A 28,500 square foot leased facility principally for distribution of copper beryllium alloys.

FAIRFIELD, NEW JERSEY -- A 24,500 square foot leased facility principally for distribution of copper beryllium alloys.

FUKAYA, JAPAN -- A 35,500 square foot facility on 1.8 acres of land in Saitama Prefecture principally for distribution of copper beryllium alloys.

SINGAPORE -- A 2,500 square foot leased sales office that houses employees of Brush Wellman and WAM Far East.

STUTTGART, GERMANY -- A 24,750 square foot leased facility principally for distribution of copper beryllium alloys.

THEALE (READING), ENGLAND -- A 19,700 square foot leased facility principally for distribution of copper beryllium alloys.

WARREN, MICHIGAN -- A 34,500 square foot leased facility principally for distribution of copper beryllium alloys.

ITEM 3. LEGAL PROCEEDINGS

The Company and its subsidiaries are subject, from time to time, to a variety of civil and administrative proceedings arising out of their normal operations, including, without limitation, product liability claims, health, safety and environmental claims and employment-related actions. Among such proceedings are the cases described below.

BERYLLIUM CLAIMS

There are claims pending in various state and federal courts against Brush Wellman Inc., one of the Company's subsidiaries, by some of its employees, former employees or their surviving spouses and by third party individuals (typically employees of customers or of independent contractors) alleging that they contracted, or have been placed at risk of contracting, chronic beryllium disease or other lung conditions as a result of exposure to beryllium. Plaintiffs in beryllium cases seek recovery under theories of intentional tort and various other legal theories and seek compensatory and punitive damages, in many cases of an unspecified sum. Spouses, if any, claim loss of consortium.

During 2002, the number of beryllium cases decreased from 76 (involving 193 plaintiffs), as of December 31, 2001, to 33 cases (involving 70 plaintiffs) as of December 31, 2002. During 2002, an aggregate of 34 cases involving 107 plaintiffs were settled. Eight cases involving 11 plaintiffs were voluntarily dismissed by the plaintiffs. One case involving two plaintiffs was dismissed for lack of prosecution. One other plaintiff was dismissed with prejudice. In addition, the Company received notice during 2002 that two cases (involving four plaintiffs) and two additional plaintiffs were dismissed during prior periods. Two cases involving four plaintiffs were filed in 2002.

The 33 pending beryllium cases fall into three categories: 16 "employee cases" involving an aggregate of 16 Brush Wellman employees, former employees or their surviving spouses (in 6 of these cases, a spouse has also filed claims as part of his or her spouse's case); 16 cases involving third-party individual plaintiffs, with 17 individuals (and 15 spouses who have filed claims as part of their spouse's case, and ten children who have filed claims as part of their parent's case); and one purported class action, involving six individuals, as discussed more fully below. Employee cases, in which plaintiffs have a high burden of proof, have historically involved relatively small losses to the Company. Third-party plaintiffs (typically employees of Brush Wellman's customers or contractors) face a lower burden of proof than do employees or former employees, but these cases are generally covered by varying levels of insurance.

In the one purported class action in which Brush Wellman is seeking review of the appellate court's reversal of the trial court's denial of class certification, the named plaintiffs allege that past exposure to beryllium has increased their risk of contracting chronic beryllium disease and possibly cancer, although they do not claim to have actually contracted any disease. They seek medical monitoring funds to be used to detect medical problems that they believe may develop as a result of their exposure, and seek punitive damages. This purported class action was brought by named plaintiffs on behalf of tradesmen who worked in one of Brush Wellman's facilities as employees of independent contractors.

From January 1, 2003 to March 7, 2003, one third-party case (involving six plaintiffs) was filed. Two third-party cases (involving eight plaintiffs) have been settled and dismissed. The settlements in five employee cases (involving eight plaintiffs) that were dismissed in 2002 have been finalized. In nine employee cases (involving twelve plaintiffs), settlement agreements have been signed, and the plaintiffs have dismissed their claims.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

None.

ITEM 4A. EXECUTIVE OFFICERS OF THE REGISTRANT

The following table provides information as to the executive officers of the Company.

NAME	AGE	POSITIONS AND OFFICES
----	---	-----
Gordon D. Harnett	60	Chairman of the Board, President, Chief Executive Officer
		and Director
John D. Grampa	55	Vice President Finance and Chief Financial Officer
Daniel A. Skoch	53	Senior Vice President Administration

MR. HARNETT was elected Chairman of the Board, Chief Executive Officer and Director of the Company effective January 1991. In addition, Mr. Harnett has served as President of the Company from January 1991 to May 2001 and from May 2002 to the present. Prior to January 1991, he had served as a Senior Vice President of The B. F. Goodrich Company from November 1988.

MR. GRAMPA was elected Vice President Finance and Chief Financial Officer in November 1999. He had served as Vice President Finance since October 1998. Prior to that, he had served as Vice President, Finance for the Worldwide Materials Business of Avery Dennison Corporation since March 1994 and held other various financial positions at Avery Dennison Corporation from 1984.

MR. SKOCH was elected Senior Vice President Administration in July 2000. Prior to that time, he had served as Vice President Administration and Human Resources since March 1996. He had served as Vice President Human Resources since July 1991 and prior to that time, he was Corporate Director -- Personnel.

PART II

ITEM 5. MARKET FOR THE REGISTRANT'S COMMON STOCK AND RELATED STOCKHOLDER MATTERS

The Company's Common Stock is traded on the New York Stock Exchange. As of March 10, 2003 there were 1,857 shareholders of record. Information as to stock price and dividends declared set forth on page 45 in Note P to the consolidated financial statements in the annual report to shareholders for the year ended December 31, 2002 is incorporated herein by reference. The Company's ability to pay dividends is restricted as provided in the Third Amendment to the Credit Agreement and Consent dated December 31, 2001.

ITEM 6. SELECTED FINANCIAL DATA

Selected Financial Data on pages 46 and 47 of the annual report to shareholders for the year ended December 31, 2002 is incorporated herein by reference.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The management's discussion and analysis of financial condition and results of operations on pages 12 through 24 of the annual report to shareholders for the year ended December 31, 2002 is incorporated herein by reference.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The market risk disclosures on pages 23 and 24 of the annual report to shareholders for the year ended December 31, 2002 are incorporated herein by reference.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The report of independent auditors and the following consolidated financial statements of the Company included in the annual report to shareholders for the year ended December 31, 2002 are incorporated herein by reference:

Consolidated Balance Sheets -- December 31, 2002 and 2001.

Consolidated Statements of Income -- Years ended December 31, 2002, 2001 and 2000.

Consolidated Statements of Shareholders' Equity -- Years ended December 31, 2002, 2001 and 2000.

Consolidated Statements of Cash Flows -- Years ended December 31, 2002, 2001 and 2000.

Notes to Consolidated Financial Statements.

Quarterly Data on page 45 in Note P to the consolidated financial statements in the annual report to shareholders for the years ended December 31, 2002 and 2001 is incorporated herein by reference.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

The information under Election of Directors on pages 2 through 4 of the Proxy Statement dated March 28, 2003, as filed with the Securities and Exchange Commission pursuant to Regulation 14A, is incorporated herein by reference. Information with respect to Executive Officers of the Company is set forth under Item 4A -- Executive Officers of the Registrant.

ITEM 11. EXECUTIVE COMPENSATION

The information required under this heading is incorporated by reference from pages 9 through 12 of the Proxy Statement dated March 28, 2003, as filed with the Securities and Exchange Commission pursuant to Regulation 14A.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required under this heading is incorporated by reference on pages 7 and 8 and the "Equity Compensation Plan Information" on page 10 of the Proxy Statement dated March 28, 2003, as filed with the Securities and Exchange Commission pursuant to Regulation 14A.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Not applicable.

ITEM 14. CONTROLS AND PROCEDURES

During the 90-day period prior to the filing the annual report on Form 10-K, the Company carried out an evaluation, under the supervision and with the participation of the Company's management, including the Company's Chairman of the Board, President and Chief Executive Officer, and Vice President Finance and Chief Financial Officer, of the effectiveness of the design and operation of the Company's disclosure controls and procedures pursuant to Exchange Act Rule 13a-14. Based upon that evaluation, the Company's management concluded that the Company's disclosure controls and procedures are effective. There have been no significant changes in the Company's internal controls or in other factors that could significantly affect these controls subsequent to the date of their evaluation.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES AND REPORTS ON FORM 8-K

(a) 1. FINANCIAL STATEMENTS AND SUPPLEMENTAL INFORMATION

Included in Part II of this Form 10-K annual report by reference to the annual report to shareholders for the year ended December 31, 2002 are the following consolidated financial statements:

Consolidated Balance Sheets -- December 31, 2002 and 2001.

Consolidated Statements of Income -- Years ended December 31, 2002, 2001 and 2000.

Consolidated Statements of Shareholders' Equity -- Years ended December 31, 2002, 2001 and 2000.

Consolidated Statements of Cash Flows -- Years ended December 31, 2002, 2001 and 2000.

Notes to Consolidated Financial Statements.

Report of Independent Auditors.

(a) 2. FINANCIAL STATEMENT SCHEDULES

The following consolidated financial information for the years ended December 31, 2002, 2001 and 2000 is submitted herewith:

Schedule II -- Valuation and qualifying accounts.

All other schedules for which provision is made in the applicable accounting regulations of the Securities and Exchange Commission are not required under the related instructions or are inapplicable, and therefore have been omitted.

(a) 3. EXHIBITS

- (2) Agreement of Merger, dated as of May 17, 2000, by and among Brush Merger Co., Brush Wellman Inc. and Brush Engineered Materials Inc. (filed as Annex A to the Registration Statement on Form S-4 filed by the Company on February 1, 2000, Registration No. 333-95917), incorporated herein by reference.
- (3a) Amended and Restated Articles of Incorporation of Brush Engineered Materials Inc. (filed as Annex B to the Registration Statement on Form S-4 filed by the Company on February 1, 2000, Registration No. 333-95917), incorporated herein by reference.
- (3b) Amended and Restated Code of Regulations of Brush Engineered Materials Inc. (filed as Exhibit 4(b) to the Current Report on Form 8-K filed by Brush Wellman Inc. on May 16, 2000), incorporated herein by reference.
- (4a) Credit Agreement dated as of June 30, 2000 among Brush Wellman Inc. and Brush Engineered Materials Inc. as the borrowers and National City Bank, N.A. acting for itself and as agent for certain other banking institutions as lenders (filed as Exhibit 4a to the Company's Form 10-Q Quarterly Report for the quarter ended June 30, 2000), incorporated herein by reference.
- (4b) First Amendment to Credit Agreement dated as of March 30, 2001 among Brush Wellman Inc. and Brush Engineered Materials Inc. as the borrowers and National City Bank, N.A. acting for itself and as agent for certain other banking institutions as lenders. (filed as Exhibit 4 to the Company's Form 10-Q Quarterly Report for the quarter ended March 30, 2001), incorporated herein by reference.
- (4c) Second Amendment to Credit Agreement dated as of September 28, 2001 among Brush Wellman Inc. and Brush Engineered Materials Inc. as the borrowers and National City Bank, N.A. acting for itself and as agent for certain other banking institutions as lenders (filed as Exhibit 4c to the Company's Form 10-K Annual Report for the year ended December 31, 2001), incorporated herein by reference.

(4d) Third Amendment to Credit Agreement dated as of December 31, 2001 among Brush Wellman Inc. and Brush Engineered Materials Inc. as the borrowers and National City Bank, N.A. acting for itself and as agent for certain other banking institutions as lenders (filed as Exhibit 4d to the Company's Form 10-K Annual Report for the year ended December 31, 2001), incorporated herein by reference.

(4e) Fourth Amendment to Credit Agreement dated as of January 29, 2003 among Brush Wellman Inc. and Brush Engineered Materials Inc. as the borrowers and National City Bank, N.A. acting for itself and as agent for certain other banking institutions as lenders.

(4f) Fifth Amendment to Credit Agreement dated as of March 7, 2003 among Brush Wellman Inc. and Brush Engineered Materials Inc. as the borrowers and National City Bank, N.A. acting for itself and as agent for certain other banking institutions as lenders.

(4g) Rights Agreement, dated as of May 10, 2000, by and between Brush Engineered Materials Inc. and National City Bank, N.A. as Rights Agent (filed as Exhibit 4(a) to the Current Report on Form 8-K filed by Brush Engineered Materials Inc. on May 16, 2000), incorporated herein by reference.

(4h) Pursuant to Regulation S-K, Item 601(b)(4), the Company agrees to furnish to the Commission, upon its request, a copy of the instruments defining the rights of holders of long-term debt of the Company that are not being filed with this report.

(10a)* Employment Arrangement between the Company and Mr. William R. Seelbach dated June 3, 1998 (filed as Exhibit 10b to the Company's Form 10-Q Quarterly Report for the quarter ended July 3, 1998), incorporated herein by reference.

(10b)* Addendum to Employment Arrangement between the Company and Mr. William R. Seelbach dated June 24, 1998 (filed as Exhibit 10c to the Company's Form 10-Q Quarterly Report for the quarter ended July 3, 1998), incorporated herein by reference.

(10c)* Form of Indemnification Agreement entered into by the Company and Mr. William R. Seelbach dated June 29, 1998 (filed as Exhibit 10d to the Company's Form 10-Q Quarterly Report for the quarter ended July 3, 1998), incorporated herein by reference.

(10d)* Form of Indemnification Agreement entered into by the Company and its executive officers (filed as Exhibit 10g to the Company's Form 10-K Annual Report for the year ended December 31, 1994, Commission File No. 1-7006), incorporated herein by reference.

(10e)* Form of Indemnification Agreement entered into by the Company and its directors (filed as Exhibit 10h to the Company's Form 10-K Annual Report for the year ended December 31, 1994, Commission File No. 1-7006), incorporated herein by reference.

(10f)* Form of Severance Agreement entered into by the Company and Messrs. Gordon D. Harnett, Daniel S. Skoch and John D. Grampa dated October 8, 2001 (filed as Exhibit 10-f to the Company's Form 10-K Annual Report for the year ended December 31, 2001, Commission File No. 1-7006), incorporated herein by reference.

(10g)* Form of Executive Insurance Agreement entered into by the Company and  employees dated January 2, 2002 (filed as Exhibit 10-g to the Company's Form 10-K Annual Report for the year ended December 31, 2001, Commission File No. 1-7006), incorporated herein by reference.

(10j)* Amendment, dated May 17, 2000, to the Brush Engineered Materials Inc. Deferred Compensation Plan for Non-employee Directors (filed as Exhibit 4b to Post-Effective Amendment No. 1 to Registration Statement No. 333-63353), incorporated herein by reference.

(10k)* First Amendment to the Deferred Compensation Plan for Non-employee Directors as amended through September 11, 2001 (filed as Exhibit 4c to Post-Effective Amendment No. 1 to Registration Statement No. 333-74296), incorporated herein by reference.

(10l)* Form of Trust Agreement between the Company and National City Bank, N.A. dated January 1, 1992 on behalf of Non-employee Directors of the Company (filed as Exhibit 10k to the Company's Form 10-K Annual Report for the year ended December 31, 1992, Commission File No. 1-7006), incorporated herein by reference.

(10m)* Incentive Compensation Plan adopted December 16, 1991, January 1, 1992 (filed as Exhibit 10l to the Company's Form 10-K Annual Report for the year ended December 31, 1991, Commission File No. 1-7006), incorporated herein by reference.

(10n)* Supplemental Retirement Plan as amended and restated December 1, 1992 (filed as Exhibit 10n to the Company's Form 10-K Annual Report for the year ended December 31, 1992, Commission File No. 1-7006), incorporated herein by reference.

(10o)* Amendment Number 2, adopted January 1, 1996, to Supplemental Retirement Benefit Plan as amended and restated December 1, 1992 (filed as Exhibit 10o to the Company's Form 10-K Annual Report for the year ended December 31, 1995, Commission File No. 1-7006), incorporated herein by reference.

(10p)* Amendment Number 3, adopted May 5, 1998, to Supplemental Retirement Benefit Plan as amended and restated December 1, 1992 (filed as Exhibit 10s to the Company's Form 10-K Annual Report for the year ended December 31, 1998), incorporated herein by reference.

(10q)* Amendment Number 4, adopted December 1, 1998, to Supplemental Retirement Benefit Plan as amended and restated December 1, 1992 (filed as Exhibit 10t to the Company's Form 10-K Annual Report for the year ended December 31, 1998), incorporated herein by reference.

(10r)* Amendment Number 5, adopted December 31, 1998, to Supplemental Retirement Benefit Plan as amended and restated December 1, 1992 (filed as Exhibit 10u to the Company's Form 10-K Annual Report for the year ended December 31, 1998), incorporated herein by reference.

(10s)* Amendment Number 6, adopted September, 1999, to Supplemental Retirement Benefit Plan as amended and restated December 1, 1992. (filed as Exhibit 10u to the Company's Form 10-K Annual Report for the year ended December 31, 2000, Commission File No. 1-7006), incorporated herein by reference.

(10t)* Amendment Number 7, adopted May, 2000, to Supplemental Retirement Benefit Plan as amended and restated December 1, 1992. (filed as Exhibit 10v to the Company's Form 10-K Annual Report for the year ended December 31, 2000, Commission File No. 1-7006), incorporated herein by reference.

(10u)* Amendment Number 8, adopted December 21, 2001, to Supplemental Retirement Benefit Plan as amended and

- (10x)* Brush Engineered Materials Inc. (formerly Brush Wellman Inc.) 1979 Stock Option Plan, as amended pursuant to approval of shareholders on April 21, 1982 (filed by Brush Wellman Inc. as Exhibit 15A to Post-Effective Amendment No. 3 to Registration Statement No. 2-64080), incorporated herein by reference.
- (10y)* Amendment, dated May 17, 2000, to the Brush Engineered Materials Inc. 1979 Stock Option Plan (filed as Exhibit 4b to Post-Effective Amendment No. 5 to Registration Statement No. 2-64080), incorporated herein by reference.
- (10z)* Brush Engineered Materials Inc. (formerly Brush Wellman Inc.) 1984 Stock Option Plan as amended by the Board of Directors on April 18, 1984 and February 24, 1987 (filed by Brush Wellman Inc. as Exhibit 4.4 to Registration Statement No. 33-28605), incorporated herein by reference.
- (10aa)* Amendment, dated May 17, 2000, to the Brush Engineered Materials Inc. 1984 Stock Option Plan (filed as Exhibit 4b to Post-Effective Amendment No. 1 to Registration Statement No. 2-90724), incorporated herein by reference.
- (10bb)* Brush Engineered Materials Inc. (formerly Brush Wellman Inc.) 1989 Stock Option Plan (filed by Brush Wellman Inc. as Exhibit 4.5 to Registration Statement No. 33-28605), incorporated herein by reference.
- (10cc)* Amendment, dated May 17, 2000, to the Brush Engineered Materials Inc. 1989 Stock Option Plan (filed as Exhibit 4b to Post-Effective Amendment No. 1 to Registration Statement No. 33-28605), incorporated herein by reference.
- (10dd)* Brush Engineered Materials Inc. (formerly Brush Wellman Inc.) 1995 Stock Incentive Plan as Amended March 3, 1998 (filed by Brush Wellman Inc. as Exhibit A to the Company's Proxy Statement dated March 16, 1998, Commission File No. 1-7006), incorporated herein by reference.
- (10ee)* Amendment, dated May 17, 2000, to the Brush Engineered Materials Inc. 1995 Stock Incentive Plan (filed as Exhibit 4b to Post-Effective Amendment No. 1 to Registration Statement No. 333-63357), incorporated herein by reference.
- (10ff)* Brush Engineered Materials Inc. (formerly Brush Wellman Inc.) 1997 Stock Incentive Plan for Non-employee Directors (filed by Brush Wellman Inc. as Exhibit B to the Company's Proxy Statement dated March 16, 1998, Commission File No. 1-7006), incorporated herein by reference.
- (10gg)* Amendment, dated May 17, 2000, to the Brush Engineered Materials Inc. 1997 Stock Incentive Plan for Non-employee Directors (filed as Exhibit 4b to Post-Effective Amendment No. 1 to Registration Statement No. 333-63355), incorporated herein by reference.
- (10hh)* Brush Engineered Materials Inc. (formerly Brush Wellman Inc.) 1997 Stock Incentive Plan for Non-employee Directors (filed as Appendix B to the Company's Proxy Statement dated March 18, 2001, Commission File No. 1-7006), incorporated herein by reference.
- (10ii)* Brush Engineered Materials Inc. Executive Deferred Compensation Plan (2000 Restatement).(filed as Exhibit 10jj to the Company's Form 10-K Annual Report for the year ended December 31, 2000), incorporated herein by reference.
- (10jj)* Trust Agreement for Brush Engineered Materials Inc. (formerly Brush Wellman Inc.) Executive Deferred Compensation Plan, dated September 14, 1999 (filed as Exhibit 10hh to the Company's Form 10-K Annual Report for the year ended December 31, 1999), incorporated herein by reference.
- (10kk) Lease dated as of October 1, 1996, between Brush Wellman Inc. and Toledo-Lucas County Port Authority (filed as Exhibit 10v to the Company's Form 10-K Annual Report for the year ended December 31, 1996), incorporated herein by reference.
- (10ll) Master Lease Agreement dated December 30, 1996 between Brush Wellman Inc. and National City Bank, N.A. acting for itself and agent for certain participants (filed as Exhibit 10w to the Company's Form 10-K Annual Report for the year ended December 31, 1996), incorporated herein by reference.

- (10mm) Consolidated Amendment No. 1 to Master Lease Agreement and Equipment Schedules dated as of June 30, 2000 between Brush Wellman Inc. and National City Bank, N.A. acting for itself and as agent for certain participants (filed as Exhibit 10a to the Company's Form 10-Q Quarterly Report for the quarter ended June 30, 2000), incorporated herein by reference.
- (10nn) Consolidated Amendment No. 2 to Master Lease Agreement and Equipment Schedules dated as of March 30, 2001 between Brush Wellman Inc. and National City Bank, N.A. acting for itself and as agent for certain participants (filed as Exhibit 10 to the Company's Form 10-Q Quarterly Report for the quarter ended March 30, 2001), incorporated herein by reference.
- (10oo) Consolidated Amendment No. 3 to Master Lease Agreement and Equipment Schedules dated as of September 28, 2001 between Brush Wellman Inc. and National City Bank, N.A. acting for itself and as agent for certain participants (filed as Exhibit 10oo to the Company's Form 10-K Annual Report for the year ended December 31, 2001), incorporated herein by reference.
- (10pp) Consolidated Amendment No. 8 to Master Lease Agreement and Equipment Schedules dated as of December 31, 2001 between Brush Wellman Inc. and National City Bank, N.A. acting for itself and as agent for certain participants (filed as Exhibit 10pp to the Company's Form 10-K Annual Report for the year ended December 31, 2001), incorporated herein by reference.
- (10qq) Consolidated Amendment No. 9 to Master Lease Agreement and Equipment Schedules dated as of January 29, 2003 between Brush Wellman Inc. and National City Bank, N.A. acting for itself and as agent for certain participants.
- (10rr) Consolidated Amendment No. 10 to Master Lease Agreement and Equipment Schedules dated as of March 7, 2003 between Brush Wellman Inc. and National City Bank, N.A. acting for itself and as agent for certain participants.
- (10ss) Brush Engineered Materials Inc. Restated Pension Plan, dated June 1, 2000.
- (10tt) Amendment No. 1 dated as of February 28, 2003 to the Brush Engineered Materials Inc. Restated Pension Plan dated June 1, 2000.
- (13) Annual report to shareholders for the year ended December 31, 2002
- (21) Subsidiaries of the Registrant
- (23) Consent of Ernst & Young LLP
- (24) Power of Attorney
- (99.1) Certification Pursuant to 18 U.S.C. Section 1350, As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
- (99.2) Certification Pursuant to 18 U.S.C. Section 1350, As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

* Reflects management contract or other compensatory arrangement required to be filed as an Exhibit pursuant to Item 14(c) of this Report.

(b) REPORTS ON FORM 8-K

An 8-K was filed on December 6, 2002 updating the "Current Investor Update", a presentation on its website. This presentation was updated with the corporate strategy and financial results through the third quarter of 2002.

An 8-K was filed on March 28, 2003 updating the "Current Investor Update", a presentation on its website. This presentation was updated with the corporate strategy and financial results through December 2002. In addition, the website was updated to include a new section on "Corporate Governance". This section lists the Policy Statement on Significant Corporate Governance Issues as well as the charters for the Audit Committee, the Governance Committee, the Organization and Compensation Committee and the Retirement Plan Review Committee.

SIGNATURES

Pursuant to the requirements of Section 13 of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

March 31, 2003

BRUSH ENGINEERED MATERIALS INC.

By: /s/ GORDON D. HARNETT

By: /s/ JOHN D. GRAMPA

Gordon D. Harnett
Chairman of the Board, President
and Chief Executive Officer

John D. Grampa
Vice President Finance
and Chief Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

----- /s/ GORDON D. HARNETT* ----- Gordon D. Harnett	Chairman of the Board, President, Chief Executive Officer and Director (Principal Executive Officer)	March 31, 2003
----- /s/ JOHN D. GRAMPA ----- John D. Grampa	Vice President Finance and Chief Financial Officer (Principal Financial and Accounting Officer)	March 31, 2003
----- /s/ ALBERT C. BERSTICKER* ----- Albert C. Bersticker	Director	March 31, 2003
----- /s/ CHARLES F. BRUSH, III* ----- Charles F. Brush, III	Director	March 31, 2003
----- /s/ DAVID H. HOAG* ----- David H. Hoag	Director	March 31, 2003
----- /s/ JOSEPH P. KEITHLEY* ----- Joseph P. Keithley	Director	March 31, 2003
----- /s/ WILLIAM P. MADAR* ----- William P. Madar	Director	March 31, 2003
----- /s/ N. MOHAN REDDY* ----- N. Mohan Reddy	Director	March 31, 2003
----- /s/ WILLIAM R. ROBERTSON* ----- William R. Robertson	Director	March 31, 2003
----- /s/ JOHN SHERWIN, JR.* ----- John Sherwin, Jr.	Director	March 31, 2003

*The undersigned, by signing his name hereto, does sign and execute this report on behalf of each of the above-named officers and directors of Brush Engineered Materials Inc., pursuant to Powers of Attorney executed by each such officer and director filed with the Securities and Exchange Commission.

John D. Grampa
Attorney-in-Fact

CERTIFICATIONS

I, Gordon D. Harnett, certify that:

1. I have reviewed this annual report on Form 10-K of Brush Engineered Materials Inc. (the "Company");
2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;
3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, results of operations and cash flows of the Company as of, and for, the periods presented in this annual report;
4. The Company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for the Company and we have:
 - a) designed such disclosure controls and procedures to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared;
 - b) evaluated the effectiveness of the Company's disclosure controls and procedures as of a date within 90 days prior to the filing date of this annual report (the "Evaluation Date"); and
 - c) presented in this annual report our conclusions about the effectiveness of the disclosure controls and procedures based on our evaluation as of the Evaluation Date;
5. The Company's other certifying officer and I have disclosed, based on our most recent evaluation, to the Company's auditors and the Audit Committee of the Company's Board of Directors::
 - (a) all significant deficiencies in the design or operation of internal controls which could adversely affect the Company's ability to record, process, summarize and report financial data and have identified for the Company's auditors any material weaknesses in internal controls; and
 - (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the Company's internal controls; and
6. The Company's other certifying officer and I have indicated in this annual report whether there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of our most recent evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

Dated: March 31, 2003

/s/ GORDON D. HARNETT

Gordon D. Harnett
Chairman, President and Chief Executive Officer

CERTIFICATIONS

I, John D. Grampa, certify that:

1. I have reviewed this annual report on Form 10-K of Brush Engineered Materials Inc. (the "Company");
2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;
3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, results of operations and cash flows of the Company as of, and for, the periods presented in this annual report;
4. The Company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for the Company and we have:
 - a) designed such disclosure controls and procedures to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared;
 - b) evaluated the effectiveness of the Company's disclosure controls and procedures as of a date within 90 days prior to the filing date of this annual report (the "Evaluation Date"); and
 - c) presented in this annual report our conclusions about the effectiveness of the disclosure controls and procedures based on our evaluation as of the Evaluation Date;
5. The Company's other certifying officer and I have disclosed, based on our most recent evaluation, to the Company's auditors and the Audit Committee of the Company's Board of Directors::
 - (a) all significant deficiencies in the design or operation of internal controls which could adversely affect the Company's ability to record, process, summarize and report financial data and have identified for the Company's auditors any material weaknesses in internal controls; and
 - (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the Company's internal controls; and
6. The Company's other certifying officer and I have indicated in this annual report whether there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of our most recent evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

Dated: March 31, 2003

/s/ JOHN D. GRAMPA

John D. Grampa
Vice President Finance and Chief Financial Officer

BRUSH ENGINEERED MATERIALS INC. AND SUBSIDIARIES

**SCHEDULE II -- VALUATION AND QUALIFYING ACCOUNTS
YEARS ENDED DECEMBER 31, 2002, 2001 AND 2000**

COL. A	COL. B	COL. C	COL. D	COL. E	
-----	-----	-----	-----	-----	
DESCRIPTION	BALANCE AT BEGINNING OF PERIOD	(1) CHARGED TO COSTS AND EXPENSES	(2) CHARGED TO OTHER ACCOUNTS-- DESCRIBE	DEDUCTION-- DESCRIBE	BALANCE AT END OF PERIOD
-----	-----	-----	-----	-----	-----
YEAR ENDED DECEMBER 31, 2002					
Deducted from asset accounts:					
Allowance for doubtful accounts					
receivable.....	\$1,513,607	\$ 346,287	\$0	\$ 543,249 (A)	\$1,316,645
Inventory reserves and					
obsolescence.....	\$4,707,000	\$3,598,000	\$0	\$4,462,000 (B)	\$3,843,000
YEAR ENDED DECEMBER 31, 2001					
Deducted from asset accounts:					
Allowance for doubtful accounts					
receivable.....	\$1,676,666	\$ 39,814	\$0	\$ 202,873 (A)	\$1,513,607
Inventory reserves and					
obsolescence.....	\$3,151,000	\$5,599,000	\$0	\$4,043,000 (B)	\$4,707,000
YEAR ENDED DECEMBER 31, 2000					
Deducted from asset accounts:					
Allowance for doubtful accounts					
receivable.....	\$1,744,149	\$ 4,984	\$0	\$ 72,467 (A)	\$1,676,666
Inventory reserves and					
obsolescence.....	\$3,526,000	\$4,517,000	\$0	\$4,892,000 (B)	\$3,151,000

Note A -- Bad debts written-off, net of recoveries.

Note B -- Inventory write-off.

EXHIBIT 4E

**FOURTH AMENDMENT TO CREDIT AGREEMENT,
CONDITIONAL WAIVER AND AUTHORIZATION**

THIS FOURTH AMENDMENT TO CREDIT AGREEMENT, CONDITIONAL WAIVER AND AUTHORIZATION ("this Fourth Amendment") is made and entered into as of the 29th day of January, 2003, by and among BRUSH ENGINEERED MATERIALS INC., an Ohio corporation (the "Parent"), and BRUSH WELLMAN INC., an Ohio corporation and a wholly owned subsidiary of the Parent ("Brush Wellman" and, collectively with the Parent, the "Borrowers", with each being a "Borrower"); the LENDERS listed on the signature pages of this Fourth Amendment (collectively, the "Lenders"); and NATIONAL CITY BANK, a national banking association, as one of the Lenders, as the Lender under the Swing Line Revolving Facility (herein, together with its successors and assigns, the "Swing Line Lender"), and as Administrative Agent for the Lenders (the "Administrative Agent") under the Credit Agreement (hereinafter defined).

RECITALS:

- A. The Borrowers, the Lenders, the Swing Line Lender and the Administrative Agent, are parties to that certain Credit Agreement dated as of June 30, 2000, as amended by a First Amendment dated as of March 30, 2001, a Second Amendment dated as of September 28, 2001, and a Third Amendment dated as of December 31, 2001 (collectively, the "Credit Agreement"), pursuant to which, among other things, the Lenders agreed, subject to the terms and conditions thereof, to lend to the Borrowers up to Sixty-five Million Dollars (\$65,000,000) from time to time.
- B. Capitalized terms used herein and not otherwise defined herein shall have the meanings assigned to such terms in the Credit Agreement.
- C. The Borrowers, the Lenders, the Swing Line Lender and the Administrative Agent

have agreed to amend the Credit Agreement as hereinafter set forth.

D. In addition, on November 30, 2002, an Event of Default occurred and is continuing under Section 10.1(c) (Events of Default) of the Credit Agreement, by reference to Section 9.10 (Consolidated Tangible Net Worth) thereof (the "Existing Default"), and the Borrowers have requested the Lenders to waive the Existing Default.

E. Subject to the terms and conditions of this Fourth Amendment, the Lenders have agreed to waive the Existing Default.

F. In addition, the Borrowers have requested the Lenders to authorize the Administrative Agent and the Collateral Agent under the Intercreditor and Collateral Agency Agreement dated September 28, 2001, as amended (the "Collateral Agency Agreement"), on behalf of the Lenders, to enter into an Intercreditor Agreement with The Bank of Nova Scotia in the Form of Attachment 9 hereto (the "Scotia Intercreditor Agreement").

G. Subject to the terms and conditions of this Fourth Amendment, the Lenders have agreed to grant such authorization.

AGREEMENTS:

NOW, THEREFORE, in consideration of the foregoing Recitals and the mutual agreements hereinafter set forth, the parties hereby agree as follows:

1. Amendments to the Credit Agreement. Subject to the terms and conditions of this Fourth Amendment, including, without limitation, Section 4, below, the Credit Agreement is hereby amended as follows:

A. The following definitions are added to Section 1.1 (Definitions) of the Credit Agreement in proper alphabetical order:

"COLLATERAL AGENCY AGREEMENT" shall mean that certain Intercreditor and Collateral Agency Agreement dated September 28, 2001, among National City Bank, as collateral agent, the Lenders, and certain other parties, as heretofore and hereafter amended, supplemented and replaced from time to time.

"COLLATERAL AGENT" shall mean the party from time to time serving as the Collateral Agent under and pursuant to the Collateral Agency Agreement.

"FOREIGN SUBSIDIARY PLEDGE AGREEMENT" shall mean the stock pledge agreement in form and substance satisfactory to the Administrative Agent pursuant to which Brush International, Inc. grants to the Administrative Agent for the benefit of the Lenders a Lien on sixty-five percent (65%) of the issued and outstanding capital stock of each of the Foreign Subsidiaries.

"MORTGAGE" shall mean any mortgage or deed of trust in form and substance satisfactory to the Collateral Agent that grants to the Collateral Agent for the benefit of the Secured Creditors (as defined in the Collateral Agency Agreement) a Lien on real property owned by any Credit Party and on the Development Bond Sites, collectively being the "MORTGAGES".

"SCOTIA INTERCREDITOR AGREEMENT" shall mean the Intercreditor Agreement among The Bank of Nova Scotia, the Administrative Agent and the Collateral Agent entered into contemporaneously with the effectiveness of the Fourth Amendment to this Agreement, as the same is amended, supplemented and replaced from time to time.

B. The definitions of "Borrowing Base" and "Security Documents" in Section

1.1 (Definitions) of the Credit Agreement are amended and restated in their entirety to provide, respectively, as follows:

"BORROWING BASE" shall mean at any time and from time to time, an amount equal to (a) the aggregate of:

(i) an amount equal to eighty percent (80%) of the face value of the Eligible Accounts at such time, as reflected on the most recent Borrowing Base Certificate,

(ii) the lesser of (a) \$40,000,000 and (b) an amount equal to fifty percent (50%) of the value (at the lower of cost or market value) of the Eligible Inventory at such time, as reflected on the most recent Borrowing Base Certificate; and

(iii) the Equipment Amount at such time,

minus, (b) Ten Million Dollars (\$10,000,000).

"SECURITY DOCUMENTS" shall mean the Pledge Agreement, Foreign Subsidiary Pledge Agreement, the Guaranties, the Collateral Agency Agreement, the Security Agreement, the Subsidiary Security Agreement, the Mortgages and each other document pursuant to which any of the Obligations are guaranteed or any Lien or security interest is governed or granted by any Borrower or any Subsidiary to the Administrative Agent or the Collateral Agent as security for any of the Obligations.

C. The second proviso at the end of the definition of "Consolidated Net Worth" in Section 1.1 (Definitions) of the Credit Agreement (that is, the proviso immediately following the word "Stock" and before the period) is amended and restated in its entirety to provide as follows:

; and PROVIDED FURTHER that Consolidated Net Worth shall be calculated (i) before the effect of FAS 133 - Accounting for Derivatives Instruments and Hedging Activities and FAS 138 - Accounting for Certain Derivatives Instruments and Certain Hedging Activities (prior to the "Delivery Date" of the Third Amendment to this Agreement, such item appearing under the stockholders' equity category "Foreign Currency Translation Adjustment"),

(ii) without reduction for Directors Deferred Compensation (prior to the "Delivery Date" of the Third Amendment to this Agreement, such item appearing under the stockholders' equity categories "Other Equity Transactions - Deferred Directors Shares and Deferred Compensation"),

(iii) without reflecting the effect of any write-offs of any deferred tax assets effected during the fiscal year of the Parent ending December 31, 2002, pursuant to FAS 109, so long as such write-offs do not exceed \$25,000,000 in the aggregate on a consolidated basis, and (iv) without reflecting the effect of any non-cash charges in respect of unfunded pension liabilities effected during the fiscal year of the Parent ending December 31, 2002, pursuant to FAS 87, so long as such charges do not exceed \$18,000,000 in the aggregate on a consolidated basis.

D. Clause (j) of the definition of "Eligible Inventory" in Section 1.1 (Definitions) of the Credit Agreement is amended and restated in its entirety to provide as follows:

(j) consists of bertrandite ore that is not a component of finished goods or is, in the Administrative Agent's reasonable credit judgment, Inventory which is otherwise deemed ineligible.

E. Clause (ii) of Section 2.1(a) (General Revolving Facility) of the Credit Agreement is amended by deleting therefrom the sum "\$15,000,000" and inserting the sum "\$10,000,000" in its stead.

F. Sub-clause (x) of clause (i) of Section 2A.1(b) (Letters of Credit) of the Credit

Agreement is amended by deleting therefrom the sum "\$5,000,000" and inserting the sum "\$10,000,000" in its stead.

G. Section 2.8(h) (Interest Margins) of the Credit Agreement is amended and restated in its entirety to provide as follows:

(h) INTEREST MARGINS. As used herein, the term "APPLICABLE PRIME RATE MARGIN", as applied to any Loan which is a Prime Rate Loan, means one hundred fifty (150) basis points per annum; and the term "APPLICABLE EURODOLLAR MARGIN", as applied to any General Revolving Loan which is a Eurodollar Loan, means four hundred (400) basis points per annum.

H. Section 3.1(b) (Facility Fee) of the Credit Agreement is amended and restated in its entirety to provide as follows:

(b) As used herein, the term "APPLICABLE FACILITY FEE RATE" means fifty (50) basis points per annum.

I. Clause (iv) of Section 9.8 of the Credit Agreement (Ratio of Consolidated Total Debt to Consolidated EBITDAR) is amended and restated in its entirety to provide as follows:

(iv) 3.50 to 1.00 for each Testing Period ending on and after March 31, 2003; provided, however, that for the purposes of this clause (iv), (A) the term "Testing Period" shall mean, as to each of the fiscal quarters ending on the following dates only, the respective period set forth opposite such fiscal quarter:

Fiscal Quarter Ending -----	Testing Period -----
March 31, 2003 and June 30, 2003	October 1, 2002 through March 31, 2003, October 1, 2002 through June 30, 2003

and (B) in computing such ratio for the Testing Period ending March 31, 2003, Consolidated EBITDAR shall be deemed to mean an amount equal to Consolidated EBITDAR for such Testing Period, times two (2); and, in computing such ratio for the Testing Period ending June 30, 2003, Consolidated EBITDAR shall be deemed to mean an amount equal to Consolidated EBITDAR for such Testing Period, times one and one-third (1 1/3).

J. Section 9.9 (Consolidated Fixed Charge Coverage Ratio) of the Credit Agreement is amended and restated in its entirety to provide as follows:

9.9. CONSOLIDATED FIXED CHARGE COVERAGE RATIO. The Borrowers will not at any time permit the Consolidated Fixed Charge Coverage Ratio for any of the Testing Periods set forth below to be less than the ratio set forth opposite such Testing Period:

Fiscal Quarter Ending Ratio -----	Minimum Fixed Charge Coverage
March 31, 2003	1.25 to 1.00
June 30, 2003 and thereafter	1.50 to 1.00;

provided, however, that for the purposes of this Section 9.9, the term "Testing Period" shall mean, as to each of the fiscal quarters ending on the following dates only, the respective period set forth opposite such fiscal quarter:

Fiscal Quarter Ending -----	Testing Period -----
March 31, 2003 and June 30, 2003	October 1, 2002 through March 31, 2003, October 1, 2002 through June 30, 2003.

K. Section 9.10 (Consolidated Tangible Net Worth) of the Credit Agreement is amended and restated in its entirety to provide as follows:

9.10 CONSOLIDATED TANGIBLE NET WORTH. The Borrowers will not permit the Consolidated Tangible Net Worth to be less than \$185,000,000 as of December 31, 2002 or at any time thereafter.

L. The following provisions are added as new Sections 9.16, 9.17 and 9.18 of the Credit Agreement immediately following Section 9.15 and before Section 10:

9.16 ENVIRONMENTAL SITE ASSESSMENTS. No later than March 31, 2003, the Borrowers shall deliver to the Administrative Agent a Phase I environmental site assessment in respect of each real property site encumbered by the Mortgages. Such site assessments shall be conducted by qualified environmental consultants of recognized standing reasonably approved by the Administrative Agent and shall be in form and content reasonably satisfactory to the Administrative Agent.

9.17 SURVEYS. No later than March 31, 2003, the Borrowers shall deliver to the Administrative Agent an ALTA/ACSM survey in respect of each real property site encumbered by the Mortgages (unless, as to the Delta, Utah site of Brush Resources, Inc. only, waived by the Administrative Agent, in its discretion). Such surveys shall be conducted and prepared by qualified and licensed surveyors of recognized standing reasonably approved by the Administrative Agent and shall be in form and content reasonably satisfactory to the Administrative Agent.

9.18 METALS LEASE COPIES. The Borrowers shall deliver to the Administrative Agent a true and complete copy of each metals lease, metals consignment agreement, metals inventory security agreement or other similar agreement otherwise named, entered into after the "Delivery Date" of the Fourth Amendment to this Agreement, pursuant to which any Borrower or Subsidiary leases metals or otherwise possesses metals in which any other Person claims an ownership interest or pursuant to which any Borrower or Subsidiary grants to a Person, other than the Collateral Agent, a security interest or other Lien, which delivery shall occur no later than five (5) Business Days after the date on which such lease, consignment agreement, security agreement or other agreement becomes effective.

L. Section 10.1(e) (Cross Default Under Other Agreements) of the Credit Agreement is amended and restated in its entirety to provide as follows:

(e) CROSS DEFAULT UNDER OTHER AGREEMENTS; PRECIOUS METALS CONSIGNMENTS: (i) a Borrower or any of the Subsidiaries shall (A) default in any payment with respect to any Indebtedness (other than the Obligations, but including Permitted Precious Metal Consignments) in excess, individually, of \$25,000 owed to any Lender or any of their Affiliates, or to any other person, and such default shall continue after the applicable grace period, if any, specified in the agreement or instrument relating to such Indebtedness, or (B) default in the observance or performance of any agreement or condition relating to any such Indebtedness (including any such Permitted Precious Metal Consignment) or contained in any instrument or agreement evidencing, securing or relating thereto (and all grace periods applicable to such observance, performance or condition shall have expired), or any other event shall occur or circumstance shall exist, the effect of which default or other event or circumstance is to cause, or to permit the holder or holders of such Indebtedness (or a trustee or agent on behalf of such holder or holders) to cause any such Indebtedness to become due prior to its stated maturity; or any such Indebtedness of a Borrower or any of the Subsidiaries shall be declared to be due and payable, or shall be required to be prepaid (other than by a regularly scheduled required prepayment or redemption, prior to the stated maturity thereof), it being understood and agreed (but without limiting the generality of the foregoing) that the Administrative Agent's, the Collateral Agent's or any Lender's receipt or deemed receipt of a "Collections Turnover Notice" pursuant to the Scotia Intercreditor Agreement or the Administrative Agent's, the Collateral Agent's or any Lender's receipt or deemed receipt of a substantially equivalent writing otherwise named pursuant to any other intercreditor agreement to which the Administrative Agent, the Collateral Agent or the Lenders and any metals lessor, consignor, secured party or similar party under a Permitted Precious Metal Consignment are parties shall constitute an Event of Default under this section 10.1(e); or (ii) the consignor, lessor, or secured party (or equivalent party otherwise named) under any Permitted Precious Metal Consignment (including, without limitation, the Permitted Precious Metal Consignment between Williams Advanced Materials Inc. and The Bank of Nova Scotia) shall terminate such Permitted Precious Metal Consignment or reduce the precious metals availability thereunder; provided, however that (A) no Event of Default

shall be deemed to occur or exist under this clause (ii) unless and until the aggregate cumulative amount of diminished availability arising from any and all such terminations and reductions under any and all Permitted Precious Metal Consignments in effect from time to time exceeds Three Million Four Hundred Fifty Thousand Dollars (\$3,450,000) from and after the date of the Fourth Amendment to this Agreement, and (B) excluded from the effect of this clause (ii), including, without limitation, the computation of the cumulative amount described in sub-clause (A), above, shall be (I) reductions in availability initiated by or concurred in by any such Credit Party in the ordinary course of its business to reflect diminished need for availability in such business, and (II) any such termination of a Permitted Precious Metal Consignment and any such reduction of availability thereunder if the Credit Party that is the consignee, lessee or debtor (or equivalent party otherwise named) under such Permitted Precious Metal Consignment, prior to or simultaneously with such termination or reduction, replaces such terminated Permitted Precious Metal Consignment or reduced availability with another Permitted Precious Metal Consignment; or

M. Section 12.1 (Payment of Expenses etc.) of the Credit Agreement is amended by changing each reference to "Baker & Hostetler LLP, special counsel to the Administrative Agent" therein (other than in paragraph (a) thereof) to be "any special counsel to the Administrative Agent".

N. Section 12.12 (Amendment or Waiver) of the Credit Agreement is amended and restated in its entirety to provide as follows:

12.12. AMENDMENT OR WAIVER. Neither this Agreement nor any terms hereof or thereof may be amended, waived or otherwise modified UNLESS such amendment, waiver or other modification is in writing and signed by the Borrowers and the Required Lenders, PROVIDED that no such amendment, waiver or other modification shall, without the consent of each Lender (other than a Defaulting Lender) affected thereby,

(a) extend any interim or final date on or by which any Loan to be made by such Lender may be incurred, or on which any such Loan or Unpaid Drawing is scheduled to be repaid, prepaid or mature, or extend the expiration date of any Letter of Credit beyond the Maturity Date, or extend any interim or final date on which any Commitment of such Lender is scheduled to expire or terminate, or reduce the rate or extend the time of payment of interest or Fees thereon (except in connection with a waiver of the applicability of any post-default increase in interest rates), or reduce the principal amount thereof, or increase any Commitment of such Lender over the amount thereof then in effect, or release all or a substantial portion of the collateral pledged under the Pledge Agreement or the Foreign Subsidiary Pledge Agreement, or release a Borrower from its obligations hereunder,

(b) change the definition of the term "Change of Control" or any of the provisions of section 4.2 or 5.2 which are applicable upon a Change of Control,

(c) change the definition of the term "Permitted Acquisition" or any of the provisions of section 9.2(b) which are applicable to Permitted Acquisitions which would have the effect of depriving such Lender of its rights with respect to "hostile acquisitions" as contemplated by such definition,

(d) amend, modify or waive any provision of this section 12.12, or section 11.7, 12.1, 12.4, 12.6 or 12.7(b), or any other provision of any of the Credit Documents pursuant to which the consent or approval of all Lenders is by the terms of such provision explicitly required,

(e) reduce the percentage specified in, or otherwise modify, the definition of Required Lenders,

(f) consent to the assignment or transfer by a Borrower of any of its rights and obligations under this Agreement, or

(g) release any Guarantor from its Guaranty, EXCEPT in connection with a transaction permitted by section 9.2 of this Agreement;

PROVIDED FURTHER that the Collateral Agent and, if applicable, the Administrative Agent may release Collateral covered by the Collateral Agency Agreement, and enter into intercreditor or subordination agreements in respect of such Collateral, and its respective interest therein, if any, if such release or intercreditor agreement is approved by the requisite "Secured Creditors" under and pursuant to the provisions of Section 8.4 of the Collateral Agency Agreement.

No provision of section 11 may be amended without the consent of the Administrative Agent.

2. Conditional Waiver.

A. Subject to the terms and conditions of this Fourth Amendment, including, without limitation, Section 4, below, the Lenders hereby waive the Borrowers' breach, as of November 30, 2002, of the covenant contained in Section 9.10 (Consolidated Tangible Net Worth) of the Credit Agreement (and the resulting Existing Default), but only to the extent that the Consolidated Tangible Net Worth as of such date was not less than \$198,000,000.

B. The foregoing waiver is limited to its express terms and shall not be deemed to be a waiver of any other Event of Default or Default which may have existed on or prior to the date hereof or any Event of Default or Default which may hereafter arise under any of the foregoing Section or under any other provision of the Credit Agreement or any of the other Credit Documents. Further, the granting of this waiver shall not be construed as an agreement or understanding by the Lenders to grant any other waiver or other accommodation in the future with respect to the foregoing Section or any other provision of the Credit Agreement or any of the other Credit Documents.

3. Authorization. Subject to the terms and conditions of this Fourth Amendment, including, without limitation, Section 4, below, in accordance with Section 8.4 of the Collateral Agency Agreement, the Lenders hereby authorize the Administrative Agent and the Collateral Agent, on behalf of the Lenders, to enter into the Scotia Intercreditor Agreement.

4. Delivery Date; Conditions Precedent. The modifications to the Credit Agreement set forth in Section 1, above, the waiver set forth in Section 2, above, and the authorization set forth in Section 3, above, are subject to the Borrowers' performance of the following (the date on which all have been performed being the "Delivery Date"):

A. Each Borrower's secretary or treasurer shall have certified to each Lender (i) a copy of the resolutions duly adopted by that Borrower's board of directors in respect of this Amendment and the other Credit Documents contemplated hereby; (ii) true and correct copies of that Borrower's current Charter or Articles of Incorporation and By-laws or Code of Regulations (or, if applicable, that no modifications thereof have been made since they were most recently certified to the Lenders); (iii) the names and true signatures of the officers of that Borrower authorized to sign this Fourth Amendment and any Mortgage required hereby on behalf of that Borrower; (iv) that,

after giving effect to the amendments set forth herein, no Event of Default or Default exists; and (v) that the representations and warranties of the Borrowers under the Credit Agreement are reaffirmed as of the Delivery Date, subject only to variance therefrom acceptable to the Administrative Agent.

B. Each Guarantor's secretary or treasurer shall have certified to each Lender (i) a copy of the resolutions duly adopted by that Guarantor's board of directors in respect of this Amendment and the other Credit Documents contemplated hereby; (ii) true and correct copies of that Guarantor's current Charter or Articles of Incorporation and By-laws or Code of Regulations (or, if applicable, that no modifications thereof have been made since they were most recently certified to the Lenders); (iii) the names and true signatures of the officers of that Guarantor authorized to sign this Amendment and any Mortgage required hereby on behalf of that Guarantor; and (iv) that, after giving effect to the amendments set forth herein, no Event of Default or Default exists.

C. Counsel to the Borrowers and the Guarantors shall have delivered to each Lender a written opinion as to the due authorization, execution, delivery and enforceability of this Fourth Amendment and the other documents described in paragraphs E through J, inclusive, of this Section 4, in form and substance satisfactory to the Administrative Agent; provided that no opinion with respect to the enforceability of any document described in paragraph F below shall be required.

D. The Borrowers shall have paid to the Administrative Agent in immediately available funds, for the ratable benefit of the Lenders, an amendment fee in the amount of Ninety-seven Thousand Five Hundred Dollars (\$97,500).

E. All of the parties to the Collateral Agency Agreement shall have executed and delivered to Administrative Agent a Second Amendment to Intercreditor and Collateral Agency

Agreement in the form of Attachment 1 hereto.

F. Each Borrower and Guarantor that owns real property or holds a leasehold interest in a Development Bond Site (said real property and the Development Bond Sites being, collectively, the "Mortgaged Property") shall have executed and delivered to the Administrative Agent a Mortgage substantially in the form of Attachment 2 hereto (as to a Borrower) or Attachment 3 hereto (as to a Guarantor) on all Mortgaged Property owned by such Borrower or Guarantor or in which such Borrower or Guarantor holds a leasehold interest, shall have taken or caused to be taken such other actions, if any, as the Administrative Agent may reasonably deem necessary or appropriate to cause the Administrative Agent's Lien on the Mortgaged Property to be duly perfected and subject only to such matters as are approved by the Administrative Agent, and shall have accompanied each such Mortgage with an ALTA loan policy of title insurance in form and substance reasonably satisfactory to the Administrative Agent; provided, however, that no such Mortgage shall encumber any Mortgaged Property if the grant of such Mortgage would cause a default under, or accelerate the maturity of indebtedness secured by, any mortgage, deed of trust, ground lease or other lien or lease instrument that encumbers such Mortgaged Property on the Effective Date (each a "Prior Encumbrance") until such time as such Borrower or such Guarantor, as applicable, has obtained the consent of the holder of such Prior Encumbrance; provided further that each Borrower shall, or shall cause such Guarantor to, use its best efforts (subject to commercial reasonableness) to obtain such consent promptly following the Effective Date.

G. Each of the Guarantors shall have executed a confirmation of its Guaranty in the form of Attachment 4 hereto.

H. Each of the Borrowers shall have executed and delivered to the Administrative Agent an amendment to the Security Agreement in the form of Attachment 5 hereto; and each of

the Guarantors shall have executed and delivered to the Administrative Agent an amendment to the Subsidiary Security Agreement in the form of Attachment 6 hereto.

I. BEM Services, Inc, an Ohio corporation and a Subsidiary of the Parent, shall have executed and delivered to the Administrative Agent a Guaranty (substantially in the form of the Guaranties) and shall have joined in the Subsidiary Security Agreement as an "Assignor" thereunder pursuant to a joinder in the form of Attachment 7 hereto.

J. Brush International, Inc. shall have pledged to the Administrative Agent sixty-five percent (65%) of the issued and outstanding capital stock of each of the Foreign Subsidiaries pursuant to a Foreign Subsidiary Pledge Agreement in the form of Attachment 8 hereto.

K. All of the parties to the Synthetic Lease shall have executed and delivered an amendment thereto in form and substance satisfactory to the Administrative Agent, and all conditions to its effectiveness shall have been satisfied.

L. The Borrowers shall have delivered to the Administrative Agent a true and complete copy of each metals lease, metals consignment agreement, metals inventory security agreement or other similar agreement otherwise named in effect on the Delivery Date pursuant to which any Borrower or Subsidiary leases metals or otherwise possesses metals in which any other Person claims an ownership interest or pursuant to which any Borrower or Subsidiary has granted to a Person, other than the Collateral Agent, a security interest or other Lien.

M. The Borrowers shall have delivered or caused to be delivered such other documents as Administrative Agent or any of the Lenders may reasonably request.

5. No Other Modifications; Same Indebtedness. Except as expressly provided in this Fourth Amendment, all of the terms and conditions of the Credit Agreement and the other Credit Documents remain unchanged and in full force and effect. The modifications effected by this

Fourth Amendment and by the other instruments contemplated hereby shall not be deemed to provide for or effect a repayment and re-advance of any of the Loans now outstanding, it being the intention of both the Borrowers and the Lenders hereby that the indebtedness owing under the Credit Agreement, as amended by this Fourth Amendment, be and hereby is the same Indebtedness as that owing under the Credit Agreement immediately prior to the effectiveness hereof.

6. Confirmation of Debt. Each Borrower hereby affirms all of its liabilities and Obligations to the Lenders and the Administrative Agent under the Credit Agreement, the Notes and the other Credit Documents and that such liabilities and Obligations are owed to the Lenders and the Administrative Agent. Each Borrower further acknowledges and agrees that as of the Delivery Date, it has no claims, defenses or set-off rights against any of the Lenders or the Administrative Agent, and there are no claims, defenses or set-offs to the enforcement by the Lenders or the Administrative Agent of the liabilities and Obligations of such Borrower to each of them under the Credit Agreement, the Notes or the other Credit Documents.

7. Governing Law; Binding Effect. This Fourth Amendment shall be governed by and construed in accordance with the laws of the State of Ohio and shall be binding upon and inure to the benefit of the Borrowers, the Lenders, the Administrative Agent and the Swing Line Lender and their respective successors and assigns.

8. Counterparts. This Fourth Amendment may be executed in separate counterparts, each of which shall be deemed to be an original, and all of which together shall be deemed a fully executed agreement.

9. Miscellaneous.

A. The Borrowers jointly and severally agree to pay on demand all costs and expenses of the Lenders and the Administrative Agent, including reasonable attorneys' fees and expenses,

incurred in connection with the preparation, execution and delivery of this Fourth Amendment and the other documents contemplated hereby, including, without limitation, the Second Amendment to Intercreditor and Collateral Agency Agreement.

B. This Fourth Amendment is executed in accordance with and subject to Section 12.12 of the Credit Agreement. The execution, delivery and performance by the Lenders, the Swing Line Lender and the Administrative Agent of this Fourth Amendment shall not constitute, or to be deemed to be or construed as, a waiver of any right, power or remedy of the Lenders, the Swing Line Lender or the Administrative Agent, or a waiver of any provision of the Credit Agreement, except as expressly stated herein. None of the provisions of this Fourth Amendment shall constitute, or to be deemed to be or construed as, a waiver of any Event of Default or any Default.

10. Waiver of Jury Trial. EACH OF THE PARTIES TO THIS FOURTH AMENDMENT HEREBY IRREVOCABLY WAIVES ALL RIGHT TO A TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM (WHETHER SOUNDING IN CONTRACT, TORT OR OTHERWISE) ARISING OUT OF OR RELATING TO THIS AMENDMENT, THE OTHER CREDIT DOCUMENTS OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY. EACH PARTY HERETO HEREBY (A) CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OR ANY OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THE FOREGOING WAIVER, AND (B) ACKNOWLEDGES THAT IT AND THE OTHER PARTIES HERETO HAVE BEEN INDUCED TO ENTER INTO THIS FOURTH AMENDMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATION IN THIS

SECTION.

[No additional provisions are on this page; the next page is the signature page.]

IN WITNESS WHEREOF, the Borrowers, the Lenders, the Administrative Agent and the Swing Line Lender have hereunto set their hands as of the date first above written.

BORROWERS:

ADMINISTRATIVE AGENT:

BRUSH WELLMAN INC.

NATIONAL CITY BANK,
AS ADMINISTRATIVE AGENT

By: /s/ [ILLEGIBLE]

By: /s/ J. E. Focke

VP, Treasurer & Secretary
President

Janice E. Focke, Senior Vice

BRUSH ENGINEERED MATERIALS INC.

By: /s/ [ILLEGIBLE]

VP, Treasurer & Secretary

[Signatures continued on the following page]

LENDERS:

FIFTH THIRD BANK, an Ohio banking
corporation, f/k/a FIFTH THIRD BANK,
NORTHEASTERN OHIO

By: /s/ J. P. Byrnes

James P. Byrnes, Vice President

NATIONAL CITY BANK, as Lender
and Swing Line Lender

By: /s/ J. E. Focke

*Janice E. Focke, Senior Vice
President*

HARRIS TRUST AND SAVINGS BANK

By: /s/ Sarah Johnston

Sarah Johnston, Vice President

**U.S. BANK NATIONAL ASSOCIATION,
f/k/a Firststar Bank, N.A.**

*By: /s/ Edward C. [ILLEGIBLE], Vice
President*

Edward C. [ILLEGIBLE], Vice President

**MANUFACTURERS AND TRADERS
TRUST COMPANY**

By: /s/ Kevin B. Quinn

Kevin B. Quinn, Vice President

LASALLE BANK NATIONAL ASSOCIATION

By: /s/ [ILLEGIBLE]

[ILLEGIBLE]

List of Attachments

Attachment 1	Form of Second Amendment to Intercreditor and Collateral Agency Agreement
Attachment 2	Form of Borrower Mortgage
Attachment 3	Form of Guarantor Mortgage
Attachment 4	Form of Guarantor Confirmation
Attachment 5	Form of Amendment to Security Agreement
Attachment 6	Form of Amendment to Subsidiary Security Agreement
Attachment 7	Form of Joinder of BEM Services, Inc.
Attachment 8	Form of Foreign Subsidiary Pledge Agreement
Attachment 9	Form of Scotia Intercreditor Agreement

FIFTH AMENDMENT TO CREDIT AGREEMENT

THIS FIFTH AMENDMENT TO CREDIT AGREEMENT ("this Fifth Amendment") is made and entered into as of the 7th day of March, 2003, by and among BRUSH ENGINEERED MATERIALS INC., an Ohio corporation (the "Parent"), and BRUSH WELLMAN INC., an Ohio corporation and a wholly owned subsidiary of the Parent ("Brush Wellman" and, collectively with the Parent, the "Borrowers", with each being a "Borrower"); the LENDERS listed on the signature pages of this Fifth Amendment (collectively, the "Lenders"); and NATIONAL CITY BANK, a national banking association, as one of the Lenders, as the Lender under the Swing Line Revolving Facility (herein, together with its successors and assigns, the "Swing Line Lender"), and as Administrative Agent for the Lenders (the "Administrative Agent") under the Credit Agreement (hereinafter defined).

RECITALS:

- A. The Borrowers, the Lenders, the Swing Line Lender and the Administrative Agent, are parties to that certain Credit Agreement dated as of June 30, 2000, as amended by a First Amendment dated as of March 30, 2001, a Second Amendment dated as of September 28, 2001, a Third Amendment dated as of December 31, 2001, and a Fourth Amendment dated as of January 29, 2003 (collectively, the "Credit Agreement"), pursuant to which, among other things, the Lenders agreed, subject to the terms and conditions thereof, to lend to the Borrowers up to Sixty-five Million Dollars (\$65,000,000) from time to time.
- B. Capitalized terms used herein and not otherwise defined herein shall have the meanings assigned to such terms in the Credit Agreement.
- C. As of the close of business on March 6, 2003, the aggregate unpaid principal balance

of the General Revolving Credit Loans was \$30,840,000, the aggregate unpaid principal balance of the Swing Line Revolving Loans was \$4,210,000, and the aggregate undrawn amount of Letters of Credit outstanding was \$3,311,300.

D. Subject to the terms and conditions of this Fifth Amendment, the Borrowers, the Lenders, the Swing Line Lender and the Administrative Agent have agreed to amend the Credit Agreement as hereinafter set forth.

AGREEMENTS:

NOW, THEREFORE, in consideration of the foregoing Recitals and the mutual agreements hereinafter set forth, the parties hereby agree as follows:

1. AMENDMENTS TO THE CREDIT AGREEMENT. Subject to the terms and conditions of this Fifth Amendment, including, without limitation, Section 2, below, the Credit Agreement is hereby amended as follows:

A. The following definitions are added to Section 1.1 (Definitions) of the Credit Agreement in proper alphabetical order:

"EXCESS CASH FLOW" shall mean for any period, an amount (but in no event less than \$-0-) equal to Consolidated EBITDA for such period, minus the aggregate of (i) Consolidated Interest Expense for such period, (ii) scheduled or mandatory repayments, prepayments and redemptions of principal Indebtedness, on a consolidated basis, due and payable during such period (other than the Loans), (iii) Consolidated Capital Expenditures permitted by this Agreement and made during such period (other than Consolidated Capital Expenditures made with the proceeds of Indebtedness, other than Loans), and (iv) payments made during such period with respect to taxes based on the net income of the Borrowers and the Subsidiaries (including, without limitation, any additions to such taxes, and any penalties and interest with respect thereto).

"LIQUIDITY RESERVE" shall mean, upon the effectiveness of the Fifth Amendment to this Agreement, Five Million Dollars (\$5,000,000) and on any date thereafter, an amount equal to (i) \$5,000,000, plus (ii) the aggregate amount of all Mandatory Reductions effective on or prior to such date.

"MANDATORY REDUCTIONS" shall mean, collectively, the aggregate of any and all

reductions in the Total General Revolving Commitment effective after the effectiveness of the Fifth Amendment to this Agreement (a) pursuant to clause (i) of the first sentence of section 4.2(b) of this Agreement by reference to any mandatory prepayment of Loans made pursuant to section 5.2(d) of this Agreement and (b) pursuant to clause (ii) of the first sentence of section 4.2(b) of this Agreement by reference to Excess Cash Flow for the Parent's fiscal year ending December 31, 2003.

B. The definitions of "Borrowing Base", "Cash Proceeds", "Maturity Date", and "Net Cash Proceeds" in Section 1.1 (Definitions) of the Credit Agreement are amended and restated in their entirety to provide, respectively, as follows:

"ASSET SALE" shall mean the sale, transfer or other disposition (including by means of Sale and Lease-Back Transactions, and by means of mergers, consolidations, and liquidations of a corporation, partnership or limited liability company of the interests therein of a Borrower or any Subsidiary, but excluding sales of Inventory in the ordinary course of business of a Borrower or any Subsidiary) by a Borrower or any Subsidiary to any person of any of their respective assets.

"BORROWING BASE" shall mean at any time and from time to time, an amount equal to (a) the aggregate of:

(i) an amount equal to eighty-five percent (85%) of the face value of the Eligible Accounts at such time, as reflected on the most recent Borrowing Base Certificate,

(ii) the lesser of (a) \$40,000,000 and (b) an amount equal to fifty percent (50%) of the value (at the lower of cost or market value) of the Eligible Inventory at such time, as reflected on the most recent Borrowing Base Certificate; and

(iii) the Equipment Amount at such time,

minus, (b) the Liquidity Reserve at such time.

"CASH PROCEEDS" shall mean, with respect to any event or transaction of the type described in any of clauses (a), (b) and (c) of the definition of Net Cash Proceeds, the aggregate cash payments (including any cash received by way of deferred payment pursuant to a note receivable issued in connection with such event or transaction, other than the portion of such deferred payment constituting interest, but only as and when so received) received by the Borrowers and/or any Subsidiary from such event or transaction.

"MATURITY DATE" shall mean April 5, 2004, or such earlier date on which the Total Commitment is terminated.

"NET CASH PROCEEDS" shall mean, (a) with respect to any Asset Sale, the Cash Proceeds resulting therefrom net of (i) reasonable and customary expenses of sale incurred

in connection with such Asset Sale (including, without limitation, sales commissions and legal, accounting, broker and investment banking fees), and other reasonable and customary fees and expenses incurred, and all state, and local taxes paid or reasonably estimated by the Parent to be payable by such person, as a consequence of such Asset Sale and the payment of principal, premium and interest of Indebtedness (other than the Obligations) secured by the asset which is the subject of the Asset Sale and required to be, and which is, repaid under the terms thereof as a result of such Asset Sale and (ii) incremental income taxes paid or payable as a result thereof, (b) with respect to any sale or issuance of equity or debt securities or other incurrence of Indebtedness by a Credit Party, the Cash Proceeds resulting therefrom net of reasonable and customary fees and expenses incurred as a consequence of such sale, issuance or incurrence (including, without limitation, sales and underwriter's commissions, up-front fees and placement fees), and (c) with respect to any destruction, governmental taking or other involuntary disposition of property, the Cash Proceeds resulting therefrom net of reasonable and customary fees and expenses incurred as a consequence of such disposition and the claim for and collection of such Cash Proceeds, and all state, and local taxes paid or reasonably estimated by the Parent to be payable by such person, as a consequence of such disposition and the payment of principal, premium and interest of Indebtedness (other than the Obligations) secured by the asset which is the subject of such disposition and required to be, and which is, repaid under the terms thereof as a result of such disposition.

C. The definition of "Permitted Master Copper Lease Agreements" in

Section 1.1 (Definitions) of the Credit Agreement is amended by deleting therefrom the words and sum "an amount greater than \$15,000,000" and inserting therein the sum "\$10,000,000" in their stead.

D. The definition of "Permitted Precious Metal Consignments" in

Section 1.1 (Definitions) of the Credit Agreement is amended by deleting therefrom the sum "\$70,000,000" and inserting therein the sum "\$50,000,000" in its stead.

E. Clause (ii) of Section 2.1(a) (General Revolving Facility) is amended and restated in its entirety to provide as follows:

(ii) shall be made only in U.S. Dollars or in the case of Eurodollar Loans, may be made in an Alternative Currency, so long as such Loan in an Alternative Currency (A) is in replacement of a then maturing outstanding Loan in an Alternative Currency, (B) is in the same or a lesser principal amount as the Loan that it replaces, and (C) is in the same Alternative Currency as the Loan that it replaces,

F. Section 2.8(h) (Interest Margins) of the Credit Agreement is amended and restated

in its entirety to provide as follows:

(h) INTEREST MARGINS. As used herein, the term "APPLICABLE PRIME RATE MARGIN", as applied to any Loan which is a Prime Rate Loan, means two hundred fifty (250) basis points per annum; and the term "APPLICABLE EURODOLLAR MARGIN", as applied to any General Revolving Loan which is a Eurodollar Loan, means four hundred (400) basis points per annum.

G. Clause (i) of Section 2A.1(b) (Letters of Credit) of the Credit Agreement is amended by deleting therefrom the sum "\$5,000,000" and inserting therein the sum "\$10,000,000" in its stead.

H. The following provision is added as a new Section 3.4 of the Credit Agreement immediately following Section 3.3 and preceding Section 4:

3.4 INCREMENTAL FEES. The Borrowers agree to pay to the Administrative Agent, for the account of each Non-Defaulting Lender that has a General Revolving Commitment, a fee (each an "Incremental Fee") (i) on each of June 30, 2003 and September 30, 2003, in an amount equal to twelve and one-half (12.5) basis points, times the General Revolving Commitment of such Non-Defaulting Lender on such date, whether used or unused, and (ii) on February 28, 2004, in an amount equal to twenty-five (25) basis points, times the General Revolving Commitment of such Non-Defaulting Lender on December 31, 2003, whether used or unused; provided, however, that (i) although the Incremental Fee payable on February 28, 2004 shall be deemed earned in full on December 31, 2003, if Consolidated EBITDAR for the Parent's fiscal year ending December 31, 2003 is at least \$28,000,000, payment of one-half (1/2) of such Incremental Fee shall be waived by each Lender, (ii) no Incremental Fee shall be payable on any of the foregoing dates if, prior to such date, the Liquidity Reserve has been increased by Mandatory Reductions aggregating at least \$10,000,000, and (iii) if, pursuant to Section 10.2, below, the maturity of the Loans and other Obligations is accelerated, all of the foregoing scheduled Incremental Fees not theretofore paid shall be due and payable in full upon such acceleration and shall be computed on the General Revolving Commitment of each Non-Defaulting Lender on such date of acceleration.

I. Section 4.2(b) (Mandatory Termination/Adjustments of Commitments, etc.) of the Credit Agreement is amended and restated in its entirety to provide as follows:

(b) The Total General Revolving Commitment shall be permanently reduced, without premium or penalty, (i) at the time that any mandatory prepayment of General Revolving Loans would be made pursuant to section 5.2(d) if General Revolving Loans were then outstanding in the full amount of the Total General Revolving Commitment then in effect (and no Swing Line Revolving Loans were then outstanding), in an amount equal to the required prepayment of principal of General Revolving Loans which would be required

to be made in such circumstance and (ii) on and after the date that is fifteen (15) days after the date on which the Borrowers deliver to the Lenders and the Administrative Agent the audited financial statements of the Parent and its Subsidiaries for their fiscal year ending December 31, 2003 pursuant to Section 8.1(a) of this Agreement, in an amount equal to seventy-five percent (75%) of Excess Cash Flow for the Parent's fiscal year ending December 31, 2003. Any such reduction shall apply to reduce proportionately and permanently the General Revolving Commitment of each of the Lenders. Unless the Borrowers theretofore have provided notice to the Administrative Agent pursuant to any other provision of this Agreement, the Borrowers will provide at least three Business Days' prior written notice (or telephonic notice confirmed in writing) to the Administrative Agent at its Notice Office (which notice the Administrative Agent shall promptly transmit to each of the Lenders), of any reduction of the Total General Revolving Commitment pursuant to this section 4.2(b), specifying the date and amount of the reduction.

J. Section 5.2(d) (Certain Proceeds of Asset Sales) of the of the Credit Agreement is amended and restated in its entirety to provide as follows:

(d) CERTAIN PROCEEDS OF ASSET SALES, EQUITY SALES, DEBT AND OTHER DISPOSITIONS.

(i) If at any time, a Borrower or any Subsidiary receives:

(A) Net Cash Proceeds of an Asset Sale (or series of related Asset Sales) in an aggregate amount greater than \$250,000, then on the date of receipt thereof, an amount equal to 100% of the Net Cash Proceeds in excess of such amount from such Asset Sale (or such series) shall, immediately upon receipt, be paid to the Administrative Agent and applied as a mandatory prepayment of principal of first, Swing Line Revolving Loans and, SECOND, after Swing Line Revolving Loans have been paid in full, General Revolving Loans (provided that if a Default or Event of Default shall then exist, all Net Cash Proceeds from such Asset Sale (or such series) shall be prepaid and applied as aforesaid);

(B) Net Cash Proceeds of any sale or issuance of equity or debt securities or other incurrence of Indebtedness (other than (I) Obligations, (II) credit or metals availability under Permitted Precious Metal Consignments, (III) Guaranty Obligations permitted by this Agreement, (IV) all net obligations of a Borrower or any Subsidiary under any Hedge Agreement, (V) Indebtedness of a Borrower or any Subsidiary to any Borrower or any Subsidiary, (VI) Indebtedness permitted pursuant to section 9.4(c) of this Agreement, and (VII) other Indebtedness in principal amount as to any incurrence or series of related incurrences of not more than \$100,000), then on the date of receipt thereof, an amount equal to 100% of the Net Cash Proceeds shall, immediately upon receipt, be paid to the Administrative Agent and applied as a mandatory prepayment of principal of FIRST, Swing Line Revolving Loans and, SECOND, after Swing Line Revolving Loans have been paid in full, General Revolving Loans; and

(C) Net Cash Proceeds of any destruction, governmental taking or other involuntary disposition of property in an amount greater than \$500,000, then on the date of receipt thereof, an amount equal to 100% of the Net Cash Proceeds in excess of such amount from such disposition shall, immediately upon receipt, be paid to the Administrative Agent and applied as a mandatory prepayment of principal of FIRST, Swing Line Revolving Loans and, SECOND, after Swing Line Revolving Loans have been paid in full, General Revolving Loans (provided that if a Default or Event of Default shall then exist, all Net Cash Proceeds from such disposition shall be prepaid and applied as aforesaid).

(ii) Any and all prepayments of Loans under paragraph (i), above, that consist in whole or in part of Eurodollar Loans shall be accompanied, as to each such Eurodollar Loan, by all accrued and unpaid interest thereon and by any amounts payable pursuant to section 2.11 of this Agreement.

K. Clause (ii) of Section 8.1(i) (Monthly Financial Statements; Borrowing Base Certificate; Inspection) of the Credit Agreement is amended and restated in its entirety to provide as follows:

(ii) (A) As soon as available and in any event on or before the last Business Day of each calendar week, commencing March 14, 2003, (I) a certificate reflecting the calculation of each Credit Party's Eligible Accounts and Eligible Inventory, in form and content reasonably satisfactory to the Administrative Agent (each a "Borrowing Base Certificate") and (II) a rolling report of the Parent's projected cash receipts and cash disbursements, on a consolidated basis, for the ensuing thirteen (13) week period in form and content reasonably satisfactory to the Administrative Agent, including without limitation, projected Borrowing Base, and General Revolving Loan availability as of the last Business Day of each week covered by such report, and a variance analysis of the Parent's actual cash receipts and cash disbursements, on a consolidated basis, for the most recently ended past period covered in the most recent such report in form and content reasonably satisfactory to the Administrative Agent; (B) as soon as available and in any event within twenty (20) days after the close of each of the monthly accounting periods in each fiscal year of the Parent (I) a summary aged trial balance of each Credit Party's Accounts dated as of such month end, and (II) an Inventory record as of such month end; and (C) promptly following the request of the Administrative Agent, any of: a reconciliation to the respective general ledger balance and a detailed aged trial balance of all then existing Accounts specifying the names, face value and dates of invoices for each Account Debtor obligated on an Account so listed and an Inventory trial balance for each Credit Party, broken down into such detail and with such categories as the Administrative Agent shall reasonably require (including, but not limited to, a report indicating the type, location and amount of raw materials and finished goods and all other information deemed reasonably necessary by the Administrative Agent to determine the Eligible Inventory of such Credit Party).

L. The following two sentences are added to the end of Section 8.2 of the Credit

Agreement:

Without limiting the generality of the foregoing, the Parent shall cause each Credit Party (i) to permit the Administrative Agent, and its officers, employees, and field auditors, appraisers and other agents, to make such field examinations, appraisals, inspections, reviews, evaluations and test verifications and counts of the Accounts, Inventory and other Collateral of any Credit Party (each an "Examination" and, collectively, "Examinations") as the Administrative Agent may from time to time request (provided that such Examinations shall be in accordance with such Credit Party's applicable safety procedures and regulations and, so long as no Default or Event of Default then exists, shall be made upon reasonable prior written notice to the Parent, during normal business hours and at reasonable frequency) and (ii) to furnish all such reasonable assistance and information as the Administrative Agent or any such officer, employee, field auditor, appraiser or other agent may reasonably require in connection therewith. The Borrowers shall reimburse the Administrative Agent promptly for all reasonable costs and expenses incurred by the Administrative Agent in connection with each such Examination; provided that so long as no Default or Event of Default then exists, the Borrowers shall not be required to reimburse the Administrative Agent for the costs and expenses of more than one (1) Examination in any fiscal quarter of the Parent.

M. Section 9.2(b) (Acquisitions) of the Credit Agreement is amended and restated in its entirety to provide as follows:

(b) ACQUISITIONS. [Intentionally Deleted].

N. Clause (A) of the first proviso of Section 9.2(c) (Permitted Dispositions) is amended and restated in its entirety to provide as follows:

(A) the consideration for such transaction represents fair value (as determined by management of the Parent and approved by the Administrative Agent and the Required Lenders in writing, which approval shall not be withheld or delayed unreasonably), and at least 90% of such consideration consists of cash (with any instrument evidencing any deferred portion of consideration being deposited in pledge with the Collateral Agent pursuant to, as the case may be, the Security Agreement or the Subsidiary Security Agreement),

O. Section 9.2(e) (Capital Expenditures) of the Credit Agreement is amended and restated in its entirety to provide as follows:

(e) CAPITAL EXPENDITURES. The Borrowers and the Subsidiaries shall not make any Consolidated Capital Expenditure if, after giving effect to such Consolidated Capital Expenditure, the aggregate of all Consolidated Capital Expenditures made (i) during the

fiscal year of the Parent ending December 31, 2003 would exceed \$10,000,000 or (ii) during the fiscal quarter ending March 31, 2004 would exceed \$3,000,000.

P. Section 9.4(j) (Additional Unsecured Debt of the Borrowers) of the Credit Agreement is amended by deleting therefrom the sum "\$5,000,000" and inserting therein the sum "\$3,000,000" in its stead.

Q. Section 9.5(e) (Advances, Investments, Loans and Guaranty Obligations) of the Credit Agreement is amended and restated in its entirety to provide as follows:

(e) the loans, advances, investments and guarantees in respect of Indebtedness of persons other than Wholly-Owned Subsidiaries of the Borrowers on the date of the Fifth Amendment to this Agreement and described in Annex V hereto and any refinancing, extension, renewal or refunding thereof;

R. Section 9.5(k) (Advances, Investments, Loans and Guaranty Obligations) of the Credit Agreement is amended by deleting therefrom the sum "\$10,000,000" and inserting therein the sum "\$1,000,000" in its stead.

S. Section 9.7 of the Credit Agreement (Ratio of Consolidated Total Debt to Consolidated Total Adjusted Capital and Interest Coverage Ratio) is amended and restated in its entirety to provide as follows:

9.7 INTEREST COVERAGE RATIO. The Borrowers shall not permit the Interest Coverage Ratio for the Testing Period ending on any of the following dates to be less than the ratio set forth below opposite such date:

Testing Period Ending Ratio	Minimum
----- ----- June 30, 2003	1.20 to 1
September 30, 2003	1.25 to 1
December 31, 2003	1.35 to 1
March 31, 2004	1.50 to 1;

provided, however, that for the purposes of this Section 9.7 only, in computing the Interest Coverage Ratio for the Testing Period ending June 30, 2003, Consolidated EBITDAR shall be deemed to mean an amount equal to Consolidated EBITDAR for the period January 1, 2003 through June 30, 2003, times two (2); and, in computing the Interest Coverage Ratio

for the Testing Period ending September 30, 2003, Consolidated EBITDAR shall be deemed to mean an amount equal to Consolidated EBITDAR for the period January 1, 2003 through September 30, 2003, times one and one-third (1 1/3).

T. Section 9.8 of the Credit Agreement (Ratio of Consolidated Total Debt to Consolidated EBITDAR) is amended and restated in its entirety to provide as follows:

9.8 RATIO OF CONSOLIDATED TOTAL DEBT TO CONSOLIDATED EBITDAR. The Borrowers shall not permit the ratio of (i) the amount of Consolidated Total Debt as of the end of any Testing Period ending on and after December 31, 2003 to (ii) Consolidated EBITDAR for such Testing Period, to exceed 5.00 to 1.

U. Section 9.9 (Consolidated Fixed Charge Coverage Ratio) of the Credit Agreement is amended and restated in its entirety to provide as follows:

9.9. MINIMUM EBITDAR. The Borrowers shall not at any time permit the Consolidated EBITDAR for the Testing Period ending on any of the following dates to be less than the amount set forth opposite such date:

Testing Period Ending EBITDAR ----- -----	Minimum
March 31, 2003	\$ 8,500,000
June 30, 2003	\$10,500,000
September 30, 2003	\$14,000,000
December 31, 2003	\$22,000,000
March 31, 2004	\$24,000,000.

V. Section 9.10 (Consolidated Tangible Net Worth) of the Credit Agreement is amended and restated in its entirety to provide as follows:

9.10 CONSOLIDATED TANGIBLE NET WORTH. The Borrowers shall not permit the Consolidated Tangible Net Worth to be less than (i) \$185,000,000 as of December 31, 2002 or (ii) \$180,000,000 at any time thereafter.

W. The following provision is added as new a Section 9.19 of the Credit Agreement immediately following Section 9.18 and before Section 10:

9.19 CONSULTANT ACCESS. Each Borrower hereby agrees to instruct and authorize, and to cause each Subsidiary to instruct and authorize, FTI Consultants, Inc. (the "Consultant") to provide to the Administrative Agent and each Lender, promptly upon the request of the Administrative Agent or any Lender, true and complete copies of such reports,

analyses and other information relating to any one or more of the Credit Parties, or otherwise arising from or in connection with such Consultant's engagement, as the Administrative Agent or any Lender may from time to time reasonably request and to discuss with the Administrative Agent and the Lenders, promptly upon the written request of the Administrative Agent or any Lender to the Consultant (with a copy of any such notice to the Parent), all aspects of the business and property of any one or more of the Credit Parties and all of the Consultant's findings, opinions and conclusions, whether tentative or final; PROVIDED that any Credit Party potentially affected by any such discussions, shall be entitled to have one or more representatives present to observe such discussions.

X. Section 10.1(e) (Cross Default Under Other Agreements; Precious Metals Consignments) of the Credit Agreement is amended by adding the following clause to the end thereof, immediately following the word "or" at the end of clause (ii) thereof:

(iii) there shall occur a "Default" as that term is defined and used in the Master Lease Agreement, dated as of December 30, 1996, as amended, between NCB, for itself and certain participants, as lessor, and Brush Wellman, as lessee; or

Y. Section 10.1(f) (Judgments) of the Credit Agreement is amended by deleting therefrom the sum "\$5,000,000" and inserting the sum "\$1,000,000" in its stead.

Z. Section 10.1(i) (Material Adverse Change) of the Credit Agreement is amended and restated in its entirety to provide as follows:

(i) MATERIAL ADVERSE CHANGE: [Intentionally Deleted].

AA. The following sentence is added to the end of Section 10.3 (Application of Liquidation Proceeds):

Notwithstanding anything to the contrary in this Section 10.3 or any other provision of this Agreement, the provisions contained in any Mortgage encumbering real property in the State of New York with respect to application of proceeds or other payments to the Indebtedness secured by such Mortgage shall prevail over the provisions of this Agreement.

BB. Annex I (Information as to Lenders) to the Credit Agreement is replaced in full by the Amended and Restated Annex I attached as Attachment 1 hereto.

CC. Annex V (Description of Existing Advances, Loans, Investments and Guaranties) to

the Credit Agreement is replaced in full by the Amended and Restated Annex V attached as Attachment 2 hereto.

2. DELIVERY DATE; CONDITIONS PRECEDENT. The modifications to the Credit Agreement set forth in Section 1, above, are subject to the Borrowers' performance of the following (the date on which all have been performed being the "Delivery Date"):

A. Each Borrower's secretary or treasurer shall have certified to each Lender (i) a copy of the resolutions duly adopted by that Borrower's board of directors in respect of this Amendment and the other Credit Documents contemplated hereby; (ii) true and correct copies of that Borrower's current Charter or Articles of Incorporation and By-laws or Code of Regulations (or, if applicable, that no modifications thereof have been made since they were most recently certified to the Lenders); (iii) the names and true signatures of the officers of that Borrower authorized to sign this Fifth Amendment on behalf of that Borrower; (iv) that, after giving effect to the amendments set forth herein, no Event of Default or Default exists; and (v) that the representations and warranties of the Borrowers under the Credit Agreement are reaffirmed as of the Delivery Date, subject only to variance therefrom acceptable to the Administrative Agent.

B. Each Guarantor's secretary or treasurer shall have certified to each Lender (i) a copy of the resolutions duly adopted by that Guarantor's board of directors in respect of this Amendment and the other Credit Documents contemplated hereby; (ii) true and correct copies of that Guarantor's current Charter or Articles of Incorporation and By-laws or Code of Regulations (or, if applicable, that no modifications thereof have been made since they were most recently certified to the Lenders); (iii) the names and true signatures of the officers of that Guarantor authorized to sign this Amendment on behalf of that Guarantor; and (iv) that, after giving effect to the amendments set forth herein, no Event of Default or Default exists.

C. Counsel to the Borrowers and the Guarantors shall have delivered to each Lender a written opinion as to the due authorization, execution, delivery and enforceability of this Fifth Amendment and the other documents described in paragraphs E through H, inclusive, of this Section 3, in form and substance satisfactory to the Administrative Agent; provided that no opinion with respect to the enforceability of any document described in paragraph G below shall be required.

D. The Borrowers shall have paid to the Administrative Agent in immediately available funds, for the ratable benefit of the Lenders, an amendment fee in the amount of One Hundred Ninety-two Thousand Five Hundred Dollars (\$192,500).

E. All of the parties to the Collateral Agency Agreement shall have executed and delivered to Administrative Agent a Third Amendment to Intercreditor and Collateral Agency Agreement in the form of Attachment 3 hereto.

F. Each of the Guarantors shall have executed an amendment of its Guaranty and of the Subsidiary Security Agreement in the form of, respectively, Attachment 4 and Attachment 5 hereto.

G. Each Guarantor that has granted to the Collateral Agent a Mortgage shall have executed and delivered to the Administrative Agent an amendment to such Mortgage in the form of Attachment 6 hereto and shall, at the Borrowers' expense, accompany such amendment with an endorsement to the ALTA loan policy of title insurance in respect of such Mortgage in form and substance reasonably satisfactory to the Administrative Agent.

H. Brush International, Inc. shall have executed and delivered to the Administrative Agent a confirmation of the Foreign Subsidiary Pledge Agreement in the form of Attachment 7 hereto.

I. All of the parties to the Synthetic Lease shall have executed and delivered an amendment thereto in form and substance satisfactory to the Administrative Agent, and all

conditions to its effectiveness shall have been satisfied.

J. The Borrowers shall have delivered or caused to be delivered such other documents as Administrative Agent or any of the Lenders may reasonably request.

3. No Other Modifications; Same Indebtedness. Except as expressly provided in this Fifth Amendment, all of the terms and conditions of the Credit Agreement and the other Credit Documents remain unchanged and in full force and effect. The modifications effected by this Fifth Amendment and by the other instruments contemplated hereby shall not be deemed to provide for or effect a repayment and re-advance of any of the Loans now outstanding, it being the intention of both the Borrowers and the Lenders hereby that the indebtedness owing under the Credit Agreement, as amended by this Fifth Amendment, be and hereby is the same Indebtedness as that owing under the Credit Agreement immediately prior to the effectiveness hereof.

4. Confirmation of Obligations; Release.

(a) Each Borrower hereby confirms that the Borrowers are indebted to

the Lenders, the Swing Line Lender and the Letter of Credit Issuer, as their interests may appear, for the Loans evidenced by the Notes and for the Letters of Credit in the amounts and as of the date set forth in Recital C, above, and are also obligated to the Lenders, the Swing Line Lender, the Administrative Agent and the Letter of Credit Issuer in respect of other Obligations as set forth in the Credit Agreement and the other Credit Documents. Each Borrower further acknowledges and agrees that as of the date hereof, it has no claim, defense or set-off right against any Lender, the Swing Line Lender, the Administrative Agent or the Letter of Credit Issuer of any nature whatsoever, whether sounding in tort, contract or otherwise, and as of the date hereof has no claim, defense or set-off of any nature whatsoever to the enforcement by the Lenders, the Swing Line Lender, the Administrative Agent and the Letter of Credit Issuer of the full amount of the Loans and other

Obligations of the Borrowers under the Credit Agreement and the other Credit Documents.

(b) Notwithstanding the foregoing, to the extent that any claim, cause of action, defense or set-off against any Lender, the Swing Line Lender, the Administrative Agent or the Letter of Credit Issuer or the enforcement by any of them of the Credit Agreement, any Note, any other Credit Document, of any nature whatsoever, known or unknown, fixed or contingent, does nonetheless exist or may exist on the date hereof, in consideration of the Lenders' and the Administrative Agent's entering into this Fifth Amendment, each Borrower irrevocably and unconditionally waives and releases fully each and every such claim, cause of action, defense and set-off which exists or may exist on the date hereof.

5. **Governing Law; Binding Effect.** This Fifth Amendment shall be governed by and construed in accordance with the laws of the State of Ohio and shall be binding upon and inure to the benefit of the Borrowers, the Lenders, the Administrative Agent and the Swing Line Lender and their respective successors and assigns.

6. **Counterparts.** This Fifth Amendment may be executed in separate counterparts, each of which shall be deemed to be an original, and all of which together shall be deemed a fully executed agreement.

7. **Miscellaneous.**

A. The Borrowers jointly and severally agree to pay on demand all costs and expenses of the Lenders and the Administrative Agent, including reasonable attorneys' fees and expenses, incurred in connection with the preparation, execution and delivery of this Fifth Amendment and the other documents contemplated hereby, including, without limitation, the Third Amendment to Intercreditor and Collateral Agency Agreement.

B. This Fifth Amendment is executed in accordance with and subject to Section 12.12

of the Credit Agreement. The execution, delivery and performance by the Lenders, the Swing Line Lender and the Administrative Agent of this Fifth Amendment shall not constitute, or to be deemed to be or construed as, a waiver of any right, power or remedy of the Lenders, the Swing Line Lender or the Administrative Agent, or a waiver of any provision of the Credit Agreement, except as expressly stated herein. None of the provisions of this Fifth Amendment shall constitute, or to be deemed to be or construed as, a waiver of any Event of Default or any Default.

8. Waiver of Jury Trial. EACH OF THE PARTIES TO THIS FIFTH AMENDMENT HEREBY IRREVOCABLY WAIVES ALL RIGHT TO A TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM (WHETHER SOUNDING IN CONTRACT, TORT OR OTHERWISE) ARISING OUT OF OR RELATING TO THIS AMENDMENT, THE OTHER CREDIT DOCUMENTS OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY. EACH PARTY HERETO HEREBY (A) CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OR ANY OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THE FOREGOING WAIVER, AND (B) ACKNOWLEDGES THAT IT AND THE OTHER PARTIES HERETO HAVE BEEN INDUCED TO ENTER INTO THIS FIFTH AMENDMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATION IN THIS SECTION.

[No additional provisions are on this page; the next page is the signature page.]

IN WITNESS WHEREOF, the Borrowers, the Lenders, the Administrative Agent and the Swing Line Lender have hereunto set their hands as of the date first above written.

BORROWERS :

BRUSH WELLMAN INC.

By: _____
By: _____
-----, -----

ADMINISTRATIVE AGENT :

NATIONAL CITY BANK,
AS ADMINISTRATIVE AGENT

-----, -----

BRUSH ENGINEERED MATERIALS INC.

By: _____
-----, -----

[Signatures continued on the following page]

LENDERS:

FIFTH THIRD BANK, an Ohio banking corporation, f/k/a FIFTH THIRD BANK, **NORTHEASTERN OHIO**

By: _____
_____, _____

NATIONAL CITY BANK, as Lender and Swing Line Lender

By: _____
_____, _____

HARRIS TRUST AND SAVINGS BANK

By: _____
_____, _____

U.S. BANK NATIONAL ASSOCIATION, f/k/a Firststar Bank, N.A.

By: _____
_____, _____

MANUFACTURERS AND TRADERS TRUST COMPANY

By: _____
_____, _____

LASALLE BANK NATIONAL ASSOCIATION

By: _____
_____, _____

EXHIBIT 10qq

**NINTH AMENDMENT
TO MASTER LEASE AGREEMENT AND EQUIPMENT SCHEDULES**

THIS NINTH AMENDMENT TO MASTER LEASE AGREEMENT AND EQUIPMENT SCHEDULES ("this Ninth Amendment") is made and entered into as of the 29th day of January, 2003, by BRUSH WELLMAN INC., an Ohio corporation (the "Lessee"), and NATIONAL CITY BANK, a national banking association, for itself and as agent for certain participants (the "Lessor").

RECITALS:

A. The Lessee and the Lessor entered into a Master Lease Agreement, dated as of December 30, 1996, as amended by the First Amendment to Master Lease Agreement, dated as of September 2, 1997, the Second Amendment to Master Lease Agreement and Amendment to Disbursement Schedules, dated as of January 26, 1999, the Third Amendment to Master Lease Agreement and Amendment to Equipment Schedules, dated as of September 30, 1999, the Fourth Amendment to Master Lease and Waiver, dated as of May 16, 2000, and Consolidated Amendment No.1 to Master Lease Agreement and Equipment Schedules, dated as of June 30, 2000, Consolidated Amendment No.2 to Master Lease Agreement and Equipment Schedules, dated as of March 30, 2001, Consolidated Amendment No.3 to Master Lease Agreement and Equipment Schedules, dated as of September 28, 2001, and an Eighth Amendment to Master Lease Agreement and Equipment Schedules, dated as of December 31, 2001 (collectively, together with all Exhibits and Schedules thereto, the "Lease Agreement"), under which the Lessor agreed to lease to the Lessee certain equipment to be used by the Lessee at its Elmore, Ohio, facility, subject to certain conditions and in accordance with the terms thereof.

B. Capitalized terms used herein and not otherwise defined herein shall have the

meanings assigned to such terms in the Lease Agreement.

C. In addition, on November 30, 2002, a Default occurred and is continuing under Section XI(a)(iii) (Default) of the Lease Agreement, by reference to Section XXIII(d) (Consolidated Tangible Net Worth) thereof (the "Existing Default"), and the Lessee has requested the Lessor to waive the Existing Default.

D. Subject to the terms and conditions of this Ninth Amendment, the Lessor has agreed to waive the Existing Default. E. In addition, the Lessee has requested the Lessor to authorize the Collateral Agent and the Collateral Agent under the Intercreditor and Collateral Agency Agreement dated September 28, 2001, as amended (the "Collateral Agency Agreement"), on behalf of the Lessor, to enter into an Intercreditor Agreement with The Bank of Nova Scotia in the Form of Attachment 9 hereto (the "Scotia Intercreditor Agreement").

F. In addition, the Lessor and the Lessee have agreed to amend the Lease Agreement as hereinafter set forth.

AGREEMENTS:

NOW, THEREFORE, in consideration of the foregoing Recitals and the mutual agreements hereinafter set forth, the parties hereby agree as follows:

1. Amendments to the Lease Agreement. Subject to the terms and conditions of this Ninth Amendment, including, without limitation, Section 4, below, the Lease Agreement is hereby amended as follows:

A. The following definitions are added to Paragraph (b) of Section XXV (Definitions) of the Lease Agreement in proper alphabetical order:

"COLLATERAL AGENCY AGREEMENT" shall mean that certain Intercreditor and Collateral Agency Agreement dated September 28, 2001, among National City Bank, as collateral

agent, the Lessor, and certain other parties, as heretofore and hereafter amended, supplemented and replaced from time to time.

"COLLATERAL AGENT" shall mean the party from time to time serving as the Collateral Agent under and pursuant to the Collateral Agency Agreement.

"MORTGAGE" shall mean any mortgage or deed of trust in form and substance satisfactory to the Collateral Agent that grants to the Collateral Agent for the benefit of the Secured Creditors (as defined in the Collateral Agency Agreement) a Lien on real property owned by any Credit Party and on the Development Bond Sites, collectively being the "MORTGAGES".

"SECURITY DOCUMENTS" shall mean the Guaranties, the Collateral Agency Agreement, the Security Agreement, the Subsidiary Security Agreement, the Mortgages and each other document pursuant to which any of the Obligations are guaranteed or any Lien or security interest is governed or granted by any Borrower or any Subsidiary to the Collateral Agent or the Collateral Agent as security for any of the Obligations.

"SCOTIA INTERCREDITOR AGREEMENT" shall mean the Intercreditor Agreement among The Bank of Nova Scotia, the Collateral Agent and the Collateral Agent entered into contemporaneously with the effectiveness of the Ninth Amendment to this Agreement, as the same is amended, supplemented and replaced from time to time.

B. The proviso at the end of the definition of "Consolidated Tangible Net Worth" in Section XXV(b) (Definitions) of the Lease Agreement (that is, the proviso immediately following the word "GAAP" and after the semicolon) is amended and restated in its entirety to provide as follows:

PROVIDED that Consolidated Tangible Net Worth shall be calculated (i) before the effect of FAS 133 - Accounting for Derivatives Instruments and Hedging Activities and FAS 138 - Accounting for Certain Derivatives Instruments and Certain Hedging Activities (prior to the "Delivery Date" of the Eighth Amendment to this Agreement, such item appearing under the stockholders' equity category "Foreign Currency Translation Adjustment"),

(ii) without reduction for Directors Deferred Compensation (prior to the "Delivery Date" of the Eighth Amendment to this Agreement, such item appearing under the stockholders' equity categories "Other Equity Transactions - Deferred Directors Shares and Deferred Compensation"),

(iii) without reflecting the effect of any write-offs of any deferred tax assets effected during the fiscal year of Brush Engineered Materials Inc. ending December 31, 2002, pursuant to FAS 109, so long as such write-offs do not exceed \$25,000,000 in the aggregate on a consolidated basis, and

(iv) without reflecting the effect of any non-cash charges in respect of unfunded pension liabilities effected during the fiscal year of Brush Engineered Materials Inc. ending December 31, 2002, pursuant to FAS 87, so long as such charges do not exceed \$18,000,000 in the aggregate on a consolidated basis.

C. Paragraph (b) of Section XXIII of the Lease Agreement (Ratio of Consolidated Total Debt to Consolidated EBITDAR) is amended and restated in its entirety to provide as follows:

(b) RATIO OF CONSOLIDATED TOTAL DEBT TO CONSOLIDATED EBITDAR. Lessee will not permit the ratio at any time of (x) the amount of Consolidated Total Debt at such time to (y) Consolidated EBITDAR for the Testing Period most recently ended, to exceed (i) 3.50 to 1.00 for each Testing Period ending on and after March 31, 2003; provided, however, that for the purposes of this paragraph (a), (A) the term "Testing Period" shall mean, as to each of the fiscal quarters ending on the following dates only, the respective period set forth opposite such fiscal quarter:

Fiscal Quarter Ending -----	Testing Period -----
March 31, 2003 and June 30, 2003	October 1, 2002 through March 31, 2003, October 1, 2002 through June 30, 2003

and (B) in computing such ratio for the Testing Period ending March 31, 2003, Consolidated EBITDAR shall be deemed to mean an amount equal to Consolidated EBITDAR for such Testing Period, times two (2); and, in computing such ratio for the Testing Period ending June 30, 2003, Consolidated EBITDAR shall be deemed to mean an amount equal to Consolidated EBITDAR for such Testing Period, times one and one-third

(1 1/3)

D. Paragraph (c) of Section XXIII (Consolidated Fixed Charge Coverage Ratio) of the Lease Agreement is amended and restated in its entirety to provide as follows:

(c) CONSOLIDATED FIXED CHARGE COVERAGE RATIO. The Lessee will not at any time permit the Consolidated Fixed Charge Coverage Ratio for any of the Testing Periods set forth below to be less than the ratio set forth opposite such Testing Period:

Fiscal Quarter Ending Ratio -----	Minimum Fixed Charge Coverage -----
March 31, 2003 June 30, 2003 and thereafter	1.25 to 1.00 1.50 to 1.00;

provided, however, that for the purposes of this Section XXIII(c), the term "Testing Period" shall mean, as to each of the fiscal quarters ending on the following dates only, the respective period set forth opposite such fiscal quarter:

Fiscal Quarter Ending -----	Testing Period -----
March 31, 2003 and June 30, 2003	October 1, 2002 through March 31, 2003, October 1, 2002 through June 30, 2003.

E. Paragraph (d) of Section XXIII (Consolidated Tangible Net Worth) of the Lease

Agreement is amended and restated in its entirety to provide as follows:

(d) CONSOLIDATED TANGIBLE NET WORTH. The Lessee will not permit the Consolidated Tangible Net Worth to be less than \$185,000,000 as of December 31, 2002 or at any time thereafter.

F. The following provisions are added as new Sections XXIV(w) and XXIV(x) of the Lease Agreement immediately following Section XXIV(v) and before Section XXV:

(w) ENVIRONMENTAL SITE ASSESSMENTS. No later than March 31, 2003, the Lessee shall deliver to the Collateral Agent a Phase I environmental site assessment in respect of each real property site encumbered by the Mortgages. Such site assessments shall be conducted by qualified environmental consultants of recognized standing reasonably approved by the Collateral Agent and shall be in form and content reasonably satisfactory to the Collateral Agent.

(x) SURVEYS. No later than March 31, 2003, the Lessee shall deliver to the Collateral Agent an ALTA/ACSM survey in respect of each real property site encumbered by the Mortgages (unless, as to the Delta, Utah site of Brush Resources, Inc. only, waived by the Collateral Agent, in its discretion). Such surveys shall be conducted and prepared by qualified and licensed surveyors of recognized standing reasonably approved by the Collateral Agent and shall be in form and content reasonably satisfactory to the Collateral Agent.

G. The definition of Applicable Margin contained in Exhibit No. 2 Equipment Schedules is amended and restated in its entirety to provide as follows:

"Applicable Margin" shall mean Four Hundred Fifty (450) basis points.

2. Conditional Waiver.

A. Subject to the terms and conditions of this Ninth Amendment, including, without limitation, Section 4, below, the Lessor hereby waives the Lessee's breach, as of November 30, 2002, of the covenant contained in Section XXIII(d) (Consolidated Tangible Net Worth) of the Lease Agreement (and the resulting Existing Default), but only to the extent that the Consolidated Tangible Net Worth as of such date was not less than \$198,000,000.

B. The foregoing waiver is limited to its express terms and shall not be deemed to be a waiver of any other Default

which may have existed on or prior to the date hereof or any Default which may hereafter arise under any of the foregoing Section or under any other provision of the Lease Agreement or any of the other Lease Documents. Further, the granting of this waiver shall not be construed as an agreement or understanding by the Lessor to grant any other waiver or other accommodation in the future with respect to the foregoing Section or any other provision of the Lease Agreement or any of the other Lease Documents.

3. Authorization. Subject to the terms and conditions of this Ninth Amendment, including, without limitation, Section 4, below, in accordance with Section 8.4 of the Collateral Agency Agreement, the Lessor hereby authorizes the Collateral Agent, on behalf of the Lessor, to enter into the Scotia Intercreditor Agreement.

4. Delivery Date; Conditions Precedent. The modifications to the Lease Agreement set forth in Section 1, above, the waiver set forth in Section 2, above, and the authorization set forth in Section 3, above, are subject to the Lessee's performance of the following (the date on which all have been performed being the "Delivery Date"):

A. The Lessee's secretary or treasurer shall have certified to the Lessor

(i) a copy of the resolutions duly adopted by the Lessee's board of directors in respect of this Amendment and the other Lease Documents contemplated hereby;

(ii) true and correct copies of the Lessee's current Charter or Articles of Incorporation and By-laws or Code of Regulations (or, if applicable, that no modifications thereof have been made since they were most recently certified to the Lessor); (iii) the names and true signatures of the officers of the Lessor authorized to sign this Ninth Amendment and any Mortgage required hereby on behalf of the Lessor; (iv) that, after giving effect to the amendments set forth herein, no Default or Potential Default exists; and (v) that the representations and warranties of the Lessee under the Lease Agreement are reaffirmed as of the Delivery Date, subject only to variance therefrom acceptable to the Collateral Agent.

B. Each Guarantor's secretary or treasurer shall have certified to the Lessor (i) a copy of the resolutions duly adopted by that Guarantor's board of directors in respect of this Amendment and the other Lease Documents contemplated hereby; (ii) true and correct copies of that Guarantor's current Charter or Articles of Incorporation and By-laws or Code of Regulations (or, if applicable, that no modifications thereof have been made since they were most recently certified to the Lessor); (iii) the names and true signatures of the officers of that Guarantor authorized to sign this Amendment and any Mortgage required hereby on behalf of that Guarantor; and (iv) that, after giving effect to the amendments set forth herein, no Default exists.

C. Counsel to the Lessee and the Guarantors shall have delivered to the Lessor a written opinion as to the due authorization, execution, delivery and enforceability of this Ninth Amendment and the other documents described in paragraphs E through J, inclusive, of this Section 4, in form and substance satisfactory to the Collateral Agent; provided that no opinion with respect to the enforceability of any document described in paragraph F below shall be required.

D. The Lessee shall have paid to the Collateral Agent in immediately available funds, for the ratable benefit of the Lessor, an amendment fee in the amount of Eighty-four Thousand Five Hundred Thirty-six Dollars (\$84,536).

E. All of the parties to the Collateral Agency Agreement shall have executed and delivered to Collateral Agent a Second Amendment to Intercreditor and Collateral Agency Agreement in the form of Attachment 1 hereto.

F. The Lessee and each Guarantor (including new Guarantors pursuant to Paragraph I, below) that owns real property or holds a leasehold interest in a Development Bond Site (said real property and the Development Bond Sites being, collectively, the "Mortgaged Property") shall have executed and delivered to the Collateral Agent a Mortgage substantially in the form of Attachment

2 hereto (as to the Lessee) or Attachment 3 hereto (as to a Guarantor) on all Mortgaged Property owned by the Lessee or such Guarantor or in which the Lessee or such Guarantor holds a leasehold interest, shall have taken or caused to be taken such other actions, if any, as the Collateral Agent may reasonably deem necessary or appropriate to cause the Collateral Agent's Lien on the Mortgaged Property to be duly perfected and subject only to such matters as are approved by the Collateral Agent, and shall have accompanied each such Mortgage with an ALTA loan policy of title insurance in form and substance reasonably satisfactory to the Collateral Agent; provided, however, that no such Mortgage shall encumber any Mortgaged Property if the grant of such Mortgage would cause a default under, or accelerate the maturity of indebtedness secured by, any mortgage, deed of trust, ground lease or other lien or lease instrument that encumbers such Mortgaged Property on the Effective Date (each a "Prior Encumbrance") until such time as the Lessee or such Guarantor, as applicable, has obtained the consent of the holder of such Prior Encumbrance; provided further that the Lessee shall, or shall cause such Guarantor to use its best efforts (subject to commercial reasonableness) to obtain such consent promptly following the Effective Date.

G. Each of the existing Guarantors shall have executed a confirmation of its Guaranty in the form of Attachment 4 hereto.

H. The Lessee and the Parent shall have executed and delivered to the Collateral Agent an amendment to the Security Agreement in the form of Attachment 5 hereto; and each of the other Guarantors shall have executed and delivered to the Collateral Agent an amendment to the Subsidiary Lease Security Agreement in the form of Attachment 6 hereto.

I. Each of BEM Services, Inc; Zentrix Technologies Inc.; Brush International, Inc.; Williams Advanced Materials Inc.; Circuits Processing Technologies, Inc.; Technical Materials, Inc.; and Williams Acquisition, LLC shall have executed and delivered to the Collateral Agent a

Guaranty (substantially in the form of the Guaranties) and shall have joined in the Subsidiary Lease Security Agreement as an "Assignor" thereunder pursuant to a joinder in the form of Attachment 7 hereto.

J. All of the parties to the Credit Agreement shall have executed and delivered an amendment thereto in form and substance satisfactory to the Lessor, and all conditions to its effectiveness shall have been satisfied.

K. The Lessee shall have delivered or caused to be delivered such other documents as Collateral Agent or the Lessor may reasonably request.

5. No Other Modifications. Except as expressly provided in this Ninth Amendment, all of the terms and conditions of the Lease Agreement remain unchanged and in full force and effect.

6. Governing Law; Binding Effect. This Ninth Amendment shall be governed by and construed in accordance with the laws of the State of Ohio and shall be binding upon and inure to the benefit of the Lessee, the Lessor, and their respective successors and assigns.

7. Counterparts. This Ninth Amendment may be executed in separate counterparts, each of which shall be deemed to be an original, and all of which together shall be deemed a fully executed agreement.

8. Miscellaneous.

A. The Lessee agrees to pay on demand all costs and expenses of the Lessor, including reasonable attorneys' fees and expenses, incurred in connection with the preparation, execution and delivery of this Ninth Amendment and the other documents contemplated hereby, including, without limitation, the Second Amendment to Intercreditor and Collateral Agency Agreement.

B. This Ninth Amendment is executed in accordance with and subject to Section XIX(g) of the Lease Agreement. The execution, delivery and performance by the Lessor of this Ninth

Amendment shall not constitute, or be deemed to be or construed as, a waiver of any right, power or remedy of the Lessor or a waiver of any provision of the Lease Agreement, except as expressly stated herein. None of the provisions of this Ninth Amendment shall constitute, or be deemed to be or construed as, a wavier of any Default or Potential Default.

IN WITNESS WHEREOF, the Lessee, the Lessor and its participants have hereunto set their hands as of the date first above written.

LESSEE:

BRUSH WELLMAN INC.

By: _____
President

_____, _____

LESSOR:

NATIONAL CITY BANK,
FOR ITSELF AND AS AGENT FOR
CERTAIN PARTICIPANTS

By: _____
Janice E. Focke, Senior Vice

THE FOREGOING AMENDMENT is hereby acknowledged, consented and agreed to by each of the undersigned by their respective duly authorized officers as of the day and year first above written.

Address: FIFTH THIRD BANK, an Ohio banking corporation, f/k/a Fifth Third Bank, Northeastern Ohio 1404 East Ninth Street

Cleveland, Ohio 44114
Fax: (216) 274-5507

By: _____

Title:

Address:

P.O. Box 755 (111/10W)
Chicago, IL 60690-0755
Fax: (312) 461-5225

HARRIS TRUST AND SAVINGS BANK

By: _____

Title:

Address:

P.O. Box 524
Mailcode SL-TW-07CP
St. Louis, MO 63166-0524
Fax: (314) 418-2135

U.S. BANK NATIONAL ASSOCIATION,
f/k/a Firststar Bank, N.A.

By: _____

Title:

Address:

One West Pennsylvania Avenue
Suite 1000
Towson, Maryland 21204
Fax: (410) 769-9313

LASALLE NATIONAL LEASING
CORPORATION

By: _____

Title:

Address:

One Foundation Plaza
Buffalo, New York 14203
Fax: (716) 848-7318

MANUFACTURERS AND TRADERS
TRUST COMPANY

By: _____

Title:

EXHIBIT 10rr

**TENTH AMENDMENT
TO MASTER LEASE AGREEMENT AND EQUIPMENT SCHEDULES**

THIS TENTH AMENDMENT TO MASTER LEASE AGREEMENT AND EQUIPMENT SCHEDULES ("this Tenth Amendment") is made and entered into as of the 7th day of March, 2003, by BRUSH WELLMAN INC., an Ohio corporation (the "Lessee"), and NATIONAL CITY BANK, a national banking association, for itself and as agent for certain participants (the "Lessor").

RECITALS:

A. The Lessee and the Lessor entered into a Master Lease Agreement, dated as of December 30, 1996, as amended by the First Amendment to Master Lease Agreement, dated as of September 2, 1997, the Second Amendment to Master Lease Agreement and Amendment to Disbursement Schedules, dated as of January 26, 1999, the Third Amendment to Master Lease Agreement and Amendment to Equipment Schedules, dated as of September 30, 1999, the Fourth Amendment to Master Lease and Waiver, dated as of May 16, 2000, and Consolidated Amendment No.1 to Master Lease Agreement and Equipment Schedules, dated as of June 30, 2000, Consolidated Amendment No.2 to Master Lease Agreement and Equipment Schedules, dated as of March 30, 2001, Consolidated Amendment No.3 to Master Lease Agreement and Equipment Schedules, dated as of September 28, 2001, an Eighth Amendment to Master Lease Agreement and Equipment Schedules, dated as of December 31, 2001, and a Ninth Amendment to Master Lease Agreement and Equipment Schedules, dated as of January 29, 2003 (collectively, together with all Exhibits and Schedules thereto, the "Lease Agreement"), under which the Lessor agreed to lease to the Lessee certain equipment to be used by the Lessee at its Elmore, Ohio, facility, subject to certain conditions and in accordance with the terms thereof.

B. Capitalized terms used herein and not otherwise defined herein shall have the meanings assigned to such terms in the Lease Agreement.

C. The Lessor and the Lessee have agreed to amend the Lease Agreement as hereinafter set forth.

AGREEMENTS:

NOW, THEREFORE, in consideration of the foregoing Recitals and the mutual agreements hereinafter set forth, the parties hereby agree as follows:

1. Amendments to the Lease Agreement. Subject to the terms and conditions of this Tenth Amendment, including, without limitation, Section 2, below, the Lease Agreement is hereby amended as follows:

A. The clauses designated as "(i)" and "(ii)" of Paragraph (iv) of Section XI(a) of the Lease Agreement (Default) are re-designated to be "(A)" and "(B)"; respectively, and the following provision is added to the end of said Paragraph (iv) as a new clause (C) thereof:

or (C) there shall occur an "Event of Default" as that term is defined and used in the Credit Agreement,

B. Paragraph (ix) of Section XI(a) of the Lease Agreement (Default) is amended by deleting therefrom the sum "\$5,000,000" and inserting the sum "\$1,000,000" in its stead.

C. Paragraph (a) of Section XXIII of the Lease Agreement (Ratio of Consolidated Total Debt to Consolidated Total Adjusted Capital and Interest Coverage Ratio) is amended and restated in its entirety to provide as follows:

(a) INTEREST COVERAGE RATIO. The Lessee shall not permit the Interest Coverage Ratio for the Testing Period ending on any of the following dates to be less than the ratio set forth below opposite such date:

Testing Period Ending Ratio ----- -----	Minimum
June 30, 2003	1.20 to 1
September 30, 2003	1.25 to 1
December 31, 2003	1.35 to 1
March 31, 2004	1.50 to 1;

provided, however, that for the purposes of this Paragraph (a) only, in computing the Interest Coverage Ratio for the Testing Period ending June 30, 2003, Consolidated EBITDAR shall be deemed to mean an amount equal to Consolidated EBITDAR for the period January 1, 2003 through June 30, 2003, times two (2); and, in computing the Interest Coverage Ratio for the Testing Period ending September 30, 2003, Consolidated EBITDAR shall be deemed to mean an amount equal to Consolidated EBITDAR for the period January 1, 2003 through September 30, 2003, times one and one-third (1 1/3).

D. Paragraph (b) of Section XXIII of the Lease Agreement (Ratio of Consolidated Total Debt to Consolidated EBITDAR) is amended and restated in its entirety to provide as follows:

(b) RATIO OF CONSOLIDATED TOTAL DEBT TO CONSOLIDATED EBITDAR. The Lessee shall not permit the ratio of (i) the amount of Consolidated Total Debt as of the end of any Testing Period ending on and after December 31, 2003 to (ii) Consolidated EBITDAR for such Testing Period, to exceed 5.00 to 1.

E. Paragraph (c) of Section XXIII (Consolidated Fixed Charge Coverage Ratio) of the Lease Agreement is amended and restated in its entirety to provide as follows:

(c) MINIMUM EBITDAR. The Lessee shall not at any time permit the Consolidated EBITDAR for the Testing Period ending on any of the following dates to be less than the amount set forth opposite such date:

Testing Period Ending EBITDAR ----- -----	Minimum
March 31, 2003	\$ 8,500,000
June 30, 2003	\$10,500,000
September 30, 2003	\$14,000,000
December 31, 2003	\$22,000,000
March 31, 2004	\$24,000,000.

F. Paragraph (d) of Section XXIII (Consolidated Tangible Net Worth) of the Lease Agreement is amended and restated in its entirety to provide as follows:

(d) CONSOLIDATED TANGIBLE NET WORTH. The Lessee shall not permit the Consolidated Tangible Net Worth to be less than (i) \$185,000,000 as of December 31, 2002

or (ii) \$180,000,000 at any time thereafter.

G. Paragraph (b) of Section XXIV(m) of the Lease Agreement (Acquisitions) is amended and restated in its entirety to provide as follows:

(b) ACQUISITIONS. [Intentional Deleted].

H. Clause (A) of Paragraph (c) of Section XXIV(m) of the Lease Agreement (Permitted Dispositions) is amended and restated in its entirety to provide as follows:

(A) the consideration for such transaction represents fair value (as determined by management of the Parent and approved by the Lessor in writing, which approval shall not be withheld or delayed unreasonably), and at least 90% of such consideration consists of cash (with any instrument evidencing any deferred portion of consideration being deposited in pledge with the Collateral Agent pursuant to, as the case may be, the Security Agreement or the Subsidiary Security Agreement),

I. Paragraph (e) of Section XXIV(m) of the Lease Agreement (Capital Expenditures) is amended and restated in its entirety to provide as follows:

(e) CAPITAL EXPENDITURES. The Parent, the Lessee and the Subsidiaries shall not make any Consolidated Capital Expenditure if, after giving effect to such Consolidated Capital Expenditure, the aggregate of all Consolidated Capital Expenditures made (i) during the fiscal year of the Parent ending December 31, 2003 would exceed \$10,000,000 or (ii) during the fiscal quarter ending March 31, 2004 would exceed \$3,000,000.

J. Paragraph (j) of Section XXIV(o) of the Lease Agreement (Additional Unsecured Debt of the Parent and Lessee) is amended by deleting therefrom the sum "\$5,000,000" and inserting therein the sum "\$3,000,000" in its stead.

K. Paragraph (e) of Section XXIV(p) of the Lease Agreement (Advances, Investments, Loans and Guaranty Obligations) is amended and restated in its entirety to provide as follows:

(e) the loans, advances, investments and guarantees in respect of Indebtedness of persons other than Wholly-Owned Subsidiaries of the Parent or the Lessee on the date of the Fifth Amendment to the Credit Agreement and described in Annex V to the Credit Agreement and any refinancing, extension, renewal or refunding thereof;

L. Paragraph (k) of Section XXIV(p) of the Lease Agreement (Advances, Investments,

Loans and Guaranty Obligations) is amended by deleting therefrom the sum "\$10,000,000" and inserting therein the sum "\$1,000,000" in its stead.

M. The following provision is added as a new Section XXIV(y) of the Lease Agreement immediately following Section XXIV(x) and before Section XXV:

(y) CONSULTANT ACCESS. The Lessee hereby agrees to instruct and authorize, and to cause the Parent and each Subsidiary to instruct and authorize, FTI Consultants, Inc. (the "Consultant") to provide to the Lessor, promptly upon the request of the Lessor, true and complete copies of such reports, analyses and other information relating to any one or more of the Lessee, the Parent and the Subsidiaries, or otherwise arising from or in connection with such Consultant's engagement, as the Lessor may from time to time reasonably request and to discuss with the Lessor, promptly upon the written request of the Lessor to the Consultant (with a copy of any such notice to the Parent), all aspects of the business and property of any one or more of the Lessee, the Parent and the Subsidiaries and all of the Consultant's findings, opinions and conclusions, whether tentative or final; PROVIDED that the Lessee, the Parent or the Subsidiaries (as the case may be) potentially affected by any such discussions, shall be entitled to have one or more representatives present to observe such discussions.

N. The definition of "Permitted Master Copper Lease Agreements" in Section XXV of the Lease Agreement (Certain Definitions) is amended by deleting therefrom the words and sum "an amount greater than \$15,000,000" and inserting therein the sum "\$10,000,000" in their stead.

O. The definition of "Permitted Precious Metal Consignments" in Section XXV of the Lease Agreement (Certain Definitions) is amended by deleting therefrom the sum "\$70,000,000" and inserting therein the sum "\$50,000,000" in its stead.

2. Delivery Date; Conditions Precedent. The modifications to the Lease Agreement set forth in Section 1, above, are subject to the Lessee's performance of the following (the date on which all have been performed being the "Delivery Date"):

A. The Lessee's secretary or treasurer shall have certified to the Lessor (i) a copy of the resolutions duly adopted by the Lessee's board of directors in respect of this Amendment and the other Lease Documents contemplated hereby; (ii) true and correct copies of the Lessee's current

Charter or Articles of Incorporation and By-laws or Code of Regulations (or, if applicable, that no modifications thereof have been made since they were most recently certified to the Lessor); (iii) the names and true signatures of the officers of the Lessee authorized to sign this Tenth Amendment on behalf of the Lessee; (iv) that, after giving effect to the amendments set forth herein, no Default or Potential Default exists; and (v) that the representations and warranties of the Lessee under the Lease Agreement are reaffirmed as of the Delivery Date, subject only to variance therefrom acceptable to the Lessor.

B. Each Guarantor's secretary or treasurer shall have certified to the Lessor (i) a copy of the resolutions duly adopted by that Guarantor's board of directors in respect of this Amendment and the other Lease Documents contemplated hereby; (ii) true and correct copies of that Guarantor's current Charter or Articles of Incorporation and By-laws or Code of Regulations (or, if applicable, that no modifications thereof have been made since they were most recently certified to the Lessor); (iii) the names and true signatures of the officers of that Guarantor authorized to sign any Mortgage amendment and other Lease Documents required hereby on behalf of that Guarantor; and (iv) that, after giving effect to the amendments set forth herein, no Default exists.

C. Counsel to the Lessee and the Guarantors shall have delivered to the Lessor a written opinion as to the due authorization, execution, delivery and enforceability of this Tenth Amendment and the other documents described in paragraphs E, through H, inclusive, of this Section 2, in form and substance satisfactory to the Lessor; provided that no opinion with respect to the enforceability of any document described in paragraph E below shall be required.

D. The Lessee shall have paid to the Lessor in immediately available funds, for the ratable benefit of the Lessor and its participants, an amendment fee in the amount of One Hundred Ninety-three Thousand Two Hundred Eighty-five Dollars (\$193,285).

E. Each Guarantor that has granted to the Collateral Agent a Mortgage shall have executed and delivered to the Collateral Agent an amendment to such Mortgage in the form of Attachment 1 hereto and shall, at the Lessee's expense, accompany such amendment with an endorsement to the ALTA loan policy of title insurance in respect of such Mortgage in form and substance reasonably satisfactory to the Collateral Agent.

F. Each of the Guarantors shall have executed a confirmation of its Guaranty and of, as the case may be, the Security Agreement or Subsidiary Lease Security Agreement in the form of Attachment 2 hereto.

G. Brush International, Inc. shall have executed and delivered to the Lessor a confirmation of the Foreign Subsidiary Pledge Agreement in the form of Attachment 3 hereto.

H. All of the parties to the Collateral Agency Agreement shall have executed and delivered to Lessor a Third Amendment to Intercreditor and Collateral Agency Agreement in the form of Attachment 4 hereto.

I. All of the parties to the Credit Agreement shall have executed and delivered an amendment thereto in form and substance satisfactory to the Lessor, and all conditions to its effectiveness shall have been satisfied.

J. The Lessee shall have delivered or caused to be delivered such other documents as Collateral Agent or the Lessor may reasonably request.

3. No Other Modifications. Except as expressly provided in this Tenth Amendment, all of the terms and conditions of the Lease Agreement remain unchanged and in full force and effect.

4. Governing Law; Binding Effect. This Tenth Amendment shall be governed by and construed in accordance with the laws of the State of Ohio and shall be binding upon and inure to

the benefit of the Lessee, the Lessor, and their respective successors and assigns.

5. Counterparts. This Tenth Amendment may be executed in separate counterparts, each of which shall be deemed to be an original, and all of which together shall be deemed a fully executed agreement.

6. Miscellaneous.

A. The Lessee agrees to pay on demand all costs and expenses of the Lessor, including reasonable attorneys' fees and expenses, incurred in connection with the preparation, execution and delivery of this Tenth Amendment and the other documents contemplated hereby, including, without limitation, the Third Amendment to Intercreditor and Collateral Agency Agreement.

B. This Tenth Amendment is executed in accordance with and subject to Section XIX(g) of the Lease Agreement. The execution, delivery and performance by the Lessor of this Tenth Amendment shall not constitute, or be deemed to be or construed as, a waiver of any right, power or remedy of the Lessor or a waiver of any provision of the Lease Agreement, except as expressly stated herein. None of the provisions of this Tenth Amendment shall constitute, or be deemed to be or construed as, a wavier of any Default or Potential Default.

[No additional provisions are on this page; the next page is the signature page.]

IN WITNESS WHEREOF, the Lessee, the Lessor and its participants have hereunto set their hands as of the date first above written.

LESSEE :

BRUSH WELLMAN INC.

By: _____

-----, -----

LESSOR :

NATIONAL CITY BANK,
FOR ITSELF AND AS AGENT FOR
CERTAIN PARTICIPANTS

By: _____

-----,

THE FOREGOING AMENDMENT is hereby acknowledged, consented and agreed to by each of the undersigned by their respective duly authorized officers as of the day and year first above written.

Address:

1404 East Ninth Street
Cleveland, Ohio 44114
Fax: (216) 274-5507

FIFTH THIRD BANK, an Ohio banking
corporation, f/k/a Fifth Third Bank,
Northeastern Ohio

By: _____

Title: _____

Address:

P.O. Box 755 (111/10W)
Chicago, IL 60690-0755
Fax: (312) 461-5225

HARRIS TRUST AND SAVINGS BANK

By: _____

Title: _____

Address:

P.O. Box 524
Mailcode SL-TW-07CP
St. Louis, MO 63166-0524
Fax: (314) 418-2135

U.S. BANK NATIONAL ASSOCIATION,
f/k/a Firststar Bank, N.A.

By: _____

Title: _____

Address:

One West Pennsylvania Avenue
Suite 1000
Towson, Maryland 21204
Fax: (410) 769-9313

LASALLE NATIONAL LEASING CORPORATION

By: _____

Title: _____

Address:

One Foundation Plaza
Buffalo, New York 14203
Fax: (716) 848-7318

MANUFACTURERS AND TRADERS
TRUST COMPANY

By: _____

Title: _____

Exhibit 10(SS)

BRUSH ENGINEERED MATERIALS INC. PENSION PLAN

(June 1, 2000 Restatement)

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BRUSH ENGINEERED MATERIALS INC. PENSION PLAN

(June 1, 2000 Restatement)

Brush Engineered Materials Inc., an Ohio corporation, pursuant to the order of its Board of Directors, hereby (amends and) restates, effective as provided herein, the Brush Engineered Materials Inc. Pension Plan, which is currently maintained under a document titled Brush Wellman Inc. Pension Plan for Salaried Employees (As Amended and Restated as of June 1, 1994, as amended).

ARTICLE I. - DEFINITIONS AND INTERPRETATION

1.1 Definitions. Except as otherwise provided in an applicable Schedule to the Plan, the following terms when used herein with initial capital letters shall have the following respective meanings unless the context clearly indicates otherwise:

- (1) Actuary: An individual actuary who is an enrolled actuary under the provisions of Section 3042 of ERISA or a firm of actuaries, at least one of whose members is such an enrolled actuary, which individual or firm is selected from time to time by the Company.
- (2) Administrative Committee or Committee: The committee provided for in Article III.
- (3) Administrator or Plan Administrator: The Company.
- (4) Beneficiary: A Participant's Death Beneficiary, his Spouse or any other person (other than such Participant) who is or becomes entitled under the Plan, or under an option or options permitted by the terms of the Plan, to receive any part or all of a pension or other benefit payable with respect to such Participant.
- (5) Benefit Service: With respect to a Participant, the service used to determine the amount of any benefit under the applicable Schedule.
- (6) Company: Brush Wellman Inc., an Ohio corporation, in respect of periods prior to the Effective Time and Brush Engineered Materials Inc., an Ohio corporation, in respect of periods from and after the Effective Time.
- (7) Controlled Group: The Company and any corporation which is a member of a controlled group of corporations of which the Company is also a member, as determined under Section 1563(a) of the Internal Revenue Code, without regard to Section 1563(a)(4) and Section 1563(e)(3)(C) of the Internal Revenue Code. Furthermore, the term shall include any trade or business (whether or not incorporated) which is a member of a group under common control of which the Company is also a member, as determined under Section 414(c) of the Internal Revenue Code. The term also shall include each organization which is a member of an affiliated service group of which the Company is also a member, as determined under Section 414(m) of the Internal Revenue Code, and any entity, other than the Company, which is required to be aggregated with the Company under Section 414(o) of the

Internal Revenue Code. Each corporation or unincorporated trade or business that is or was a member of the Controlled Group shall be referred to as a "Controlled Group Member" but only during such period as it is or was a member of the Controlled Group.

(8) Death Beneficiary: (a) A Participant's Death Beneficiary shall be his Spouse if such Spouse survives him, and if such Spouse's death occurs after the Participant's death, the Participant's Death Beneficiary shall be such Spouse's estate.

(b) If a Participant has no Spouse at the time of his death or his Spouse consents (in the manner hereinafter described in this paragraph (b)) to the designation hereinafter provided for in this paragraph (b), his Death Beneficiary shall be such person or persons (other than, or in addition to, his Spouse in the case of a married Participant) as may be designated by a Participant as his death beneficiary or contingent death beneficiary under the Plan. Such a designation may be made, revoked or changed only by an instrument (in a form acceptable to the Committee) which is signed by the Participant, which, if he has a Spouse, includes his Spouse's written consent to the action to be taken pursuant to such instrument (unless such action results in the Spouse being named as the Participant's sole Death Beneficiary), and which is filed with the Committee before the Participant's death. A Spouse's written consent required by this paragraph (b) shall be signed by the Spouse, shall acknowledge the effect of such consent, shall be witnessed by any person designated by the Committee as a Plan representative or by a notary public and shall be effective only with respect to such Spouse. A person designated by a Participant as a Death Beneficiary who ceases to exist shall not be entitled to any payment thereafter to be made to the Participant's Death Beneficiary; provided, however, that if a Participant's designation includes his Spouse, such Spouse's death occurs after the Participant's death and such designation does not provide that payments otherwise to be made to the Spouse shall be made to some other person or persons after such Spouse's death, such payments shall be made to the Spouse's estate. At any time when all the persons designated by the Participant as his Death Beneficiary have ceased to exist, his Death Beneficiary shall be his Spouse or, if he does not then have a Spouse (and his Spouse's estate is not entitled to payments pursuant to the provisions of the immediately preceding sentence), such relative or relatives of the Participant (by blood, marriage or adoption) and in such proportions as the Committee may select, or, in the discretion of the Committee, the Participant's estate.

(c) If a Participant has no Spouse and he has not made an effective Death Beneficiary designation pursuant to paragraph (b) above, his Death Beneficiary shall be determined by the Committee as provided in the last sentence of such paragraph (b).

(9) Effective Time: The "Effective Time" as defined in that certain Agreement of Merger executed or to be executed by and among Brush Merger Co., Brush Wellman Inc., and Brush Engineered Materials Inc.

(10) Employee: An employee of any Controlled Group Member.

(11) Employer: The Company and any other Controlled Group Member that is an Employer as determined in accordance with Article IX.

- (12) ERISA: The Employee Retirement Income Security Act of 1974, as the same has been and may be amended from time to time.
- (13) Fiduciary: Any person who (A) exercises any discretionary authority or discretionary control respecting management of the Plan or the Trust Fund or exercises any authority or control respecting management or disposition of assets of the Trust Fund, (B) renders investment advice for a fee or other compensation, direct or indirect, with respect to any part of the Trust Fund, or has any authority or responsibility to do so, or (C) has any discretionary authority or discretionary responsibility in the administration of the Plan or the Trust Fund. The term "Fiduciary" shall also include any person to whom a Named Fiduciary delegates any of its or his fiduciary responsibilities in accordance with the provisions of the Plan or Trust Agreement.
- (14) Month: A calendar month.
- (15) Named Fiduciaries: The persons designated in or pursuant to Section 5.2.
- (16) Normal Retirement Date: The date on which an Employee attains his Normal Retirement Date as defined under the Schedule applicable to such Employee.
- (17) Participant: A person who has satisfied the eligibility requirements to participate in the Plan and whose participation has not terminated, provided that where the term "Participant" is used in a Schedule, it shall mean a person who has satisfied the eligibility requirements for participation under such Schedule and whose participation in the Plan has not terminated.
- (18) Pre-2000 Restatement Plan: The provisions of the Plan as in effect prior to June 1, 2000 at the time or times relevant or applicable with respect to a Participant, including to the extent relevant or applicable the provisions of any plan that has been merged into the Plan as described in Article XI (hereinafter referred to as a "Merged Plan") and the provisions of any plan that was merged with or into a Merged Plan prior to the time the Merged Plan was merged into the Plan as in effect at the time or times relevant or applicable with respect to a Participant, or as any or all of such provisions may be amended as provided in Article XII.
- (19) Plan: Brush Engineered Materials Inc. Pension Plan, as the same is hereby and may hereafter be amended or restated from time to time.
- (20) Plan Year: The twelve-month period from June 1 through the next following May 31.
- (21) Schedule: Each schedule of the Plan providing the terms and conditions of benefits under the Plan as in effect from time to time. (Each such schedule is a part of the Plan and a part of this instrument.)

(22) Spouse: The person to whom a Participant is legally married at the specified time and subject to such other requirements as shall be set forth in particular provisions of the Plan.

(23) Trust: The trust created by the Trust Agreement.

(24) Trust Agreement: The pension trust agreement between the Company and the Trustee providing among other things for the Trust and for the Trust Fund, as the same may be amended, supplemented or restated from time to time.

(25) Trustee: The trustee under the Trust Agreement.

(26) Trust Fund: The trust estate held in trust under the provisions of the Plan and Trust Agreement, without distinction as to principal or income.

(27) Vesting Service: With respect to a Participant, the service used to determine vesting under an applicable Schedule.

1.2 Construction of Documents. (1) Unless the context clearly otherwise requires, masculine words wherever used in the Plan or in the Trust Agreement shall include feminine and neuter words.

(2) Unless the context clearly otherwise requires, wherever the word "person" appears in the Plan, it shall refer to both natural and legal persons.

(3) Where headings have been supplied for portions of the Plan and of the Trust Agreement (other than the headings to the subsections in Section 1.1), they have been supplied for convenience only and are not to be taken as limiting or extending the meaning of any of such portions of such documents.

(4) A number of the provisions of the Plan and of the Trust Agreement are designed to contain provisions required or contemplated by certain federal laws and/or regulations thereunder. All such provisions are intended to have the meaning required or contemplated by such provisions of such law or regulations and shall be construed in accordance with valid regulations and valid published governmental rulings and interpretations of such provisions. In applying such provisions of the Plan or of the Trust Agreement, each Fiduciary may rely (and shall be protected in relying) on any determination or ruling made by any agency of the United States Government that has authority to issue regulations, rulings or determinations with respect to the federal law thus involved.

(5) Except to the extent federal law controls, the Plan and Trust Agreement shall be governed, construed and administered according to the laws of the State of Ohio. All persons accepting or claiming benefits under the Plan or Trust Agreement shall be bound by and deemed to consent to their provisions.

(6) Where section references appear in a Schedule, such references shall apply to the sections of such Schedule unless the context clearly implies otherwise.

ARTICLE II. - FUNDING

2.1 Employer Contributions. Each Employer shall contribute and pay into the Trust Fund in cash or in property of any kind, to be held and administered in trust pursuant to the terms of the Plan and the Trust Agreement, such amounts and at such times as the Employer shall from time to time determine. The value of any property so contributed shall be its fair market value at the time it is so contributed. Each such contribution shall be on the condition that the contribution is deductible under Section 404 of the Internal Revenue Code (or any successor thereto).

2.2 Trust Agreement. The Company has executed the Trust Agreement for the purpose of creating a trust to provide for the payment of benefits under the provisions of the Plan. The Trustee in its relation to the Plan shall be entitled to all the rights, privileges, immunities and benefits conferred upon it, and shall be subject to all the duties and responsibilities imposed upon it, under the Plan and the Trust Agreement. The Trust Agreement is hereby incorporated into the Plan by reference. Each Employer, by adopting the Plan, approves the Trust Agreement and any amendment or supplement thereto which may be adopted in accordance with the terms of the Trust Agreement.

2.3 Trust Fund. The Trust Fund shall be held in trust by the Trustee and shall be administered in accordance with the provisions of the Trust Agreement. Neither the Trustee, the Administrative Committee, the Actuary nor any Employer in any manner guarantees the Trust Fund or any part thereof against loss or depreciation.

2.4 Payment of Benefits. Except as provided by applicable law, (A) all payments of benefits provided for in the Plan (less any deductions provided for in the Plan) shall be made solely out of the Trust Fund, (B) neither the Actuary, any Employer nor the Trustee (in its individual capacity) shall be in any manner liable for benefits payable under the Plan and (C) such benefits shall be only such as can be provided by the assets in the Trust Fund.

2.5 Expenses. Except as otherwise provided in the Plan, in the Trust Agreement or by applicable law, all expenses of administering the Plan and Trust, including fees assessed against the Plan, the Trust, the Trustee, the Plan Administrator, the Company, the other Employers and the Administrative Committee, shall be paid from the Trust Fund as a general charge thereon, unless the Company or another Employer elects to make payment thereof directly from its general assets; provided, however, that no person who receives full-time pay from an employer shall be entitled to compensation in violation of Section 408(c)(2) of ERISA. Notwithstanding the foregoing, any fees and expenses of the Actuary for services rendered in connection with the termination or partial termination of the Plan shall be considered expenses of (and shall be paid from) the Trust Fund.

2.6 Funding Policy. To the extent such has not already been done, the Company shall determine, establish and carry out a funding policy and method consistent with the objectives of the Plan and the requirements of law.

ARTICLE III. - ADMINISTRATIVE COMMITTEE

3.1 Appointment of Committeemen. The Administrative Committee shall consist of three or more committeemen who may be, but are not required to be, Participants, Employees or directors of an Employer. The committeemen and their successors shall be appointed by the Chief Executive Officer of the Company to serve for such terms as such Chief Executive Officer may fix, and appointees shall signify their acceptance thereof in writing to such Chief Executive Officer. Any committeemen may be removed at any time by the Chief Executive Officer of the Company, who may also increase, or decrease to not less than three, the number of committeemen. Any committeeman may resign by delivering his written resignation to the Chief Executive Officer of the Company. Upon the existence of any vacancy in the membership of the Administrative Committee, the Chief Executive Officer of the Company shall appoint a successor, unless the number of committeemen is decreased as above provided.

3.2 Certification of Committeemen. The Company shall certify the number and names of the members of the Administrative Committee to the Trustee. The Trustee may rely upon such certification until it receives written notice from the Company as to a change in the membership of the Administrative Committee.

3.3 Administrative Committee Procedures. The Administrative Committee may adopt, and amend from time to time, such rules for its government and the conduct of its business as it deems advisable, including a rule authorizing one or more of its members or its officers to execute instruments on its behalf evidencing its action and the Trustee and any other persons may rely on any instrument signed by such a person or persons so authorized as properly evidencing the action of the Administrative Committee. The Administrative Committee may from time to time, by resolution adopted by it, delegate to one or more of its members or officers, to a sub-committee or sub-committees or to an agent or agents of the Administrative Committee, such of its functions and duties as the Administrative Committee deems advisable. The Administrative Committee shall elect its chairman from its membership, and may elect other officers who need not be committeemen. Except as may otherwise be provided by rules or procedures adopted by the Administrative Committee, the Administrative Committee may act by majority action either at a meeting or in writing without a meeting and any action which purports to be an action of the Administrative Committee and which is evidenced by the signatures of a majority of the committeemen shall be deemed to be the action of the Administrative Committee.

3.4 Rules of the Administrative Committee. The Administrative Committee may from time to time adopt rules for the administration of the Plan. Such rules may be amended by the Administrative Committee from time to time, but such rules, as the same may be amended, (A) insofar as they apply to the rights of Participants, shall be uniform in their application to all Participants who are similarly situated, and (B) shall not be inconsistent with the terms of the Plan or Trust Agreement.

3.5 Function and Duties. (1) The Administrative Committee shall have such functions and duties and only such functions and duties as are specifically conferred upon it

by the Plan or the Trust Agreement or as may be delegated to it pursuant to Section 5.3. A committeeman shall not be disqualified from acting because of any interest, benefit or advantage, inasmuch as committeemen may be directors of an Employer, Employees or Participants, but no committeeman shall vote or act in connection with the Administrative Committee's action relating solely to himself. Except as may be required by law, no bond or other security need be required by any committeeman in such capacity in any jurisdiction.

(2) The Administrative Committee may interpret the provisions of the Plan, determine the rights and status under the Plan of Participants and other persons, decide disputes arising under the Plan, remedy any ambiguities, inequities or inconsistencies in the Plan, determine the eligibility of former Employees and other persons to benefits under the Plan and make any findings of fact necessary for the determination of any benefits payable hereunder and the amount thereof. Subject to the provisions of Section 3.7 and Article III, such determinations and findings made in good faith shall be final and conclusive, to the extent permitted by law, as to all persons for all purposes of the Plan. The Administrative Committee shall direct the Trustee relative to benefits to be paid under the Plan (or cause the Trustee to be so directed) and shall furnish the Trustee with any information reasonably required by it for the purpose of the payment of such benefits.

(3) The Administrative Committee may adopt, and amend from time to time, such actuarial factors, tables, assumptions and procedures to be used for actuarial valuations and determinations of the normal cost and actuarial requirements of the Plan as the Committee deems necessary or desirable.

(4) The Administrative Committee may employ such clerical, legal, actuarial, accounting or other assistance as it deems necessary or advisable for the proper performance of its functions and duties under the Plan.

(5) Although various provisions of the Plan provide for the filing with the Administrative Committee of various instruments, the Company may, by general announcement, specifically designate some other person(s) with whom or which any or all such instruments may be filed.

3.6 Reliance on Records. The Administrative Committee may rely upon the records of any Controlled Group Member, the Actuary or the Trustee or upon any certificate, statement or other representation made to it by an Employee, a Participant, a Beneficiary, any Controlled Group Member, the Actuary or the Trustee or any director or officer of any Controlled Group Member concerning any fact required to be determined under any of the provisions of the Plan and shall not be required to make inquiry into the propriety of any action by any Controlled Group Member, the Actuary or the Trustee.

3.7 Revocability of Action by the Administrative Committee. Any action taken by the Administrative Committee with respect to the rights or benefits of any person under the Plan shall be revocable by the Administrative Committee as to payments or distributions not theretofore made, pursuant to such action, from the Trust Fund; and appropriate adjustments may be made in future payments or distributions to a Participant or his Beneficiaries to offset any

excess payment or underpayment theretofore made to such Participant or his Beneficiaries from the Trust Fund.

3.8 Compensation and Expenses. The members of the Administrative Committee shall serve without compensation for their services as committeemen unless the Chief Executive Officer of the Company shall provide for compensation for such services. The reasonable expenses of the Administrative Committee shall be paid as provided in Section 2.5; provided, however, that any reasonable expenses of the Administrative Committee that cannot be or are not paid from the Trust Fund shall be paid by the Employers.

3.9 Uniform Administration. All action taken by the Administrative Committee under the Plan shall treat all persons similarly situated in a uniform and consistent manner.

ARTICLE IV. - CLAIMS AND REVIEW PROCEDURES

4.1 Method of Filing Claim. Any Participant or Beneficiary who believes that he is entitled to have received a benefit under the Plan which he has not received may file with the personnel office of the Company a written claim, signed by him or his duly authorized representative, specifying the basis for his claim and the facts upon which he relies in making such claim. Such claim shall be deemed filed when delivered to such personnel office which shall promptly transmit such claim to the Administrative Committee.

4.2 Notification to Claimant. Each specific application for a benefit which is denied shall be accompanied by written notification of such denial by the Administrative Committee or its designee. Except as provided in the immediately following sentence, such notification shall specify the reasons for the denial, making specific reference to pertinent Plan provisions, and advising the claimant of the procedure for the appeal of the denial. For an application for a benefit filed after December 31, 2001, the notification shall include the following: (i) specific reason or reasons for the adverse determination, (ii) reference to the specific Plan provisions on which the determination is based, (iii) a description of any additional material or information necessary for the applicant to perfect the application and an explanation of why such material or information is necessary, and (iv) a description of the Plan's review procedures and the time limits applicable to such procedures, including a statement regarding the right to bring a civil action under Section 502(a) of ERISA following an adverse benefit determination on review. For an application for a benefit filed after December 31, 2001, the Administrative Committee shall notify the claimant of the Plan's adverse benefit determination within a reasonable period of time, but not later than 90 days after receipt of the application by the Administrative Committee, unless the Administrative Committee determines that special circumstances require an extension of time for processing the application. If an extension of time for processing the application is needed, written notice of the extension will be furnished to the claimant prior to the termination of the initial 90-day period. The extension notice will indicate the special circumstances requiring an extension of time and the date by which the Administrative Committee expects to render the benefit determination. The extension of time for processing the application will not exceed a period of 90 days from the end of such initial period.

4.3 Review Procedure. A Participant or Beneficiary, or his or her duly authorized representative, may appeal a denial of his or her claim for a benefit under the Plan by filing with the personnel office of the Company a written request for a review of the claim. An appeal must be submitted in writing within 60 days after the denial and must (i) request a review of the claim for benefits under the Plan, (ii) set forth all of the grounds upon which the claimant's request for review is based and any facts in support thereof, and (iii) set forth any issues or comments which the claimant deems pertinent to the appeal. A Named Fiduciary designated by the Chief Executive Officer of the Company shall conduct a full and fair review of the claim so filed within such 60-day period. For an application for a benefit filed after December 31, 2001, without limiting the foregoing provisions of this Section 4.3, the claimant will be given the opportunity to submit written comments, documents, records, and other information relating to the application for benefits. Except as provided in the immediately following sentence, the Named Fiduciary will act upon each appeal within 60 days after receipt thereof unless special

circumstances require an extension of the time for processing, in which case a decision will be rendered as soon as possible, but not later than 120 days after the appeal is received. For an application for a benefit filed after December 31, 2001, the Named Fiduciary will act upon each appeal within a reasonable period of time, but not later than 60 days after receipt thereof unless special circumstances require an extension of the time for processing, in which case a decision will be rendered as soon as possible, but not later than 120 days after the appeal is received. For an application for a benefit filed after December 31, 2001, if an extension of time for processing the application is needed, the Named Fiduciary will furnish written notice of the extension to the claimant prior to the termination of the initial 60-day period. The extension notice will indicate the special circumstances requiring an extension of time and the date by which the Named Fiduciary expects to render the determination on review. The claimant will be given the opportunity to review pertinent documents or materials upon submission of a written request to the Named Fiduciary, provided said Named Fiduciary finds that the requested documents or materials are pertinent to the appeal. For an application for a benefit filed after December 31, 2001, a claimant will be provided upon submission of a written request to the Named Fiduciary and free of charge, reasonable access to, and copies of, all documents, records, and other information relevant to the claimant's application for benefits. On the basis of its review, the Named Fiduciary will make an independent determination of the claimant's eligibility for benefits under the Plan. For an application for a benefit filed after December 31, 2001, the review by the Named Fiduciary will take into account all comments, documents, records, and other information submitted by the claimant relating to the application, without regard to whether such information was submitted or considered in the initial benefit determination. The decision of the Named Fiduciary on any claim for benefits will be final and conclusive upon all parties thereto. Except as provided in the immediately following sentence, in the event said Named Fiduciary denies an appeal in whole or in part, it will give written notice of the decision to the claimant, which notice will set forth in a manner calculated to be understood by the claimant the specific reasons for such denial and will make specific reference to the pertinent Plan provisions on which the decision was based. For an application for a benefit filed after December 31, 2001, said Named Fiduciary will provide the claimant with written notification of the Plan's benefit determination on review, which notice, in case of an adverse benefit determination, will set forth in a manner calculated to be understood by the claimant (i) the specific reason or reasons for the adverse benefit determination, (ii) reference to the specific plan provisions on which the benefit determination is based, (iii) a statement that the claimant is entitled to receive, upon request and free of charge, reasonable access to, and copies of, all documents, records, and other information relevant to the claimant's claim for benefits, and (iv) a statement of the claimant's right to bring an action under Section 502(a) of ERISA.

ARTICLE V. - ADMINISTRATION OF THE PLAN AND FIDUCIARY RESPONSIBILITY

5.1 Responsibility for Administration. Except to the extent that particular responsibilities are assigned or delegated to other Fiduciaries pursuant to the Trust Agreement, other Articles of the Plan or Section 5.3, the Company (as the Administrator) shall be responsible for the administration of the Plan. Each other Fiduciary shall have only such powers, duties, responsibilities and authorities as are specifically conferred upon it or him pursuant to provisions of the Plan or Trust Agreement.

5.2 Named Fiduciaries. For purposes of the Plan, the Named Fiduciaries under the Plan shall be the Company, the Administrative Committee and the members thereof. The Company may, by an instrument signed by the Chief Executive Officer of the Company and delivered to the Administrative Committee, designate any other person or persons as a Named Fiduciary or Named Fiduciaries to perform functions specified in such instrument (or in a delegation pursuant to Section 5.3) which relate to the administration of the Plan, provided such designee accepts such designation. Such a designation may be terminated at any time by notice from the Company to the designee or by notice from the designee to the Company.

5.3 Delegation of Fiduciary Responsibilities. (1) The Company may delegate to any person(s) any one or more of its powers, functions, duties and/or responsibilities with respect to the Plan or the Trust Fund.

(2) Any delegation pursuant to the preceding subsection (A) shall be signed by the Company, be delivered to and accepted in writing by the delegatee and be delivered to the Administrative Committee, (B) shall contain such provisions and conditions relating to such delegation as the Company deems appropriate, (C) shall specify the powers, functions, duties and/or responsibilities therein delegated, (D) may be amended from time to time by written agreement signed by the Company and by the delegatee and delivered to the Committee, and (E) may be revoked (in whole or in part) at any time by written notice (i) from the Company and delivered to the delegatee and the Committee or (ii) from the delegatee and delivered to the Company and the Committee. Any person may serve in more than one fiduciary capacity with respect to the Plan or Trust Fund if pursuant to the Plan or Trust Agreement, multiple fiduciary duties are delegated to him.

5.4 Immunities. Except as otherwise provided in Section 5.5 or by applicable law, (A) no Fiduciary shall have the duty to discharge any duty, function or responsibility which is assigned to another Fiduciary by the terms of the Plan or Trust Agreement or is delegated to another Fiduciary pursuant to procedures for such delegation provided for in the Plan or Trust Agreement; (B) no Fiduciary shall be liable for any action taken or not taken with respect to the Plan or Trust Fund except for his own gross negligence or willful misconduct; (C) no Fiduciary shall be personally liable upon any contract or other instrument made or executed by him or in his behalf in the administration of the Plan or Trust Fund; (D) no Fiduciary shall be liable for the neglect, omission or wrongdoing of another Fiduciary; and (E) any Fiduciary may rely and shall be fully protected in acting upon the advice of counsel, who may be counsel for any Controlled Group Member, upon the records of a Controlled Group

Member, upon the opinion, certificate, valuation, report, recommendation or determination of the Actuary or the auditor of a Controlled Group Member, or upon any certificate, statement or other representation made by an Employee, a Participant, a Beneficiary or the Trustee concerning any fact required to be determined under any of the provisions of the Plan.

5.5 Limitation on Exculpatory Provisions. Notwithstanding any other provision of the Plan or the Trust Agreement, no provision of the Plan or Trust Agreement shall be construed to relieve (or have the effect of relieving) any Fiduciary from any responsibility or liability for any obligation, responsibility or duty imposed on such Fiduciary by Part 4 of Title I of ERISA.

5.6 Appointment of Investment Adviser or Investment Manager. The Company may appoint one or more investment advisers or investment managers (as such term is defined in Section 3(38) of ERISA) to furnish advice with respect to the investment of any assets held in the Trust Fund or to manage or control all or a portion of such assets (including the power to acquire or dispose of any of such assets). Any such appointment shall be made or revoked as provided for in Section 5.3.

ARTICLE VI. - MISCELLANEOUS PROVISIONS REQUIRED BY THE INTERNAL REVENUE CODE

6.1 General. Subsequent Sections of this Article are included in the Plan pursuant to requirements of the Internal Revenue Code and shall prevail over any provision of the Plan or Trust Agreement which is inconsistent therewith.

6.2 Provision Pursuant to Internal Revenue Code Section

401(a)(2). It shall be impossible, at any time prior to the satisfaction of all liabilities with respect to Employees and their Beneficiaries under the Trust, for any part of the corpus or income of the Trust to be (within the taxable year or thereafter) used for, or diverted to, purposes other than for the exclusive benefit of the Employees or their Beneficiaries. Notwithstanding the foregoing sentence, (A) if a contribution to the Trust Fund is made by an Employer by a mistake of fact, the excess of the amount contributed over the amount that would have been contributed had there not occurred a mistake of fact shall be returned to the Employer within one year after the payment of such contribution, and (B) if a contribution to the Trust Fund made by an Employer is not fully deductible under Internal Revenue Code Section 404 (or any successor thereto), such contribution, to the extent the deduction therefor is disallowed, shall be returned to the Employer within one year after the disallowance of the deduction. Earnings attributable to contributions returned to an Employer pursuant to the preceding sentence may not be returned, but losses attributable thereto shall reduce the amount to be returned.

6.3 Provision Pursuant to Internal Revenue Code Section

401(a)(8). Forfeitures shall not be applied to increase the benefits any Employee would otherwise receive under the Plan.

6.4 Provision Pursuant to Internal Revenue Code Section

401(a)(4). (1) Notwithstanding any other provision of the Plan to the contrary, to conform to the requirements of Treasury Regulations, the benefit payable under the Plan shall be subject to the following limitations:

(a) If the Plan is terminated, the benefit of any "highly compensated employee" or "highly compensated former employee", as defined in Section 414(q) of the Internal Revenue Code, shall be limited to a benefit that is nondiscriminatory under Section 401(a)(4) of the Internal Revenue Code.

(b) The annual payments in any one year to any of the 25 highly compensated employees or highly compensated former employees with the greatest compensation (hereinafter referred to as a "Restricted Employee") in the current or any prior year shall not exceed an amount equal to the payments that would be made on behalf of the Restricted Employee under (1) a life annuity that is the actuarial equivalent of the Restricted Employee's accrued benefit and other benefits to which the Restricted Employee is entitled under the Plan (other than a Social Security supplement), and (2) the amount of the payments the Restricted Employee is entitled to receive under a Social Security supplement. For purposes of the subsection (b) "benefit" includes, among other benefits, loans in excess of the amounts set forth in Section 72(p)(2)(A) of the Internal

Revenue Code, any periodic income, any withdrawal values payable to a living employee, and any death benefits not provided for by insurance on the Restricted Employee's life. The foregoing provisions of this subsection (b) shall not apply, however, if:

(1) After payment to a Restricted Employee of all benefits payable to the Restricted Employee under the Plan, the value of Plan assets equals or exceeds 110% of the value of "current liabilities", as defined in Section 412(l)(7) of the Internal Revenue Code (each value being determined as of the same date in accordance with applicable Treasury regulations);

(2) The value of the benefits payable under the Plan to or for a Restricted Employee is less than one percent of the value of current liabilities before distribution; or

(3) The value of benefits payable under the Plan to or for a Restricted Employee does not exceed the amount described in Section 411(a)(11)(A) of the Internal Revenue Code.

(2) The foregoing provisions and limitations of this Article VI shall become void if and when the Internal Revenue Service by ruling, regulations or other action revokes the requirements thereof.

6.5 Provision Pursuant to Internal Revenue Code Sections

401(a)(12) and 414(1). Pursuant to Sections 401(a)(12) and 414(1) of the Internal Revenue Code, the Plan may be merged or consolidated with, or may transfer assets and liabilities to, another plan. However, there shall not be any such merger or consolidation of this Plan with, or transfer of assets or liabilities of the Plan to, any other plan unless each participant in the merged, consolidated or transferee plan would (if that plan then terminated) receive a benefit immediately after the merger, consolidation or transfer that is equal to or greater than the benefit he would have been entitled to receive immediately before the merger, consolidation or transfer (if the Plan had then terminated).

6.6 Provision Pursuant to Internal Revenue Code Section

401(a)(14). Subject to the provisions of the applicable Schedule and Section

6.14, the payment of benefits under the Plan to a Participant shall begin not later than the 60th day after the close of the Plan Year in which the latest of the following events occurs: (A) the date on which the Participant attains his Normal Retirement Date, (B) the 10th anniversary of the year in which the Participant commenced participation in the Plan, (C) the Participant's employment with the Controlled Group has terminated, or (D) the date on which the Participant elects to have his pension commence, which election shall be made by filing with the Administrative Committee a written statement, signed by the Participant, which describes the benefit and the date on which such benefit shall commence.

6.7 Provision Pursuant to Internal Revenue Code Section

401(a)(15). In the case of a Participant or Beneficiary who is receiving benefits under the Plan, or in the case of a

Participant who is separated from service and who has nonforfeitable rights to benefits, such benefits shall not be decreased by reason of any increase in the benefit levels payable under Title II of the Social Security Act or any increase in the wage base under such Title II, if such increase takes place after the date of the enactment of ERISA or (if later) the earlier of the date of first receipt of such benefits or the date of such separation, as the case may be.

6.8 Provision Pursuant to Internal Revenue Code Section

411(a)(10)(B). (1) If any Plan amendment changes any vesting schedule under the Plan, each Participant whose nonforfeitable percentage of his accrued pension benefit derived from Employer contributions is determined under such schedule and who has been credited with at least three years of Vesting Service shall be permitted to elect, during the election period described in subsection (2) of this Section, to have his nonforfeitable percentage computed under the Plan without regard to such amendment.

(2) Such election period shall begin on the date the Plan amendment is adopted and shall end no earlier than the latest of the following dates: (A) the date which is 60 days after the day the Plan amendment is adopted, (B) the date which is 60 days after the day the Plan amendment becomes effective, or (C) the date which is 60 days after the day the Participant is issued written notice of the Plan amendment by the Plan Administrator.

(3) For purposes of subsection (1) of this Section, a Participant shall be considered to have been credited with three years of Vesting Service if such Participant has been credited with three years of Vesting Service, whether or not consecutive, without regard to the exceptions set forth in Section 411(a)(4) of the Internal Revenue Code prior to the expiration of the election period described in subsection (2) of this Section.

6.9 Provision Pursuant to Internal Revenue Code Sections

411(a)(11) and 417(e). Anything in the Plan to the contrary notwithstanding:

(1) If, immediately following a Participant's termination of employment with the Controlled Group, the lump sum amount that is the "Actuarial Equivalent" (as defined in this Section 6.9(1)) of the Participant's vested accrued pension benefit(s), other than a benefit payable under Section 3.6 or Section 3.7(3) of Schedule C, is not more than (i) \$3,500 (and was not more than \$3,500 at the time of any prior distribution) for employment terminations prior to June 1, 2002, or (ii) \$5,000 (without regard to the value of the Participant's benefit at the time of any prior distribution), for employment terminations on or after June 1, 2002, as applicable, such lump sum amount shall be paid to the Participant as soon as practicable following such termination of employment in lieu of all other benefits under the Plan. For purposes of this Section 6.9(1), "Actuarial Equivalent" shall mean a benefit of equivalent actuarial value to (1) the monthly benefit payable in the normal form (i.e., the form in which the benefit accrued) commencing as of the first day of the calendar month following the Participant's Normal Retirement Date, or with respect to Schedule D only on the Participant's Normal Retirement Date if it is the first day of a month, or if such date has already occurred, the earliest day on which the pension could commence as a monthly benefit (in the absence of the lump sum payment), or (2) if the Participant has attained the age and met the service requirements for

immediate commencement of a monthly benefit (other than a monthly benefit payable because of the provisions of Section 4.3 of Schedule A, Section 4.7A of Schedule B, and Section 4.3 of Schedule C) the monthly benefit payable in the normal form commencing as of the same time as the benefit for which equivalent actuarial value is being determined, if the application of this clause (2) produces a larger lump sum payment than the application of clause (1); in either case, when computed on the basis of the "applicable mortality table" and "applicable interest rate" where the "applicable mortality table" for this purpose means the table prescribed from time to time by the Secretary of Treasury pursuant to Section 417(e)(3) of the Internal Revenue Code as in effect on the date of distribution and the "applicable interest rate" for this purpose means the annual rate of interest for purposes of Section 417(e)(3) of the Internal Revenue Code using the Plan Year as the stability period and the second calendar month preceding the first day of the Plan Year as the lookback month in accordance with Treasury Regulation Section 1.417(e) - 1(d)(4).

(2) With respect only to a Participant whose vested accrued pension benefit was not in payment status prior to his death, if, immediately following the Participant's death, the lump sum amount that is the "Actuarial Equivalent" (as defined in this Section 6.9(2)) of the Participant's Beneficiary's vested benefit is not more than (i) \$3,500 for deaths prior to June 1, 2002, or (ii) \$5,000 for deaths on or after June 1, 2002, as applicable, such lump sum amount shall be paid to the Beneficiary as soon as practicable following the Participant's death in lieu of all other benefits under the Plan, except as provided in Section 3.9 of Schedule A if applicable. For purposes of this Section 6.9(2), "Actuarial Equivalent" shall mean a benefit of equivalent actuarial value to (1) the monthly death benefit payable in the normal form commencing as of the first day of the calendar month following the Participant's Normal Retirement Date, or with respect to Schedule D only on the Participant's Normal Retirement Date if it is the first day of a month, or (2) if the monthly death benefit could commence immediately, the monthly death benefit payable in the normal form commencing as of the same time as the benefit for which equivalent actuarial value is being determined, if the application of this clause (2) produces a larger lump sum payment than the application of clause (1); in either case, when computed on the basis of the "applicable mortality table" and "applicable interest rate" where the "applicable mortality table" for this purpose means the table prescribed from time to time by the Secretary of Treasury pursuant to Section 417(e)(3) of the Internal Revenue Code as in effect on the date of distribution and the "applicable interest rate" for this purpose means the annual rate of interest for purposes of Section 417(e)(3) of the Internal Revenue Code using the Plan Year as the stability period and the second calendar month preceding the first day of the Plan Year as the lookback month in accordance with Treasury Regulation Section 1.417(e) - 1(d)(4).

6.10 Provision Pursuant to Internal Revenue Code Section

411(d)(3). Upon the termination or partial termination of the Plan, the rights of all affected Employees to benefits accrued to the date of such termination or partial termination, to the extent funded as of such date, shall be nonforfeitable to the extent they do not exceed any limitations on such benefits provided for in the Plan.

6.11 Provision Pursuant to Internal Revenue Code Section

415(b). Except as provided in Section 6.11A, the following shall apply: (1) The maximum annual benefit payable under the Plan with respect to a Participant at any time within a Plan Year (which is the limitation year) commencing on or after June 1, 1983, when expressed as an annual benefit in the form of a straight life annuity (with no ancillary benefits), without regard to employee contributions, shall be equal to the lesser of (a) \$90,000, or (b) 100 percent of the Participant's average compensation paid or made available to him by the Controlled Group for the three consecutive calendar years of service during which he had the greatest aggregate compensation; provided, however,

(i) that if as of the close of the Plan Year beginning in 1982 and at any time thereafter such Participant's "current accrued benefit" (as such term is defined and determined under the provisions of section

235(g)(4)(B) of the Tax Equity and Fiscal Responsibility Act of 1982) is greater than the lesser of the limitations described in clauses (a) and (b) of this subsection (1), the limitation set forth in this subsection

(1) and in subsection (1) of Section 6.12 with respect to such participant shall at any time be his current accrued benefit;

(ii) that effective as of the first day of each Plan Year commencing on or after January 1, 1988, the maximum dollar limitation described in clause (a) of this subsection (1) for each such Plan Year shall be the maximum dollar limitation determined by the Commissioner of Internal Revenue for each such Plan Year;

(iii) that, with respect only to Schedule A, beginning as of July 1, 1992, part (ii) of this subsection (1) shall apply with respect to a terminated Participant whose employment with the Controlled Group terminated after June 30, 1992 and any portion of whose benefit under the Plan is paid in a form of payment other than a lump sum or in installments in order to provide post-termination adjustments in accordance with Treasury Regulation Section 1.415-5(a)(3); that, with respect only to Schedule B, beginning as of January 1, 2000, part (ii) of this subsection (1) shall apply with respect to a terminated Participant whose employment with the Controlled Group terminated after June 30, 1992 and any portion of whose benefit under the Plan is paid in a form of payment other than a lump sum or in installments in order to provide post-termination adjustments in accordance with Treasury Regulation Section 1.415-5(a)(3); that, with respect only to Schedule C, beginning as of June 1, 2000, part

(ii) of this subsection (1) shall apply with respect to a terminated Participant whose employment with the Controlled Group terminated after June 30, 2000 and any portion of whose benefit under the Plan is paid in a form of payment other than a lump sum or in installments in order to provide post-termination adjustments in accordance with Treasury Regulation Section 1.415-5(a)(3); and that, with respect only to Schedule D, beginning as of June 1, 2000, part (ii) of this subsection (1) shall apply with respect to a terminated Participant whose employment with the Controlled Group terminated

after June 30, 2000 and any portion of whose benefit under the Plan is paid in a form of payment other than a lump sum or in installments in order to provide post-termination adjustments in accordance with Treasury Regulation Section 1.415-5(a)(3);

(iv) that if the benefit under the Plan is paid in any form other than a straight life annuity, the determination as to whether the limitation described in this subsection (1) has been satisfied shall be made, in accordance with rules determined by the Commissioner of Internal Revenue, by adjusting such benefit so that it is equivalent to a straight life annuity beginning at the same age, except that, with respect only to a Participant whose employment with the Controlled Group terminates after June 30, 1992, the portion of any joint and survivor annuity which constitutes a "qualified joint and survivor annuity" (as defined in Section 417 of the Internal Revenue Code) shall not be taken into account;

(v) that if the benefit under the Plan begins before the "social security retirement age" (as defined in Section 216(1) of the Social Security Act), for purposes of determining whether the limitation set forth in clause (a) of this subsection (1) has been satisfied, such a benefit shall be adjusted, in accordance with regulations prescribed by the Secretary of the Treasury, so that such benefit is equivalent to such a benefit beginning at the social security retirement age; provided that, for purposes of this part (v) of this subsection (1), any reduction under this part (v) shall be made in such manner as the Secretary of the Treasury may prescribe which is consistent with the reduction for old-age insurance benefits commencing before the social security retirement age under the Social Security Act;

(vi) that if the benefit under the Plan begins after the social security retirement age, for purposes of determining whether the limitation set forth in clause (a) of this subsection (1) has been satisfied, such benefit shall be adjusted, in accordance with regulations prescribed by the Secretary of the Treasury, so that such benefit is equivalent to such a benefit beginning at the social security retirement age; and

(vii) that in the case of an individual who is a Participant (as of the first day of the first year to which the amendments made by the Tax Reform Act of 1986 ("TRA '86") apply) in the Plan, and with respect to which the requirements of Section 415 of the Internal Revenue Code have been met for all Plan Years, if such individual's "current accrued benefit" (as hereinafter defined) under the Plan exceeds the limitation of Section 415(b) of the Internal Revenue Code, then (in the case of this Plan), for purposes of Sections 415(b) and (e) of the Internal Revenue Code, and the limitations set forth in this subsection (1) and in subsection (1) of Section 6.12, the limitation of Section 415(b)(1)(A) of the Internal Revenue Code with respect to such individual shall be equal to such current accrued benefit; for purposes of this part (vii), "current accrued benefit"

means the individual's accrued benefit (at the close of the last year to which the amendments made by TRA '86 do not apply) when expressed as an annual benefit (within the meaning of Section 415(b)(2) of the Internal Revenue Code); and for purposes of determining the amount of an individual's current accrued benefit, no change in the terms and conditions of the Plan after May 5, 1986, nor any cost-of-living adjustment occurring after May 5, 1986 shall be taken in account.

(2) Notwithstanding the foregoing provisions of this Section, the maximum annual benefit specified in subsection (1) of this Section shall not apply to a particular Plan benefit if (a) the annual amount of such Plan benefit, together with the aggregate annual amount of any other pensions payable with respect to such Participant under all other defined benefit plans maintained by the Controlled Group, does not exceed \$10,000 for the Plan Year or any prior Plan Year, and (b) the Participant was not at any time a participant in a defined contribution plan maintained by the Controlled Group.

(3) Notwithstanding the foregoing provisions of this Section,

(a) If a Participant has completed less than 10 years of participation in the Plan, the defined benefit dollar limitation set forth in clause (a) of subsection (1) shall be adjusted by multiplying such amount by a fraction, the numerator of which is the Participant's years (or parts thereof) of participation in the Plan, and the denominator of which is 10.

(b) If a Participant has completed less than 10 years of service with the Controlled Group, the maximum limitation described in clause (b) of subsection (1), the minimum limitation described in subsection (2) and the limitations set forth in Section 6.12 of this Article shall be adjusted by multiplying such amounts by a fraction, the numerator of which is the Participant's years (or parts thereof) of service with the Controlled Group, and the denominator of which is 10.

(c) In no event shall clauses (a) and (b) of this subsection

(3) reduce the limitations provided under Section 415(b)(1) and (4) of the Internal Revenue Code to an amount less than one-tenth of the applicable limitation (as determined without regard to this subsection (3)).

(d) To the extent provided by the Secretary of the Treasury, clause (a) of this subsection (3) shall be applied separately with respect to each change in the benefit structure of the Plan.

(e) The provisions of part (vii) of subsection (1) of this Section shall apply with respect to this subsection (3).

(4) For the purposes of the adjustments in benefits to be made pursuant to parts (iv), (v) and (vi) of subsection (1) of this Section, the actuarial assumptions which shall be used in making such adjustments are an interest assumption of 5-1/2% and the "applicable

mortality table" (the table prescribed from time to time by the Secretary of Treasury pursuant to Section 417(e)(3) of the Internal Revenue Code) as in effect on the date of distribution, except that (a) with respect to part (iv) the interest assumption used shall be the annual rate of interest for purposes of Section 417(e)(3) of the Internal Revenue Code using the Plan Year as the stability period and the second calendar month preceding the first day of the Plan Year as the lookback month in accordance with Treasury Regulation Section 1.417(e) - 1(d)(4); (b) with respect to part (vi) an interest assumption of 5% shall be used instead of 5-1/2%; and (c) in no event shall any benefit amount determined under this Section 6.11 be less than the amount of the benefit which would have been payable under the terms of the Plan as in effect on December 7, 1994 in respect of the Participant's benefit and based upon the accrued portion of the Participant's annual benefit determined as of May 31, 2000.

6.11A EGTRRA Limitations on Benefits. Effective for limitation years ending after December 31, 2001, the following shall apply:

(1) Effect on Participants. Benefit increases resulting from the increase in the limitations of Section 415(b) of the Internal Revenue Code will be provided to each Participant who is an Employee on or after the first day of the first limitation year ending after December 31, 2001, except that no benefit under the Plan with respect to a person whose employment covered under the Plan terminated prior to the first day of such limitation year (regardless of whether such person is an Employee on or after the first day of such limitation year) shall be increased in accordance with this Section 6.11A or otherwise in accordance with amendments to Section 415(b) of the Internal Revenue Code effected by the Economic Growth and Tax Relief Reconciliation Act of 2001 or any subsequent legislation.

(2) Definitions.

(a) Defined benefit dollar limitation. The "defined benefit dollar limitation" is \$160,000, as adjusted, effective January 1 of each year, under Section 415(d) of the Internal Revenue Code in such manner as the Secretary shall prescribe, and payable in the form of a straight life annuity. A limitation as adjusted under Section 415(d) of the Internal Revenue Code will apply to limitation years ending with or within the calendar year for which the adjustment applies.

(b) Maximum permissible benefit: The "maximum permissible benefit" is the lesser of the defined benefit dollar limitation or the defined benefit compensation limitation (both adjusted where required, as provided in (i) and, if applicable, in (ii) or (iii) below).

(i) If the Participant has fewer than 10 years of participation in the Plan, the defined benefit dollar limitation shall be multiplied by a fraction, (i) the numerator of which is the number of years (or part thereof) of participation in the Plan and (ii) the denominator of which is 10. In the case of a Participant who has fewer than 10 years of service with the Employer, the defined benefit compensation limitation shall be multiplied by a fraction, (i) the numerator of

which is the number of years (or part thereof) of service with the Employer and (ii) the denominator of which is 10.

(ii) If the benefit of a Participant begins prior to age 62, the defined benefit dollar limitation applicable to the Participant at such earlier age is an annual benefit payable in the form of a straight life annuity beginning at the earlier age that is the actuarial equivalent of the defined benefit dollar limitation applicable to the Participant at age 62 (adjusted under (i) above, if required). The defined benefit dollar limitation applicable at an age prior to age 62 is determined as the lesser of (I) the actuarial equivalent (at such age) of the defined benefit dollar limitation computed using an interest rate of five and one-half percent (5 1/2%) per annum, and the "applicable mortality table", which for this purpose means the table prescribed from time to time by the Secretary of Treasury pursuant to Section 417(e)(3) of the Internal Revenue Code as in effect on the date of distribution and (II) the actuarial equivalent (at such age) of the defined benefit dollar limitation computed using an interest rate of five percent (5%) per annum and the applicable mortality table described in Section 415(b)(2)(E)(v) of the Internal Revenue Code. Any decrease in the defined benefit dollar limitation determined in accordance with this paragraph (ii) shall not reflect a mortality decrement if benefits are not forfeited upon the death of the Participant. If any benefits are forfeited upon death, the full mortality decrement is taken into account.

(iii) If the benefit of a Participant begins after the Participant attains age 65, the defined benefit dollar limitation applicable to the Participant at the later age is the annual benefit payable in the form of a straight life annuity beginning at the later age that is actuarially equivalent to the defined benefit dollar limitation applicable to the Participant at age 65 (adjusted under (i) above, if required). The actuarial equivalent of the defined benefit dollar limitation applicable at an age after age 65 is determined as the actuarial equivalent (at such age) of the defined benefit dollar limitation computed using an interest rate of five percent (5%) per annum, and the applicable mortality table described in Section 415(b)(2)(E)(v) of the Internal Revenue Code. For these purposes, mortality between age 65 and the age at which benefits commence shall be ignored.

(3) Changes in Law. The provisions set forth in Section 6.11 and this Section 6.11A shall be applied with respect to the law in effect as described in Section 6.11 and this Section 6.11A and without regard to any change in the law in effect as described in Section 6.11 and this Section 6.11A.

6.12 Provision Pursuant to Internal Revenue Code Section

415(e). (1) Except as otherwise provided in Section 415(e) of the Internal Revenue Code, in any case in which an individual is a participant in both a defined benefit plan and a defined contribution plan maintained by the Controlled Group, the sum of the defined benefit plan fraction and the defined

contribution plan fraction for any Plan Year commencing on or after June 1, 1983 shall not exceed 1. For purposes of the preceding sentence,

(a) the defined benefit plan fraction for any Plan Year is a fraction (i) the numerator of which is the projected annual benefit of the participant under the plan (determined as of the close of the Plan Year), and (ii) the denominator of which is the lesser of (A) the product of 1.25, multiplied by the dollar limitation in effect under Section 415(b)(1)(A) of the Internal Revenue Code for such Year or (B) the product of 1.4, multiplied by the amount which may be taken into account under Section 415(b)(1)(B) of the Internal Revenue Code with respect to such participant under the plan for such Year; and

(b) the defined contribution plan fraction for any Plan Year is a fraction (i) the numerator of which is the sum of the annual additions to the participant's account as of the close of the Plan Year and for all prior Plan Years, and (ii) the denominator of which is the sum of the lesser of the following amounts determined for such Plan Year and for each prior Plan Year of service with the Controlled Group:

(A) the product of 1.25, multiplied by the dollar limitation in effect under Section 415(c)(1)(A) of the Internal Revenue Code for such Year, or

(B) the product of 1.4, multiplied by the amount which may be taken into account under Section 415(c)(1)(B) of the Internal Revenue Code with respect to such participant under such plan for such year.

(2) Notwithstanding the foregoing provisions of this Section, for purposes of applying part (b) of subsection (1) with respect to years beginning before January 1, 1976 --

(a) the aggregate amount taken into account under clause (i) of said part (b) shall not exceed the aggregate amount taken into account under clause (ii) of said part (b), and

(b) the amount taken into account under Section 415(c)(2)(B)(i) of the Internal Revenue Code for any year concerned shall be an amount equal to --

(i) the excess of the aggregate amount of employee contributions for all years beginning before January 1, 1976, during which the employee was an active participant in the plan, over 10 percent of the employee's aggregate compensation for all such years, multiplied by

(ii) a fraction the numerator of which is 1 and the denominator of which is the number of years beginning with January 1, 1976, during which the employee was an active participant in the plan.

Employee contributions made on or after October 2, 1973, shall be taken into account under part (b) of this subsection (2) only to the extent that the amount of such contributions does not exceed the maximum amount of contributions permissible under the plan as in effect on October 2, 1973.

(3) At the election of the plan administrator, in applying part (b) of subsection (1) with respect to any year ending after December 31, 1982, the amount taken into account under clause (ii) of said part (b) with respect to each participant for all years ending before January 1, 1983, shall be an amount equal to the product of --

- (a) the amount determined under clause (ii) of said part (b) (as in effect for the year ending in 1982) for the year ending in 1982, multiplied by
- (b) the transition fraction.

The term "transition fraction" shall mean a fraction --

(i) the numerator of which is the lesser of (A) \$51,875, or (B) 1.4, multiplied by 25 percent of the compensation of the participant for the year ending 1981, and

(ii) the denominator of which is the lesser of (A) \$41,500, or (B) 25 percent of the compensation of the participant for the year ending in 1981.

(4) If the sum of the defined benefit plan fraction and the defined contribution plan fraction, as such fractions are computed pursuant to the foregoing provisions of this Section exceeds 1.0 for the Plan Year beginning before January 1, 1983, an amount shall be subtracted from the numerator of the defined contribution plan fraction (not exceeding such numerator) so that after such subtraction the sum of the defined benefit plan fraction and the defined contribution plan fraction shall not exceed 1.0 for such year. The provisions of this subsection (4) shall be subject to and shall be applied in accordance with regulations prescribed by the Secretary of the Treasury or his delegate.

(5) Except as may otherwise be provided in any defined contribution plan which is material to the limitations stated in this Section, such reductions shall be made in benefits hereunder with respect to a Participant in this Plan as are necessary to comply with the limitations of this Section.

(6) In the event the Plan has satisfied the requirements of Section 415 of the Internal Revenue Code for its last year beginning before January 1, 1987, under regulations prescribed by the Secretary of the Treasury or his delegate, an amount (as set forth in such regulations) shall be subtracted from the numerator of the defined contribution plan fraction (not exceeding such numerator) so that the sum of the defined benefit plan fraction and the defined contribution plan fraction computed under Section 415(e)(1) of the Internal Revenue Code does not exceed 1.0 for such year (determined as if the amendments made by the Tax Reform Act of 1986 were in effect for such year).

(7) Notwithstanding the foregoing provisions of this Section

6.12 or any provision of the Plan other than this subsection (7): Any limitation imposed upon the benefit of a participant as a result of the application of

Section 415(e) of the Internal Revenue Code shall not apply with respect to a Participant in this Plan who is an Employee after May 31, 2000, except that any benefit under the Plan with respect to a person whose employment covered under the Plan terminated prior to June 1, 2000 (regardless of whether such person is an Employee after May 31, 2000) shall be determined as though Section 415(e) of the Internal Revenue Code had not been repealed or otherwise affected by the Small Business Job Protection Act of 1996 or any subsequent legislation.

6.13 Other Provisions Under Internal Revenue Code Section 415.

(1) For purposes of applying the limitations set forth in Sections 6.11 and

6.12, all qualified defined benefit plans (whether or not terminated) ever maintained by the Controlled Group shall be treated as one defined benefit plan, and all defined contribution plans (whether or not terminated) of the Controlled Group shall be treated as one defined contribution plan.

(2) As used in Section 6.12 and this 6.13, the term "Controlled Group" shall be construed in the light of Sections 414(b), 414(c), 414(m), 414(n) and 414(o) of the Internal Revenue Code, as modified by Section 415(h) of the Internal Revenue Code.

(3) For purposes of applying the limitations set forth in Sections 6.11, 6.11A, and 6.12, the term "compensation" shall include only those items specified in Treasury Regulation Section 1.415-2(d)(2) and shall exclude all those items specified in Treasury Regulation Section 1.415-2(d)(3), and for limitation years beginning on or after January 1, 1992, the compensation shall be limited to compensation actually paid or includible in gross income of the Participant for the applicable Plan Year, provided that for limitation years beginning after December 31, 1997, "compensation" shall also include any elective deferral (as defined in Section 402(g)(3) of the Internal Revenue Code) and any amount which is contributed or deferred by the Company or any other Controlled Group Member at the election of the Participant and which is not includible in the gross income of the Participant by reason of Sections 125 or 457 of the Internal Revenue Code, and, provided further, that for limitation years beginning after December 31, 2000, "compensation" shall also include any amount which is contributed or deferred by the Company or any other Controlled Group Member at the election of the Participant and which is not includible in gross income by reason of Section 132(f)(4) of the Internal Revenue Code.

6.14 Provision Pursuant to Internal Revenue Code Section

401(a)(9). (1) Notwithstanding any other provision of the Plan to the contrary,

(a) the entire interest of each Participant --

(i) either will be distributed to him not later than the "required beginning date", as such term is defined in subsection (3) of this Section, or

(ii) will be distributed, beginning not later than such required beginning date, in accordance with regulations prescribed by the Secretary of the Treasury, over the life of such Participant or over the lives of such Participant and a "designated beneficiary", as such term is defined in subsection (4) of this

Section (or over a period not extending beyond the life expectancy of such Participant or the life expectancy of such Participant and a designated beneficiary); and

(b) if distribution of a Participant's interest under the Plan has begun in accordance with clause (ii) of part (a) of this subsection (1) and such Participant dies before his entire interest has been distributed to him, the remaining portion of such interest will be distributed at least as rapidly as under the method of distributions being used under said clause (ii) as of the date of his death. Except as provided in subsection (2) of this Section, if a Participant dies before the distribution of his interest has begun in accordance with clause (ii) of part (a) of this subsection (1), the entire interest of the Participant will be distributed within 5 years after the death of such Participant.

(2) If --

(a) any portion of the Participant's interest is payable to (or for the benefit of) a designated beneficiary,

(b) such portion will be distributed (in accordance with regulations prescribed by the Secretary of the Treasury) over the life of such designated beneficiary (or over a period not extending beyond the life expectancy of such beneficiary), and

(c) such distributions will begin not later than one year after the date of the Participant's death or such later date as the Secretary of the Treasury may by regulations prescribe, for purposes of the last sentence of subsection (1), the portion referred to in part (a) of this subsection (2) shall be treated as distributed on the date on which such distributions begin; provided, however, if the designated beneficiary referred to in part (a) of this subsection (2) is the Spouse of the Participant --

(i) the date which the distributions are required to begin under part (c) of this subsection (2) shall not be earlier than the date on which the Participant would have attained age $70\frac{1}{2}$ and

(ii) if the Spouse dies before the distributions to such Spouse begin, part (b) of subsection (1) and this subsection (2) shall be applied as if the Spouse were the employee.

(3) For purposes of this Section, the term "required beginning date" means

(a) the April 1 following the calendar year in which the Participant attains age 70-1/2 if the Participant (i) attained or would attain age 70-1/2 on or after January 1, 1988 but prior to January 1, 2002, or (ii) was a five percent owner, as defined in Section 416(i) of the Internal Revenue Code, at any time during the Plan Year ending with or within the Plan Year in which he attained age 66-1/2 or any subsequent Plan Year), and

(b) the April 1 following the calendar year in which the Participant attains age 70-1/2 or his employment with the Controlled Group terminates, if later, for a Participant who attained age 70-1/2 prior to January 1, 1988 or who would attain age 70-1/2 on or after January 1, 2002.

(4) For purposes of this Section, (a) the term "designated beneficiary" means any individual designated as a Beneficiary or Death Beneficiary by the Participant and (b) the life expectancy of a Participant and his Spouse (other than in the case of a life annuity) may be redetermined but not more frequently than annually.

(5) Under regulations prescribed by the Secretary of the Treasury, for purposes of this Section, any amount paid to a child shall be treated as if it had been paid to the Spouse if such amount will become payable to the Spouse upon such child reaching majority (or other designated event permitted under regulations).

(6) If payment of a Participant's retirement benefit commences after the April 1 of the calendar year following the calendar year in which the Participant attains age 70-1/2 in accordance with the foregoing provisions of this Section 6.14, the Participant's retirement benefit payable on the date on which benefits commence after employment with the Controlled Group terminates shall be the greater of (a) the Participant's retirement benefits otherwise payable upon his employment termination date or (b) an amount determined as follows in accordance with the "actuarially increase" provisions of Section

401(a)(9)(C)(iii) of the Internal Revenue Code: the "Actuarial Equivalent" of the Participant's retirement benefits that would have been payable as of the April 1 of the calendar year following the calendar year in which the Participant attained age 70-1/2, plus the "Actuarial Equivalent" of additional benefits accrued after the April 1 of the calendar year following the calendar year in which the Participant attained age 70-1/2, reduced by the "Actuarial Equivalent" of any distributions made after the April 1 of the calendar year following the calendar year in which the Participant attained age 70-1/2. For purposes of and notwithstanding the immediately preceding sentence: The amount in clause (a) shall be determined without regard to this Section 6.14(6); for purposes of clause (b) any additional benefits accrued after the April 1 of the calendar year in which the Participant attained age 70-1/2 shall be reduced by the actuarial increase provided under clause (b) in accordance with Section 411(b)(1)(H) of the Internal Revenue Code; and in determining the amount in clause (b), the starting point for the period of actuarial increase shall not be earlier than January 1, 1997. Notwithstanding the definition of Actuarial Equivalent otherwise provided in the Plan,

for purposes of this Section 6.14(6), "Actuarial Equivalent" shall be computed on the basis of the 1983 Group Annuity Mortality Table at 7% interest adjusted to a unisex basis for an 80% male and 20% female participant population.

(7) With respect to distributions under the Plan made in a calendar year beginning on or after January 1, 2001, the Plan will apply the minimum distribution requirements of Section 401(a)(9) of the Internal Revenue Code in accordance with the regulations under Section 401(a)(9) that were proposed in January 2001, notwithstanding any provision of the Plan to the contrary. This Section 6.14(7) shall continue in effect until the end of the last calendar year beginning before the effective date of final regulations under Section 401(a)(9) or such other date specified in guidance published by the Internal Revenue Service.

6.15 Provision Pursuant to Internal Revenue Code Section 416. Except as provided in Section 6.15A, the following shall apply:

(1) Definitions: For the purpose of this Section, the following terms, when used with initial capital letters, shall have the following respective meanings:

(a) Aggregation Group: Permissive Aggregation Group or Required Aggregation Group, as the context shall require.

(b) Annual Retirement Benefit: A benefit payable annually in the form of a single life annuity (with no ancillary benefits) beginning at the Participant's (earliest, if applicable) Normal Retirement Date.

(bb) Code: The Internal Revenue Code.

(c) Compensation: Compensation (of an Employee from the Employer) as defined in Section 415(c)(3) of the Code, including amounts contributed by the Employer pursuant to a salary reduction agreement that are excludible from the Employee's gross income under Section 125, 402(e)(3), 402(h)(1)(B), or 403(b) of the Code, and for Plan Years beginning after December 31, 2000, including also any amount which is contributed or deferred by the Employer at the election of the Participant and which is not includible in gross income by reason of Section 132(f)(4) of the Internal Revenue Code.

(d) Defined Benefit Plan: A qualified plan as defined in Section 414(j) of the Code.

(e) Defined Contribution Plan: A qualified plan as defined in Section 414(i) of the Code.

(f) Determination Date: For any Plan Year, the last day of the immediately preceding Plan Year.

(g) Extra Top-Heavy Group: An Aggregation Group if, as of a Determination Date, the aggregate present value of accrued benefits for Key Employees in all plans in the Aggregation Group (whether Defined Benefit Plans or Defined Contribution Plans) is more than ninety percent (90%) of the aggregate present value of all accrued benefits for all employees in such plans.

(h) Extra Top-Heavy Plan: See subsection (3) of this Section.

(i) Former Key Employee: A Non-Key Employee with respect to a Plan Year who was a Key Employee in a prior Plan Year. Such term shall also include his Beneficiary in the event of his death.

(j) Key Employee: An Employee or former Employee who, at any time during the current Plan Year or any of the four-preceding Plan Years, is (i) an officer of an Employer (as the term "officer" is limited in Section 416(i)(1)(A) of the Code) having an annual Compensation greater than 50 percent of the amount in effect under Section 415(b)(1)(A) of the Code for any such Plan Year, (ii) one of the 10 Employees having annual compensation from the Employer of more than the limitation in effect under Section 415(c)(1)(A) of the Code and owning (or considered as owning within the meaning of Section 318 of the Code) the largest interests in an Employer, (iii) a 5-percent owner (as such term is defined in Section 416(i)(1)(B)(i) of the Internal Revenue Code), or (iv) a 1-percent owner (as such term is defined in Section 416(i)(1)(B)(ii) of the Code) having an annual Compensation of more than \$150,000. For purposes of clause (ii) of this paragraph (j), if two Employees have the same interest in an Employer, the Employee having greater annual Compensation from such Employer shall be treated as having a larger interest. The term "Key Employee" shall also include such Employee's Beneficiary in the event of his death.

(k) Non-Key Employee: An Employee or former Employee who is not a Key Employee. Such term shall also include his Beneficiary in the event of his death.

(l) Permissive Aggregation Group: The group of qualified plans of the Employer consisting of:

(i) the plans in the Required Aggregation Group; and

(ii) one (1) or more plans designated from time to time by the Committee that are not part of the Required Aggregation Group but that satisfy the requirements of Sections 401(a)(4) and 410 of the Code when considered with the Required Aggregation Group.

(m) Required Aggregation Group: The group of qualified plans of the Employer consisting of:

(a) each plan in which a Key Employee participates or participated at any time during the determination period (regardless of whether the plan has terminated); plus

(b) each other plan which enables a plan in which a Key Employee participates to meet the requirements of Section 401(a)(4) or 410 of the Internal Revenue Code.

(n) Top-Heavy Accrued Benefit: A Participant's (including a Participant who has received a total distribution from the Plan) or a Beneficiary's accrued benefit under the Plan as of the valuation date coinciding with or immediately preceding the Determination Date, provided, however, that (i) such accrued benefit shall include the aggregate distributions made to such Participant or Beneficiary during the five (5) consecutive Plan Years ending with the Plan Year that includes the Determination Date (including distributions under a terminated plan which if it had not been terminated would have been included in a Required Aggregation Group) and (ii) with respect to any Plan Year beginning after December 31, 1984, if an Employee or former Employee has not performed services for any Employer maintaining the Plan (other than Benefits under the Plan) at any time during the 5-year period ending on the Determination Date, any accrued benefit for such Employee or former Employee (and/or the accrued benefit of his Beneficiary) shall not be taken into account.

(o) Top-Heavy Group: An Aggregation Group if, as of a Determination Date, the aggregate present value of accrued benefits for Key Employees in all plans in the Aggregation Group (whether Defined Benefit Plans or Defined Contribution Plans) is more than sixty percent (60%) of the aggregate present value of accrued benefits for all employees in such plans.

(p) Top-Heavy Plan: See subsection (2) of this Section.

(2) Determination of Top-Heavy Status: (a) Except as provided by paragraph (b) of this subsection, the Plan shall be a Top-Heavy Plan if, as of a Determination Date:

(i) the aggregate present value of Top-Heavy Accrued Benefits for Key Employees is more than sixty percent (60%) of the aggregate present value of Top-Heavy Accrued Benefits of all Employees, excluding for this purpose the aggregate present value of Top-Heavy Accrued Benefits of Former Key Employees; or

(ii) the Plan is included in a Required Aggregation Group which is a Top-Heavy Group.

(b) If the Plan is included in a Permissive Aggregation Group which is not a Top-Heavy Group, the Plan shall not be a Top-Heavy Plan notwithstanding the fact that the Plan would otherwise be a Top-Heavy Plan under paragraph (a) of this subsection.

(3) Determination of Extra Top-Heavy Status: (a) Except as provided by paragraph (b) of this subsection, the Plan shall be an Extra Top-Heavy Plan if, as of the Determination Date:

(i) the aggregate present value of Top-Heavy Accrued Benefits for Key Employees is more than ninety percent (90%) of the aggregate present value of Top-Heavy Accrued Benefits of all Employees, excluding for this purpose the aggregate present value of Top-Heavy Accrued Benefits of Former Key Employees; or

(ii) the Plan is included in a Required Aggregation Group which is an Extra Top-Heavy Group.

(b) If the Plan is included in a Permissive Aggregation Group which is not an Extra Top-Heavy Group, the Plan shall not be an Extra Top-Heavy Plan under paragraph (a) of this subsection.

(4) Top-Heavy Plan Requirements: Notwithstanding any other provision of the Plan to the contrary, if the Plan is a Top-Heavy Plan for any Plan Year beginning on or after January 1, 1984, the Plan shall then satisfy the following requirements for such Plan Year:

(a) The minimum vesting requirement as set forth in subsection (5),

(b) The minimum benefit requirement as set forth in subsection (6),

(c) The adjustment to maximum benefits and allocations as provided in subsection (7), and

(d) Paragraph (c) of subsection (1) of this Section shall apply for all purposes of the Plan.

(5) Minimum Vesting Requirement: An Employee, who has completed two (2) or more years of Vesting Service, shall have a nonforfeitable right to a percentage of his accrued benefit derived from Employer contributions determined under the following table:

Years of nonforfeitable Vesting Service	The percentage is
2	20
3	40
4	60
5 or more	100

If Vesting Service is credited to an Employee under more than one Schedule, the Vesting Service of such Employee for purposes of this subsection (5) shall be determined under the provisions of the Schedule applicable to the Employee that results in the greater or the greatest amount of Vesting Service.

(6) Minimum Benefit Requirement: (a) Except as otherwise provided in subsection (7), the accrued benefit derived from Employer contributions of each Participant who is a Non-Key Employee, when expressed as an Annual Retirement Benefit, shall be not less than the lesser of:

(i) two percent (2.0%) of the Participant's average Compensation for years in the testing period times his Years of Benefit Service with the Employer; or

(ii) twenty percent (20%) of the Participant's average Compensation for years in the testing period.

Each Covered Employee who is a Non-Key Employee and a Participant in the Plan during the Plan Year that the Plan is a Top-Heavy Plan shall accrue a minimum benefit regardless of whether the Non-Key Employee was employed on a specified date during the Plan Year. For purposes of this subsection, "Years of Benefit Service" shall mean whole and partial years of service used to determine benefit accrual under an applicable Schedule, except that Years of Benefit Service completed in a Plan Year beginning before January 1, 1984 and Years of Benefits Service during which a Plan Year ended for which the Plan was not a Top-Heavy Plan shall not be taken into account and there shall be no duplication of Years of Benefit Service in respect of any period. The testing period under this subsection shall be the period of consecutive years (not exceeding five) during which the Participant had the greatest aggregate Compensation from the Employers, provided that years shall not be included --

(A) which are not included in Years of Benefit Service under this subsection;

(B) which end in a Plan Year beginning before January 1, 1984, and

(C) which begin after the close of the last year in which the Plan was a Top-Heavy Plan or an Extra Top-Heavy Plan.

(7) Adjustment to Maximum Benefits and Allocations: If the Plan is a Top-Heavy Plan for any Plan Year beginning on or after January 1, 1984, and if the Employer maintains a Defined Contribution Plan which could or does provide benefits to Participant in this Plan:

(a) If the Plan is not an Extra Top-Heavy Plan (but is a Top-Heavy Plan), then "three percent (3%)" shall be substituted for "two percent (2%)" in subsection (6)(a)(i) and "20 percent in subsection (6)(a)(ii) shall be increased by one percentage point for each year for which such Plan was taken into account under this subsection.

(b) If the Plan is an Extra Top-Heavy Plan, then the limitations set forth in Section 6.12 shall be calculated by substituting "1.0" for "1.25" for each place such "1.25" figure appears, and Section 415(e)(6)(B)(I) of the Code shall be calculated by substituting "\$41,500" for "\$51,875" for each place such "\$51,875" amount appears.

(8) Coordination With Other Plans: (a) In applying this Section, an Employer and all Controlled Group Members shall be treated as a single Employer, and the qualified plans maintained by such single Employer shall be taken into account.

(b) In the event that another Defined Contribution Plan or Defined Benefit Plan maintained by the Employer provides contributions or benefits on behalf of Participants in the Plan, such other plan(s) shall be taken into account in determining whether the Plan satisfies Subsection (6). In the event the Plan is part of a Required Aggregation Group in which a top-heavy Defined Contribution Plan is included, each Non-Key Employee in the Plan who is also covered under the top-heavy Defined Contribution Plan shall receive the minimum top-heavy benefit under the Plan. In the event the Plan is part of a Required Aggregation Group in which another top-heavy Defined Benefit Plan is included, each Non-Key Employee in the Plan who is also covered under the other top-heavy Defined Benefit Plan shall receive the minimum top-heavy benefit under the plan in which he was last an active participant or if that rule is not determinative under the plan that was first established.

(9) Actuarial Assumptions: For purposes of this article, the present value of accrued benefits shall be calculated using the same actuarial assumptions for mortality and interest as are used for minimum funding purposes. In the case that the Plan is part of an Aggregation Group with one or more Defined Benefit Plans, the actuarial assumptions for the Aggregation Group shall be the actuarial assumptions defined in this paragraph.

(10) Construction: The term "present value of accrued benefits" as used in this Section shall in all appropriate cases include account balances of affected Employees.

(11) Accrued Benefit: For purposes of this article, a Participant's accrued benefit shall be determined under the method which is used for accrual purposes for all defined benefit plans maintained by the Employer or Controlled Group, or where there is no such

method, as if such benefit accrued not more rapidly than the slowest accrual rate permitted under the fractional rule of Section 411(b)(1)(C) of the Code.

6.15A EGTRRA Top-Heavy Provisions. This Section 6.15A shall apply for purposes of determining whether the Plan is a top-heavy plan under Section 416(g) of the Internal Revenue Code for Plan Years beginning after December 31, 2001, and whether the Plan satisfies the minimum benefits requirements of Section 416(c) of the Internal Revenue Code for such years. This Section 6.15A modifies Section 6.15 (of the Plan).

(1) Determination of top-heavy status.

(a) Key employee. Key employee means any Employee or former Employee (including any deceased Employee) who at any time during the Plan Year that includes the determination date was an officer of a Controlled Group Member having annual compensation greater than \$130,000 (as adjusted under Section 416(i)(1) of the Internal Revenue Code for Plan Years beginning after December 31, 2002), a 5-percent owner of a Controlled Group Member, or a 1-percent owner of a Controlled Group Member having annual compensation of more than \$150,000. For this purpose, annual compensation means compensation within the meaning of Section 415(c)(3) of the Internal Revenue Code. The determination of who is a key employee will be made in accordance with Section 416(i)(1) of the Internal Revenue Code and the applicable regulations and other guidance of general applicability issued thereunder.

(b) Determination of present values and amounts. This clause

(b) shall apply for purposes of determining the present values of accrued benefits and the amounts of account balances of Employees as of the determination date.

(i) Distributions during year ending on the determination date. The present values of accrued benefits and the amounts of account balances of an Employee as of the determination date shall be increased by the distributions made with respect to the Employee under the Plan and any plan aggregated with the Plan under Section 416(g)(2) of the Internal Revenue Code during the 1-year period ending on the determination date. The preceding sentence shall also apply to distributions under a terminated plan which, had it not been terminated, would have been aggregated with the Plan under Section 416(g)(2)(A)(i) of the Internal Revenue Code. In the case of a distribution made for a reason other than separation from service, death, or disability, this provision shall be applied by substituting "5-year period" for "1-year period."

(ii) Employees not performing services during year ending on the determination date. The accrued benefits and accounts of any individual who has not performed services for a Controlled Group Member during the 1-year period ending on the determination date shall not be taken into account.

(2) Minimum benefits. For purposes of satisfying the minimum benefit requirements of Section 416(c)(1) of the Internal Revenue Code and the Plan, in determining years of service with a Controlled Group Member, any service with a Controlled Group Member shall be disregarded to the extent that such service occurs during a Plan Year when the Plan benefits (within the meaning of Section 410(b) of the Internal Revenue Code) no key employee or former key employee.

6.16 Provision Pursuant to Internal Revenue Code Section

411(d)(6). The following provision is generally effective for amendments made after July 30, 1984. No amendment to the Plan (including a change in the actuarial basis for determining optional or early retirement benefits) shall be effective to the extent that it has the effect of decreasing a Participant's accrued benefit. Notwithstanding the preceding sentence, a Participant's accrued benefit may be reduced to the extent permitted under section 412(c)(8) of the Code. For purposes of this Section, a Plan amendment which has the effect of (1) eliminating or reducing an early retirement benefit or a retirement-type subsidy, or (2) eliminating an optional form of benefit, with respect to benefits attributable to service before the amendment, shall be treated as reducing accrued benefits. The preceding sentence shall not apply to the extent the Secretary of the Treasury issues regulations to provide that a Plan amendment may eliminate an optional form of benefit. In the case of a retirement-type subsidy, the preceding sentence shall apply only with respect to a Participant who satisfied (either before or after the amendment) the preamendment conditions for the subsidy. In general, a retirement-type subsidy is a subsidy that continues after retirement, but does not include a qualified disability benefit, a medical benefit, a social security supplement, or a death benefit (including life insurance). Furthermore, no amendment to the Plan shall have the effect of decreasing a Participant's vested interest determined without regard to such amendment as of the later of the date such amendment is adopted or becomes effective.

6.17 Provision Pursuant to Internal Revenue Code Section

401(a)(17). (1) The annual compensation of a Participant taken into account under the Plan in determining benefit accrual for any Plan Year shall not exceed

(i) \$200,000 for Plan Years beginning prior to January 1, 1994 or (ii) except as provided under subsection (2) of this Section, \$150,000 for Plan Years beginning on or after January 1, 1994, subject to adjustment annually as provided in Section 401(a)(17)(B) and Section 415(d) of the Internal Revenue Code; provided, however, that the dollar increase in effect on January 1 of any calendar year, if any, is effective for Plan Years beginning in such calendar year. For purposes of applying such dollar limitation with respect to Plan Years beginning prior to January 1, 1997, the rules of Section 414(q)(6) of the Internal Revenue Code requiring aggregation of certain family members shall apply, except that in applying such rules, the term "family" shall include only the Spouse of the Participant and any lineal descendants of the Participant who have not attained age 19 before the close of the year. If the dollar limitation would be exceeded as a result of applying the family aggregation rule described in the preceding sentence, the dollar limitation shall be prorated among the affected family members in proportion to each member's compensation as determined prior to the application of the family aggregation rules.

(2) For Plan Years beginning after December 31, 2001, the following shall apply: Only for a Participant whose employment covered under the Plan terminates in any

Plan Year beginning after December 31, 2001, the annual compensation of any such Participant taken into account in determining benefit accruals in any Plan Year beginning after December 31, 2001, shall not exceed \$200,000. Annual compensation means compensation during the Plan Year or such other 12-month period over which compensation is otherwise determined under the Plan (the determination period). For purposes of determining benefit accruals under this subsection (2) of this Section on or after the beginning of the first Plan Year beginning after December 31, 2001, except with respect to a Participant whose employment covered under the Plan terminated prior to the beginning of such Plan Year (regardless of whether such person is an Employee on or after the beginning of such Plan Year), compensation for any prior determination period shall be limited to \$200,000. The \$200,000 limit on annual compensation in this subsection (2) of this Section shall be adjusted for cost-of-living increases in accordance with Section 401(a)(17)(B) of the Internal Revenue Code. The cost-of-living adjustment in effect for a calendar year applies to annual compensation for the determination period that begins with or within such calendar year.

(3) Unless otherwise provided under the Plan, each 1989

Section 401(a)(17) employee's accrued benefit under the Plan will be the greater of the accrued benefit determined for such Participant under (a) or (b) below:

(a) The Participant's accrued benefit determined with respect to the benefit formula applicable for the Plan Year beginning on or after January 1, 1989, as applied to the Participant's total years of service taken into account under the Plan for the purposes of benefit accruals, or

(b) The sum of:

(i) the Participant's accrued benefits as of the last day of the last Plan Year beginning before January 1, 1989, frozen in accordance with Treasury Regulation Section 1.401(a)(4)-13, and

(ii) the Participant's accrued benefit formula applicable for the Plan Year beginning on or after January 1, 1989, as applied to the Participant's years of service credited to the employee for Plan Years beginning on or after January 1, 1989, for purposes of benefit accruals.

A "1989 Section 401(a)(17) employee" means a Participant whose current accrued benefit as of a date on or after the first day of the Plan Year beginning on or after January 1, 1989, is based on annual compensation for a year beginning prior to the first day of the first Plan Year beginning on or after January 1, 1989 that exceeded \$200,000.

(4) Unless otherwise provided under the Plan, each 1994

Section 401(a)(17) employee's accrued benefit under the Plan will be the greater of the accrued benefit determined for such participant under (a) or (b) below:

(a) The Participant's accrued benefit determined with respect to the benefit formula applicable for the Plan Year beginning on or after January 1, 1994, as applied to the Participant's total years of service taken into account under the Plan for the purposes of benefit accruals, or

(b) The sum of:

(i) the Participant's accrued benefit as of the last day of the last Plan Year beginning before January 1, 1994, frozen in accordance with Treasury Regulation Section 1.401(a)(4)-13, and

(ii) The Participant's accrued benefit determined under the benefit formula applicable for the Plan Year beginning on or after January 1, 1994, as applied to the Participant's years of service credited to the Participant for Plan Years beginning on or after January 1, 1994, for purposes of benefit accruals.

A "1994 Section 401(a)(17) employee" means a Participant whose current accrued benefit as of a date on or after the first day of the first Plan Year beginning on or after January 1, 1994, is based on annual compensation for a year beginning prior to the first day of the first Plan Year beginning on or after January 1, 1994, that exceeded \$150,000.

6.18 Provision Pursuant to Internal Revenue Code Section

414(u). Notwithstanding any other provision of the Plan to the contrary, effective beginning December 12, 1994, benefits and service credit with respect to qualified military service shall be provided under the Plan as required by Section 414(u) of the Internal Revenue Code.

6.19 Provision Pursuant to Internal Revenue Code Section

401(a)(31). (1) Except as provided in subsection (2) of this Section, the provisions of this subsection (1) of this Section apply to distributions made on or after January 1, 1993. Notwithstanding any provision of the Plan to the contrary that would otherwise limit a distributee's (as such term is defined below) election under this Section, a distributee may elect, at the time and in the manner prescribed by the Plan Administrator, to have any portion of an eligible rollover distribution (as such term is defined below) paid directly to an eligible retirement plan (as such term is defined below) specified by the distributee in a direct rollover (as such term is defined below).

(a) Eligible rollover distribution: An eligible rollover distribution is any distribution of all or any portion of the balance to the credit of the distributee, except that an eligible rollover distribution does not include: any distribution that is one of a series of substantially equal periodic payments (not less frequently than annually) made for the life (or life expectancy) of the distributee or the joint lives (or joint life expectancies) of the distributee and the distributee's designated beneficiary, or for a specified period of ten years or more; any

distribution to the extent such distribution is required under Section 401(a)(9) of the Internal Revenue Code; and the portion of any distribution that is not includible in gross income (determined without regard to the exclusion for net unrealized appreciation with respect to employer securities).

(b) Eligible retirement plan: An eligible retirement plan is an individual retirement account described in Section 408(a) of the Internal Revenue Code, an individual retirement annuity described in Section 408(b) of the Internal Revenue Code, an annuity plan described in Section 403(a) of the Internal Revenue Code, or a qualified trust described in Section 401(a) of the Internal Revenue Code, that accepts the distributee's eligible rollover distribution. However, in the case of an eligible rollover distribution to the surviving spouse, an eligible retirement plan is an individual retirement account or individual retirement annuity.

(c) Distributee: A distributee includes an employee or former employee. In addition, the employee's or former employee's surviving spouse and the employee's or former employee's spouse or former spouse who is the alternate payee under a qualified domestic relations order, as defined in Section 414(p) of the Internal Revenue Code, are distributees with regard to the interest of the spouse or former spouse.

(d) Direct rollover: A direct rollover is a payment by the Plan to the eligible retirement plan specified by the distributee.

(2) This subsection (2) of this Section shall apply to distributions made after December 31, 2001. The following shall apply for purposes of this subsection (2) of this Section:

(i) Modification of definition of eligible retirement plan. For purposes of the direct rollover provisions in subsection (1) of this Section (of the Plan), an eligible retirement plan shall also mean an annuity contract described in Section 403(b) of the Internal Revenue Code and an eligible plan under Section 457(b) of the Internal Revenue Code which is maintained by a state, political subdivision of a state, or any agency or instrumentality of a state or political subdivision of a state and which agrees to separately account for amounts transferred into such plan from this Plan. The definition of eligible retirement plan shall also apply in the case of a distribution to a surviving spouse, or to a spouse or former spouse who is the alternate payee under a qualified domestic relations order, as defined in Section 414(p) of the Internal Revenue Code.

(ii) Modification of definition of eligible rollover distribution to include after-tax employee contributions. For purposes of the direct rollover provisions in subsection (1) of this Section (of the Plan), a portion of a distribution shall not fail to be an eligible rollover distribution merely because the portion consists of after-tax employee contributions which are not includible in gross income. However, such portion may be transferred only to an individual retirement account or annuity described in Section 408(a) or (b) of the Internal Revenue Code, or to a qualified defined contribution plan described in

Section 401(a) or 403(a) of the Internal Revenue Code that agrees to separately account for amounts so transferred, including separately accounting for the portion of such distribution which is includible in gross income and the portion of such distribution which is not so includible.

6.20 Provision Pursuant to Internal Revenue Code Section

414(n). Any leased employee, other than an excludible leased employee, shall be treated as an employee of the Company or any other Controlled Group Member for purposes of the Plan with respect to the provisions of Sections 401(a)(3), (4), (7), (16), (17), and (26) and 408(k), 410, 411, 415 and 416 of the Internal Revenue Code; provided, however, that no leased employee shall accrue a benefit hereunder based on service as a leased employee. A "leased employee" means any person who performs services for the Company or a Controlled Group Member (the "recipient") (other than an employee of the recipient) pursuant to an agreement between the recipient and any other person (the "leasing organization") on a substantially full-time basis for a period of at least one year, provided that such services are of a type historically performed, in the business field of the recipient, by employees. Effective for Plan Years beginning on or after January 1, 1997, the definition of "leased employee" in the immediately preceding sentence is amended by replacing the phrase "provided that such services are of a type historically performed, in the business field of the recipient, by employees" with "provided that such services are performed under the primary direction or control of the recipient." An "excludible leased employee" means any leased employee of the recipient who is covered by a money purchase pension plan maintained by the leasing organization which provides for (i) a nonintegrated employer contribution on behalf of each participant in the plan equal to at least ten percent of compensation, (ii) full and immediate vesting, and (iii) immediate participation by employees of the leasing organization (other than employees who perform substantially all of their services for the leasing organization or whose compensation from the leasing organization in each plan year during the four-year period ending with the plan year is less than \$1,000); provided, however, that leased employees do not constitute more than 20 percent of the recipient's nonhighly compensated work force. For purposes of this Section, contributions or benefits provided to a leased employee by the leasing organization that are attributable to services performed for the recipient shall be treated as provided by the recipient.

6.21 Provision Pursuant to Internal Revenue Code Section

401(a)(13). Except as provided in Section 401(a)(13)(B) of the Internal Revenue Code (relating to qualified domestic relations orders), Sections 401(a)(13)(C) and (D) of the Internal Revenue Code (relating to offsets ordered or required under a criminal conviction involving the Plan, a civil judgment in connection with a violation or alleged violation of fiduciary responsibilities under ERISA, or a settlement agreement between the Participant or Beneficiary and the Department of Labor in connection with a violation or alleged violation of fiduciary responsibilities under ERISA), Treasury Regulation Section 1.401(a)-13(b)(2) (relating to Federal tax levies), or as otherwise required by law, no right, interest, or benefit under the Plan or Trust Fund at any time shall be subject in any manner to anticipation, alienation, assignment (either at law or in equity), encumbrance, garnishment, levy, execution, or other legal or equitable process; and no person shall have the power in any manner to anticipate, transfer, assign (either at law or in equity), alienate or subject to attachment, garnishment, levy, execution, or other legal or equitable

process, or in any way encumber his rights, interest, or benefits under the Plan, or any part thereof, and any attempt to do so shall be void. With respect to a domestic relations order entered before January 1, 1985, the Plan Administrator (1) shall treat such order as a qualified domestic relations order if the Plan is paying benefits pursuant to such order on such date, and (2) may treat any other such order entered before such date as a qualified domestic relations order even if such order does not satisfy the requirements of Section 414(p) of the Internal Revenue Code.

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ARTICLE VII. - MISCELLANEOUS PROVISIONS

7.1 Employment Rights. Nothing contained in this Plan shall constitute or be construed as a contract of employment between any Employer and any Employee or Participant and all Employees shall remain subject to discipline, discharge and layoff to the same extent as if the Plan had never gone into effect. An Employer by adopting the Plan, making payments into the Trust Fund or taking any other action with respect to the Plan does not obligate itself to continue the employment of any Employee or Participant for any period or, except as provided in Sections 2.1 and 9.2, to make any payments into the Trust Fund.

7.2 Rights in Trust Fund. No person shall have any rights in or to the Trust Fund or any part thereof except as and to the extent expressly provided in the Plan or the Trust Agreement.

7.3 Facility of Payment. If the Administrative Committee finds that any Participant or Beneficiary to whom a benefit is payable under the Plan is unable to care for his affairs because of physical, mental or legal incompetence, the Administrative Committee may, in its discretion, cause any payment due to him under the Plan for which prior claim has not been made by a duly qualified guardian or other legal representative to be paid to the person deemed by the Administrative Committee maintaining or responsible for the maintenance of such Participant or Beneficiary and any such payment shall be deemed a payment for the account of such Participant or Beneficiary and shall constitute a complete discharge of any liability therefor under the Plan. If an individual dies before receiving all the payments to be made to him under the Plan or before cashing any or all of the checks representing such payment or payments, such payment(s) so payable to such deceased individual shall be made to his estate. However, if such deceased individual was a Participant and a joint pensioner option under the Plan was in effect for him on his death (which for purposes of this sentence shall include any qualified joint and survivor annuity benefit), such payment(s) so payable (but not paid) to him shall be paid to his joint pensioner (which for purposes of this sentence shall include the Participant's surviving Spouse under a qualified joint and survivor annuity).

7.4 Severability Provision. If any provision of the Plan or Trust Agreement or the application thereof to any circumstance(s) or person(s) is invalid the remainder of the Plan or Trust Agreement and the application of such provision to other circumstances or persons shall not be affected thereby.

7.5 Action by Company. Wherever the Company is authorized to act under the Plan (including but not limited to any delegation of its Fiduciary powers and responsibilities under the Plan), such action shall be taken, unless otherwise provided in the Plan or in a resolution of the Board of Directors of the Company, by written instrument executed by one or more officers of the Company. The Trustee may rely on any instrument so executed as being validly authorized and as properly evidencing the action of the Company.

ARTICLE VIII. - HEALTH BENEFITS ACCOUNT

8.1 General. This Article VIII sets forth the terms and conditions pursuant to which Qualified Current Retiree Health Liabilities shall be paid under the Plan and shall supersede any conflicting provisions of the Plan. This Article VIII shall be construed in accordance with the provisions of the Internal Revenue Code, and in particular Sections 420 and 401(h) of the Internal Revenue Code. Unless specifically defined in this Article VIII, all terms when initially capitalized in this Article VIII shall have the meaning assigned to them in accordance with the other provisions of the Plan.

8.2 Health Benefits Account. A Health Benefits Account shall be established for the purpose of effecting asset transfers and distributions pursuant to this Article VIII. Any amount transferred for the payment of Qualified Current Retiree Health Liabilities pursuant to this Article VIII (and any earnings thereon) shall be credited to the Health Benefits Account, which shall be maintained as a separate account by the Trustee and adjusted from time to time to reflect additional transfers (if any), earnings and losses, and distributions.

8.3 Subordination of Health Benefits. Any transfers made to the Health Benefits Account shall (except to the extent provided in Section 420 of the Internal Revenue Code) comply with the requirements of Section 401(h) of the Internal Revenue Code such that Qualified Current Retiree Health Liabilities paid pursuant to this Article VIII are, to the extent required, subordinate to retirement benefits provided under the Plan.

8.4 Qualified Transfers of Excess Pension Assets to the Health Benefits Account. (a) The Company, in its sole discretion, may cause the transfer of Excess Pension Assets to the Health Benefits Account with respect to Qualified Current Retiree Health Liabilities in accordance with the provisions of Section 420 of the Internal Revenue Code. Only one transfer of Excess Pension Assets may be made in any taxable year, and the amount of any such transfer of Excess Pension Assets to the Health Benefits Account shall not exceed the amount reasonably estimated to be paid by the Employer during the taxable year of the transfer for Qualified Current Retiree Health Liabilities. Excess Pension Assets shall not be transferred in any taxable year beginning after December 31, 2005. No contributions shall be made to the Health Benefits Account; and no transfers to the Health Benefits Account shall be made other than those described in this Section 8.4(a).

(b) Except to the extent otherwise provided in Section 420 of the Internal Revenue Code, Excess Pension Assets transferred to the Health Benefits Account shall be used only with respect to Qualified Current Retiree Health Liabilities for the taxable year of the Employer in which the transfer is made. To the extent any portion of the Excess Pension Assets transferred to the Health Benefits Account (including any net earnings allocable thereto) is not used as described in the immediately preceding sentence, such amount shall be transferred out of the Health Benefits Account and returned to the general assets of the Plan.

8.5 Special Vesting Requirements. As of the date of a transfer of Excess Pension Assets to the Health Benefits Account pursuant to this Article VIII, the accrued pension benefits of each participant or beneficiary under the Plan (who is a participant or beneficiary on

the date of such transfer of Excess Pension Assets) shall become nonforfeitable in the same manner which would be required if the Plan had terminated immediately before such transfer of Excess Pension Assets, or in the case of a participant who was a participant during the one-year period ending on the date of such transfer of Excess Pension Assets and who separated from service during the one-year period ending on the date of such transfer of Excess Pension Assets in the same manner which would be required if the Plan (or any predecessor plan to the Plan) had terminated immediately before such separation from service, in each case as and to the extent required (and only to the extent required) under

Section 420(c)(2)(A) of the Internal Revenue Code. Any pension benefits under the Plan accruing after the date of vesting under the immediately preceding sentence shall be subject to the Plan's vesting provisions as if vesting pursuant to this Section 8.5 had never occurred. Notwithstanding the immediately preceding sentence or any other provision of the Plan to the contrary, each participant who became vested in his accrued pension benefits under the Plan solely on account of a transfer of Excess Pension Assets occurring during the Plan Year ending May 31, 2000 or the Plan Year ending May 31, 2001 shall after the date of such transfer of Excess Pension Assets be deemed to have satisfied any requirement under the Plan to have a minimum amount of service in order to be eligible for a deferred vested pension benefit under the Plan. In no event shall the immediately preceding sentence affect the amount of any benefit under the Plan or affect the eligibility for any normal retirement, early retirement, special early retirement, disability, or other pension (other than eligibility for a deferred vested pension or spouse survivor benefit with respect to such deferred vested pension).

8.6 Payment of Qualified Current Retiree Health Liabilities. Distributions from the Health Benefits Account shall be made only for the reimbursement of the Employer for Qualified Current Retiree Health Liabilities to the extent provided for under Section 8.4. The Company may cause such distributions to be made to it or any other Employer. Any such distribution shall be paid only to the extent of the balance in the Health Benefits Account. No amounts allocated to the Health Benefits Account (including net earnings, if any) for payment of Qualified Current Retiree Health Liabilities may be used for, or diverted to, any other purpose (including the payment of any other benefits under the Plan) prior to the satisfaction of all Qualified Current Retiree Health Liabilities. Any amounts remaining in the Health Benefits Account after the satisfaction of all Qualified Current Retiree Health Liabilities shall be transferred out of the Health Benefits Account and returned to the general assets of the Plan pursuant to Section 8.4(b). Neither the provisions of the Plan with respect to Qualified Current Retiree Health Liabilities, the maintenance of the Health Benefits Account, nor the transfer of any Excess Pension Assets pursuant to this Article VIII shall be construed or treated as creating or being part of any accrued benefit of any participant or beneficiary under the Plan (as such accrued benefits are described in Section 411(d)(6) of the Internal Revenue Code and the regulations promulgated thereunder).

8.7 Definitions. For purposes of this Article VIII, the following terms shall have the meaning set forth below:

(a) "Cost Maintenance Period" means the period of five (5) taxable years beginning with the taxable year in which a transfer of Excess Pension Assets occurs under Section 8.4.

(b) "Excess Pension Assets" means "excess pension assets" under the Plan (if any) as determined under Section 420(e)(2) of the Internal Revenue Code.

(c) "Health Benefits" means health benefits or coverage that are provided by the Employer to retired employees and their spouses and dependents as described in Section 420(e)(1)(C) of the Internal Revenue Code.

(d) "Health Benefits Account" means the separate account established and maintained under this Article VIII in accordance with the requirements of Section 401(h) of the Internal Revenue Code but subject to the provisions of Section 420 of the Internal Revenue Code.

(e) "Health Plan" means a group health plan sponsored by the Employer that provides Health Benefits, as such plan may be amended from time to time, and that includes provisions satisfying Section 420(c)(3) of the Internal Revenue Code, including the requirement that the applicable employer cost (as defined in Section 420(c)(3) of the Internal Revenue Code) for each taxable year during the Cost Maintenance Period shall not be less than the higher of the applicable employer costs for each of the two taxable years immediately preceding the taxable year of a transfer of Excess Pension Assets under Section

8.4. The pertinent terms and conditions of any Health Plan are not a part of this Plan, are not subject to the terms and conditions of this Plan, and, except as provided in the immediately preceding sentence, may be amended or terminated from time to time without regard to the provisions of this Plan.

(f) "Qualified Current Retiree Health Liabilities" means, with respect to any taxable year of the Employer, the aggregate amounts (including administrative expenses) which relate to Health Benefits provided during such taxable year and that satisfy the requirements of Section 420(e)(1) of the Internal Revenue Code. As such, Qualified Current Retiree Health Liabilities with respect to a taxable year shall not include amounts related to Health Benefits provided to any individual (or his spouse and dependents) who is a "key employee" within the meaning of Section 416(i)(1) of the Internal Revenue Code with respect to any Plan Year ending in such taxable year.

ARTICLE IX. - EMPLOYERS

9.1 Adoption by Other Employers. The only Employers as of June 1, 2000 are the Company, Brush Wellman Inc., William Advanced Materials Inc., and Technical Materials, Inc. Any other Controlled Group Member may, with the consent of the Company, adopt the Plan and thereby become an Employer hereunder by executing an instrument evidencing such adoption upon the order of its governing body and filing a copy of such instrument with the Company. Such adoption may be subject to such terms and conditions as the Company requires or approves.

9.2 Costs and Expenses to be Shared. While there is more than one Employer, the costs of the Plan (including Employer contributions pursuant to the Plan and expenses incurred in connection with the Plan or the Trust Fund, but exclusive of any expenses to be paid from the Trust Fund) shall be shared by the Employers on such basis as may be determined by the Company.

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ARTICLE X. - DETERMINATION OF PARTICIPATION AND BENEFITS

10.1 Employment Termination Prior to June 1, 2000. The benefits payable under the Plan (if any) with respect to any person whose employment with the Controlled Group terminated before June 1, 2000 and who is not a current Employee on or after June 1, 2000 shall be determined and paid solely in accordance with the relevant provisions of the Pre-2000 Restatement Plan, except to the extent otherwise expressly provided in, or where the context clearly requires application of provisions of, the Plan as hereby restated as of June 1, 2000, as amended hereafter from time to time, or to the extent required under applicable law. Without limitation of the foregoing, the provisions of subsection (7) of Section 6.12 regarding persons whose employment terminated prior to June 1, 2000 shall apply to any benefits payable under the Plan and the provisions of Section 6.9 and the provisions of any Schedule regarding the method and actuarial assumptions used to determine the lump sum actuarial equivalent value of a benefit shall apply to any benefit under the Plan paid in a lump sum payment as of a date occurring on or after June 1, 2000.

10.2 Coverage and Participation. (1) Coverage under the Plan may be extended to any plant, location, operating unit, or classification of employees of an Employer that is not already covered under the Plan pursuant only to an amendment to the appropriate Schedule of the Plan in accordance with the procedures set forth for Plan amendments in Article XII. Such amendment shall specify the effective date of such extension of coverage. Any new plant, location, or operating unit which is established by an Employer shall not become covered solely by virtue of the fact that it is part of such Employer or part of a plant, location, or operating unit which at the time is covered; any such new plant, location, or operating unit shall become covered only if Plan coverage is expressly extended thereto in accordance with the procedures specified in the foregoing provisions of this Section.

(2) An employee or former employee of a Controlled Group Member who at the close of business on May 31, 2000 was a participant under the Pre-2000 Restatement Plan (as determined under the provision of the Pre-2000 Restatement Plan) shall continue to be or shall become a Participant on and after June 1, 2000 until such person's participation terminates as provided in this subsection (2); otherwise, an Employee shall become a Participant when the Employee has satisfied the requirements to participate under an applicable Schedule. A Participant shall cease to be a Participant when he is no longer an Employee, unless he has a vested accrued pension benefit under the Plan, in which case he shall cease to be a Participant when he is no longer receiving or is no longer eligible to receive a pension benefit from the Plan.

(3) If the nonforfeitable percentage of the accrued benefit of a Participant is zero at his termination of employment with the Controlled Group, such Participant shall be deemed to have received a distribution of the entire accrued benefit to which he was entitled under the Plan at his termination of employment with the Controlled Group in lieu of all other benefits payable under the Plan.

10.3 Benefits. Except as otherwise provided in the provisions of the Plan other than an applicable Schedule: (1) The benefits to be provided under the Plan to a

Participant whose employment with the Controlled Group terminates on or after June 1, 2000 (if any) shall be as determined in accordance with the Schedule(s) applicable to such Participant; and (2) If such benefits are payable under more than one Schedule with respect to a Participant, the benefits under each applicable Schedule shall be determined and paid separately from the benefits under any other Schedule.

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ARTICLE XI. - MERGER OF CERTAIN PLANS INTO THE PLAN

11.1 Merger of Plans. From time to time certain pension plans qualified under Section 401(a) of the Internal Revenue Code have been or will be merged into the Plan (or into the Brush Wellman Inc. Pension Plan, or into the Brush Wellman Inc. Pension Plan for Salaried Employees and its predecessors, of which this Plan is a continuation) (hereinafter referred to as a "Merged Plan"). Prior to the time that a Merged Plan was merged into the Plan, the Merged Plan may have merged with another pension plan qualified under Section 401(a) of the Internal Revenue code (hereinafter referred to as a "Merged Prior Plan").

11.2 Determination of Benefits for Merged Plans and Merged Prior Plans. The provisions of Section 10.1 shall apply with respect to a Participant who is not an Employee on or after June 1, 2000. With respect to a Participant who is an Employee on or after June 1, 2000, service and compensation taken into account under a Merged Plan or a Merged Prior Plan shall be taken into account under a Schedule that is applicable to the Participant; provided, however, that there shall be no duplication of service, compensation, or benefits under the Plan in respect of any period or otherwise.

11.3 Merger of TMI Plan. (1) Effective immediately following the close of business on May 31, 2000 (hereinafter referred to as the "TMI Merger Date"), the Technical Materials, Inc. Pension Plan, maintained under an instrument dated as of June 1, 1994, as amended, and certain predecessor instruments (hereinafter referred to as the "TMI Plan"), was merged into the Plan. Effective as of the TMI Merger Date, participants in the TMI Plan ceased to be participants therein and became Participants in the Plan.

(2) Effective as of the TMI Merger Date, all liabilities of the TMI Plan were transferred to the Plan from the TMI Plan. On or as soon as practicable after the TMI Merger Date, the assets of the TMI Plan were, upon the direction of the Company to the Trustee, transferred to the Trust Fund from the trust fund maintained under the TMI Plan.

(3) The Plan shall be deemed to be a continuation of the TMI Plan. The terms and conditions of the TMI Plan (including the terms and conditions of any prior provision of the TMI Plan or any predecessor plan document) may be amended, including amendments made retroactive to a date prior to the TMI Merger Date, in accordance with the applicable provisions of the Plan.

11.4 Merger of WAM Plan. (1) Effective immediately following the close of business on May 31, 2000 (hereinafter referred to as the "WAM Merger Date"), the William Advanced Materials Inc. Retirement Plan, maintained under an instrument dated as of June 1, 1994, as amended, and certain predecessor instruments (hereinafter referred to as the "WAM Plan"), was merged into the Plan. Effective as of the WAM Merger Date, participants in the WAM Plan (hereinafter referred to as "WAM Plan Participants") ceased to be participants therein and became Participants in the Plan.

(2) Effective as of the WAM Merger Date, all liabilities of the WAM Plan were transferred to the Plan from the WAM Plan. On or as soon as practicable after the WAM

Merger Date, the assets of the WAM Plan were, upon the direction of the Company to the Trustee, transferred to the Trust Fund from the trust fund maintained under the WAM Plan.

(3) The Plan shall be deemed to be a continuation of the WAM Plan. The terms and conditions of the WAM Plan (including the terms and conditions of any prior provision of the WAM Plan or any predecessor plan document) may be amended, including amendments made retroactive to a date prior to the WAM Merger Date, in accordance with the applicable provisions of the Plan.

11.5 Overriding Provisions. The provisions of this Article XI shall apply notwithstanding any other provisions of the Plan and shall override any conflicting Plan provisions.

ARTICLE XII. - AMENDMENT

12.1 Right to Amend. The Company has reserved, and does hereby reserve, the right, subject to the limitations of the first sentence of Section 6.2, to amend at any time and from time to time any or all of the provisions of the Plan without the consent of any other Employer or of any Employee, Participant, Beneficiary or other person. The Company's right to amend the Plan shall include the right to amend the Plan to include in the Plan any additional group or groups of Employees (including former Employees). Any such amendment to the Plan may also apply to the portion(s) of the Plan attributable to (or otherwise with respect to) the Pre-2000 Restatement Plan, any Merged Plan, any Merged Prior Plan, and any portion(s) thereof or provisions in respect thereof.

12.2 Procedures for Amendment. Any amendment of the Plan shall be expressed either in an instrument executed by the Company on the order of its Board of Directors or in an instrument executed on behalf of the Company by any officer or officers of the Company authorized by resolution of the Company's Board of Directors to amend the Plan.

ARTICLE XIII. - TERMINATION

13.1 Right to Terminate or Withdraw. (1) The Company has reserved, and does hereby reserve, the right to terminate the Plan (including all portions of the Plan) at any time (without the consent of any other Employer or of any Employee, Participant, Beneficiary or other person) either in whole or in part or as to any or all of the Employers or as to any designated group of Employees (including former Employees) and their Beneficiaries. Such termination shall be expressed in an instrument executed by the Company on the order of the Board of Directors.

(2) Any Employer (other than the Company) may elect separately to withdraw from the Plan, without consent of any other Employer or of any Employee, Participant, Beneficiary or other person, and such Employer shall not be an Employer from the effective date of the withdrawal. Any such withdrawal shall be expressed in an instrument executed by the withdrawing Employer on the order of its Board of Directors or other governing body and filed with the Company, and shall (except as may otherwise be required by applicable law) become effective when so filed unless some other effective date is designated in such instrument and approved by the Company.

13.2 Application of Assets Upon Termination. If the Plan is terminated pursuant to Section 13.1 as to all Employees, Participants and Beneficiaries, then, in the absence of a subsequent amendment to this Article, no contributions shall thereafter be made to the Trust and the assets remaining in the Trust Fund (available to provide benefits) shall be allocated in accordance with applicable law for the purpose of paying benefits provided for in the Plan. Any residual assets attributable to an Employer's contributions may at the Company's direction be distributed to the Company or to any Employer if (A) all liabilities of the Plan to Participants and their Beneficiaries have been satisfied and (B) the distribution does not contravene any provision of law.

13.3 Partial Termination. If, pursuant to Section 13.1, the Plan is terminated as to any Employer or as to any designated group of Employees (including former Employees) and their Beneficiaries while remaining in effect as to any other Employer or Participants or Beneficiaries, the Trust Fund shall (except as may otherwise be required by applicable law) be divided on the basis of the ratio of (A) to (B) where (A) equals the funded actuarial requirements of the Plan (as of the effective date of such termination) with respect to the Participants and Beneficiaries as to whom the Plan is terminated, and (B) equals the funded actuarial requirements of the Plan as of such date with respect to all Participants and Beneficiaries. Such funded actuarial requirements of the Plan shall be determined by the Actuary by the use of such factors, assumptions and procedures as the Actuary deems to be practical and appropriate in view of the circumstances involved. After such division, that part of the Trust Fund as to which the Plan has been so terminated shall (except as may otherwise be required by applicable law) be administered and/or distributed in accordance with Section 13.2 for the Participants and Beneficiaries as to whom the Plan has been terminated, unless provision is made by amendment of the Plan for some other disposition of such part of the Trust Fund.

ARTICLE XIV. - EFFECTIVE DATE

14.1 General. Except as otherwise herein provided (including as the context may require), this restatement of the Plan shall be effective as of June 1, 2000.

14.2 GUST Effective Dates. Except as otherwise expressly provided herein, each change made to the Plan by this restatement for the purpose of satisfying a provision of (i) the Uniformed Services Employment and Reemployment Rights Act of 1994, (ii) the Uruguay Round Agreements Act of 1994, including with respect to the immediately following sentence, (iii) the Small Business Job Protection Act of 1996, (iv) the Taxpayer Relief Act of 1997, (v) the Internal Revenue Service Restructuring and Reform Act of 1998, (vi) the Community Renewal Tax Relief Act of 2000, (vii) any other change in the Internal Revenue Code or ERISA, or (viii) regulations, rulings, or other published guidance issued under the Internal Revenue Code, ERISA or the legislative enactments listed in (i)-(vi) above (a "Compliance Change") shall be effective as of the first date such change became required by reason of such provision and shall also be effective with respect to any plan merged (including a transfer of assets and liabilities from any plan subject to Section 414(l) of the Internal Revenue Code) into the Plan as of the first date such change became required by reason of such provision (including for periods prior to the merger date to the extent so required), and accordingly, is also an amendment of any plan merged (including a plan from which assets and liabilities were transferred) into the Plan for this purpose. For a benefit payable in a single sum or deemed to be payable in a lump sum after May 31, 2000 with respect to Employees and former Employees, regardless of when employment covered under the Plan terminated and notwithstanding any other provision in the Plan to the contrary, the basis used to determine the present value of the single sum benefit shall be the "applicable mortality table" and "applicable interest rate" where the "applicable mortality table" for this purpose means the table prescribed from time to time by the Secretary of Treasury pursuant to Section 417(e)(3) of the Internal Revenue Code as in effect on the date of distribution and the "applicable interest rate" for this purpose means the annual rate of interest for purposes of Section 417(e)(3) of the Internal Revenue Code using the Plan Year as the stability period and the second calendar month preceding the first day of the Plan Year as the lookback month in accordance with Treasury Regulation Section 1.417(e) - 1(d)(4). This provision shall be effective to amend any plan merged (including a plan from which assets and liabilities were transferred) into the Plan only with respect to Compliance Changes, and this restatement and the Compliance Changes shall not be construed to expand the definition of eligible employee, change accrued benefits, or otherwise change any substantive provision of the Plan or of any plan merged (including a plan from which assets and liabilities were transferred) into the Plan that is not directly affected by a Compliance Change.

14.3 EGTRRA Compliance. This restatement of the Plan is adopted to reflect certain provisions of the Economic Growth and Tax Relief Reconciliation Act of 2001 ("EGTRRA"). This restatement is intended as good faith compliance with the requirements of EGTRRA and is to be construed in accordance with EGTRRA and guidance issued thereunder. Except as otherwise provided herein, provisions of this restatement implementing EGTRRA shall be effective as of the first day of the first Plan Year beginning after December 31, 2001.

* * *

Executed this _____ day of _____, 2002.

BRUSH ENGINEERED MATERIALS INC.

By:

Title:

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SCHEDULE A

SALARIED EMPLOYEES OF THE COMPANY, BEM SERVICES, INC., BRUSH CERAMIC PRODUCTS INC., BRUSH INTERNATIONAL, INC., BRUSH RESOURCES INC., BRUSH WELLMAN INC., AND ZENTRIX TECHNOLOGIES INC.

ARTICLE I. - DEFINITIONS

1.1 Definitions. The following terms when used in this Schedule A with initial capital letters shall have the following respective meanings unless the context clearly indicates otherwise:

(1) Accrued Benefit: See Section 3.1(2).

(2) Actuarial Equivalent: A benefit of equivalent actuarial value when computed on the basis of the actuarial factors, assumptions and procedures set forth on Exhibit A to this Schedule A.

(3) Age: A person's "Age" at any time shall be his age on the then most recent anniversary of his date of birth.

(4) Anticipated Benefit: The monthly amount payable at Age 65 to which a Participant who was a participant in the Pre-1981 Restatement Plan on May 31, 1981 would have been entitled in accordance with the Pre-1981 Restatement Plan as if it were in effect (or, in the case of Brush Wellman Inc. Pension Plan for Hourly Employees, as it is in effect under Schedule B of the Plan) on his Qualifying Employment Severance Date and as if he were a participant thereunder on such Date; provided, however, except as otherwise specifically provided in the Plan, the requirements (including Years of Vesting Service) relating to eligibility for, and the Years of Benefit Service for periods on and after June 1, 1981 and Primary Social Security Amount used in computing the amount of, any such benefits shall be only those as set forth or determined in accordance with the provisions of this Schedule A as in effect on such Qualifying Employment Severance Date.

(5) Beneficiary: A Participant's Death Beneficiary, his Spouse or any other person (other than such Participant) who is or becomes entitled under this Schedule A, or under an option or options permitted by the terms of this Schedule A, to receive any part or all of a pension or other benefit payable with respect to such Participant.

(6) Covered Employee: With respect to periods prior to November 1, 1996, a "Covered Employee" as defined in the Pre-2000 Restatement Plan as of the date status as a Covered Employee is determined, and with respect to periods on and after November 1, 1996, an Employee of an Employer who receives his regular compensation on a salary basis or on a salary and commission basis and who is employed at a covered plant, location, or operating unit listed on Schedule AI, or who is a member of a covered classification of employees listed on

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Schedule AI, but excluding (A) any Employee within a collective bargaining unit covered by a collective bargaining agreement with any Employer pursuant to which the Employer is required to make contributions under another Schedule or to another pension, retirement profit sharing, annuity or similar retirement plan or arrangement for Employees in such unit unless the collective bargaining representative for Employees in such unit and the Employer agree that this exclusion shall not apply to Employees in such unit, (B) any Employee who is a nonresident alien, (C) any Employee of the Newburyport, Massachusetts Ceramics Division of Brush Wellman Inc. during any period of time any such Employee is employed by such Massachusetts Ceramics Division prior to July 1, 1981, (D) any leased employee as such term is defined in Section 6.20 (Provision Pursuant to Internal Revenue Code Section 414(n)), (E) any person who is not treated by the Employer as an employee for purposes of Section 3401 of the Internal Revenue Code (without regard to any determination other than by the Employer that such person is or is not an employee for purposes of Section 3401 of the Internal Revenue Code and without regard to any retroactive treatment by the Employer of such person as an employee for purposes of Section 3401 of the Internal Revenue Code), and (F) any Employee of the Crystal Systems Division of Brush Wellman Inc. during any period of time any such Employee is employed by such Crystal Systems Division, provided, however, that if an Employee is transferred to employment with such Crystal Systems Division after December 31, 1980 and if immediately prior to such transfer he was covered by the Pre-2000 Restatement Plan or this Schedule, or by any other plan of the Company or any other Controlled Group Member which is qualified under Section 401(a) of the Internal Revenue Code, such Employee shall, nevertheless, be considered to be a Covered Employee during the period or periods of his subsequent employment as a salaried Employee of such Crystal Systems Division, so long as he is not otherwise excluded hereunder. For purposes of this paragraph (6), any person who is an Employee, who is performing services outside of the United States of America as an Employee of an Employer, and who immediately prior to beginning to perform such services outside of the United States of America was a Covered Employee under this paragraph (6) (determined without regard to this sentence) shall be deemed to be a Covered Employee employed at the covered plant, location, or operating unit or in the covered classification at which or in which such Covered Employee was employed immediately prior to beginning to perform such services outside of the United States of America until the earliest of the date on which the person is transferred to a plant, location, or operating unit or employment classification listed on Schedule AI, the date on which the person is transferred to a plant, location, or operating unit located within the United States of America that is not listed on Schedule AI, the date on which the person no longer receives his regular compensation on a salary basis or on a salary and commission basis, the date on which the person is no longer an Employee of an Employer, or the date on which the person has a status that would exclude the person from the definition of Covered Employee under clauses (A) through (F) of the first sentence of this paragraph (6).

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(7) Death Beneficiary: (a) A Participant's Death Beneficiary shall be his Spouse if such Spouse survives him, and if such Spouse's death occurs after the Participant's death, the Participant's Death Beneficiary shall be such Spouse's estate.

(b) If a Participant has no Spouse at the time of his death or his Spouse consents (in the manner hereinafter described in this paragraph (b)) to the designation hereinafter provided for in this paragraph (b), his Death Beneficiary shall be such person or persons (other than, or in addition to, his Spouse in the case of a married Participant) as may be designated by a Participant as his death beneficiary or contingent death beneficiary under the Plan. Such a designation may be made, revoked or changed only by an instrument (in a form acceptable to the Committee) which is signed by the Participant, which, if he has a Spouse, includes his Spouse's written consent to the action to be taken pursuant to such instrument (unless such action results in the Spouse being named as the Participant's sole Death Beneficiary), and which is filed with the Committee before the Participant's death. A Spouse's written consent required by this paragraph (b) shall be signed by the Spouse, shall acknowledge the effect of such consent, shall be witnessed by any person designated by the Committee as a Plan representative or by a notary public and shall be effective only with respect to such Spouse. A person designated by a Participant as a Death Beneficiary who ceases to exist shall not be entitled to any payment thereafter to be made to the Participant's Death Beneficiary; provided, however, that if a Participant's designation includes his Spouse, such Spouse's death occurs after the Participant's death and such designation does not provide that payments otherwise to be made to the Spouse shall be made to some other person or persons after such Spouse's death, such payments shall be made to the Spouse's estate. At any time when all the persons designated by the Participant as his Death Beneficiary have ceased to exist, his Death Beneficiary shall be his Spouse or, if he does not then have a Spouse (and his Spouse's estate is not entitled to payments pursuant to the provisions of the immediately preceding sentence), such relative or relatives of the Participant (by blood, marriage or adoption) and in such proportions as the Committee may select, or, in the discretion of the Committee, the Participant's estate.

(c) If a Participant has no Spouse and he has not made an effective Death Beneficiary designation pursuant to paragraph (b) above, his Death Beneficiary shall be determined by the Committee as provided in the last sentence of such paragraph (b).

(8) Earnings: The regular base salary or base wages, overtime, incentive compensation paid pursuant to any incentive compensation plan (or any similar plan) of any Controlled Group Member, as from time to time in effect, and commissions paid or to be paid by a Controlled Group Member to an Employee but exclusive of all other forms of compensation; provided, however, that with respect to Participants who are "highly compensated employees" as defined in Section 414(q) of the Internal Revenue Code and who received a retirement benefit under the Brush Wellman Inc. Voluntary Early Retirement Window Supplemental Plan, "Earnings" shall not include incentive compensation paid pursuant to any incentive compensation plan (or any similar plan) of any Controlled Group Member the payment of which is made by a Controlled Group Member in a calendar year earlier than the calendar year in which

payment thereof would normally be made under such incentive compensation plan (or similar plan). Notwithstanding the foregoing, an amount that is includible in an Employee's gross income for Federal income tax purposes as a result of performance restricted shares granted to the Employee under the Brush Wellman Inc. 1995 Stock Incentive Plan, as amended or the Brush Engineered Materials Inc. 1995 Stock Incentive Plan, as amended (the "1995 Stock Plan") being not, or no longer being, subject to a substantial risk of forfeiture or restriction on transfer under the 1995 Stock Plan, as a result of a payment under the 1995 Stock Plan by a Controlled Group Member to the Employee in respect of performance shares granted to the Employee under the 1995 Stock Plan, or as a result of payment under the 1995 Stock Plan by a Controlled Group Member to the Employee in respect of performance units granted to the Employee under the 1995 Stock Plan, except for any such amount in respect of dividends or other distributions or dividend equivalents or equivalents to other distributions with respect to such performance restricted shares, performance shares, or performance units, shall be considered Earnings at the time that such amount is includible in the Employee's gross income for Federal income tax purposes; provided, however, that in determining the amount of any such Earnings and the time at which any such amount is Earnings any election pursuant to Section 83(b) of the Internal Revenue Code shall be disregarded. Earnings shall not be affected by any compensation reduction elections of an Employee under Internal Revenue Code Section 125 or 401(k).

(9) Employer: The Company, BEM Services, Inc., Brush Ceramic Products Inc., Brush International, Inc., Brush Resources Inc., Brush Wellman Inc., and Zentrix Technologies Inc.

(10) Employment Commencement Date: The date on which an Employee first performs an Hour of Service for a Controlled Group Member.

(11) Employment Severance and Employment Severance Date: An Employment Severance occurs on the earlier of (A) the date on which an Employee's employment with the Controlled Group is terminated because of death, resignation, Retirement or discharge or (B) the later of (i) the first anniversary of the first day of a period in which the Employee remains absent from employment (with or without pay) with the Controlled Group for any reason other than death, resignation, Retirement or discharge or (ii) the date on which the Employee's disability benefit payable under any Long-Term Disability Benefit Contract applicable to him ceases. The date on which an Employee's Employment Severance occurs shall be referred to as his Employment Severance Date.

(12) Final Average Monthly Pay: (a) For a person who is not employed as an Employee after April 30, 2001, the following shall apply: The amount determined by ascertaining the amount of an Employee's Earnings during each of the five highest consecutive calendar years (or, if he has been employed for a lesser number of consecutive calendar years, such lesser number of consecutive calendar years) ending not later than the end of the calendar year in which occurs the earliest of (A) his Qualifying Employment Severance Date or (B) the effective date of the termination of the Plan with respect to him, and by dividing 60 into the total amount of his Earnings during such five consecutive calendar years; provided, however, that (i) if an employee has less than five consecutive calendar years of employment with the Controlled

Group upon the occurrence of such event, the average shall be taken over his total period of employment and (ii) if an Employee does not have any Earnings during a calendar year, such year shall be ignored for all purposes of this definition.

(b) For a person who is employed as an Employee after April 30, 2001, the following shall apply: The amount determined by ascertaining the amount of an Employee's Earnings during each of the five highest consecutive calendar years (or, if he has been employed for a lesser number of consecutive calendar years, such lesser number of consecutive calendar years) ending not later than the end of the calendar year in which occurs the earliest of (A) his latest Qualifying Employment Severance Date or (B) the effective date of the termination of the Plan with respect to him, and by dividing 60 into the total amount of his Earnings during such five consecutive calendar years; provided, however, that (i) if an employee has less than five consecutive calendar years of employment with the Controlled Group upon the occurrence of such event, the average shall be taken over his total period of employment and (ii) if an Employee does not have any Earnings during a calendar year, such year shall be ignored for all purposes of this definition.

(13) Hour of Service: Hours of Service shall be credited in accordance with the following rules:

(A) An Employee shall be credited with one Hour of Service for each hour for which he is paid, or entitled to payment, by one or more Controlled Group Members for the performance of duties as an Employee.

(B)(i) An Employee shall be credited with one Hour of Service (on the basis set forth in subparagraph (iv) below) for each hour for which he is paid, or entitled to payment, by one or more Controlled Group Members on account of a period of time during which no duties are performed (irrespective of whether the employment relationship has terminated) due to vacation, holiday, illness, incapacity (including disability), lay-off, jury duty, military duty or leave of absence.

(ii) Notwithstanding the foregoing provisions of this paragraph (B),

(a) no more than 501 Hours of Service shall be credited under this paragraph (B) to an Employee on account of any single continuous period during which he performs no duties (whether or not such period occurs in a single Plan Year);

(b) an hour for which an Employee is directly or indirectly paid, or entitled to payment, on account of a period during which no duties are performed shall not be credited to the Employee if

such payment is made or due under a plan maintained solely for the purpose of complying with applicable worker's compensation or unemployment compensation or disability insurance laws; and

(c) Hours of Service shall not be credited for a payment which solely reimburses an Employee for medical or medically related expenses incurred by the Employee.

(iii) For purposes of this paragraph (B), a payment shall be deemed to be made by or due from a Controlled Group Member regardless of whether such payment is made by or due from such Controlled Group Member directly, or indirectly through, among others, a trust fund, or insurer, to which such Controlled Group Member contributes or pays premiums and regardless of whether contributions made or due to the trust fund, insurer or other entity are for the benefit of particular Employees or are on behalf of a group of Employees in the aggregate.

(iv) For purposes of this paragraph (B), an Employee shall be credited with Hours of Service on the basis of his regularly scheduled working hours per week (or per day if he is paid on a daily basis) or, in the case of an Employee without a regular work schedule, on the basis of 40 Hours of Service per week (or 8 Hours of Service per day if he is paid on a daily basis) for each week (or day) during such period of time during which no duties are performed. Notwithstanding the foregoing provisions of this subparagraph (iv), an Employee shall not be credited with a greater number of Hours of Service for a period during which no duties are performed than (a) the number of hours for which he is regularly scheduled for the performance of duties during such period or (b) in the case of an Employee without a regular work schedule, 40 Hours of Service per week (or 8 Hours of Service per day if he is paid on a daily basis).

(C) An Employee shall be credited with one Hour of Service for each hour for which back pay, irrespective of mitigation of damages, has been either awarded or agreed to by one or more Controlled Group Members, provided, however, that (i) an hour shall not be credited under both paragraph (A) or (B), as the case may be, and this paragraph (C), and (ii) Hours of Service credited under this paragraph (C) with respect to periods described in paragraph (B) shall be subject to the limitations and provisions set forth in said paragraph (B).

(D) Hours of Service shall be determined from records maintained by Controlled Group Members of hours for which payment is made or due, except that with respect to each Employee whose compensation is not determined on the basis of certain amounts for each hour worked during a given period and for whom hours of work are not required to be counted and recorded by any federal law (other than ERISA), he shall be credited with 45 Hours of Service for each week, or 10 Hours of Service for each day if he is paid on a daily basis, in which

he is credited with an Hour of Service under paragraphs (A) or (B) of this subsection (13).

(E) No hour shall be counted more than once or be counted as more than one Hour of Service even though the Employee may receive more than straight-time pay for it.

(F) Hours of Service shall be credited to eligibility computation periods and Plan Years in accordance with the provisions of 29 C.F.R. Section 2530.200b-2(c), which provisions are hereby incorporated herein by reference.

(G) Anything in the Plan to the contrary notwithstanding, an Employee shall be credited with such Hours of Service not otherwise credited to him under the Plan as may be required by applicable law.

(14) Long-Term Disability Benefit Contract: Any contract or other arrangement entered into between an Employer and any commercial insurance carrier or any formalized plan or program of an Employer which is communicated in writing to the participants, the costs of which are borne in whole or in part by such Employer and which provides for long-term disability benefits for participants, on a uniform and nondiscriminatory basis, after termination of any said participant's active employment with every Employer because of bodily or mental injury or disease, as defined from time to time in such contract, arrangement, plan or program, and subject to the other provisions and conditions contained therein.

(15) Normal Retirement Date: The later of the date on which an Employee attains Age 65 or the fifth anniversary of the date he first commenced participation in the Plan.

(16) Pension Commencement Date: The date as of which a Participant's or Beneficiary's pension under this Schedule A commences or is to commence under the applicable terms of this Schedule A, irrespective of whether it has in fact commenced.

(17) Pensioner: A former Employee whose Qualifying Employment Severance has occurred and who is eligible for or is receiving a pension under this Schedule A, even though such pension may not have commenced or will not commence until after the proper filing of an application and the arrival of the time at which such pension becomes payable.

(18) Pre-1981 Restatement Plan: The Brush Wellman Inc. Pension Plan for Salaried Employees (formerly known as Brush Wellman Inc. Pension Plan for Exempt Salaried Employees), as the same was amended up to (but not including) June 1, 1981, and as the same may have been or may be amended by any post-June 1, 1981 amendment. For the purposes of those non-exempt employees of Brush Wellman Inc. who, as of June 1, 1981, became participants under the Brush Wellman Inc. Pension Plan for Salaried Employees (As Amended and Restated as of June 1, 1981), the term "Pre-1981 Restatement Plan" shall mean

Brush Wellman Inc. Pension Plan for Hourly Employees (prior to June 1, 1981 known as The Brush Wellman Inc. Pension Plan for Non-Exempt Employees) or the provisions of Schedule B of the Plan (as appropriate to the context).

(19) Primary Social Security Amount: (a) An amount to be determined for a Participant from a table prepared by the Actuary, which table shall be prepared on a basis so that such amount for a Participant shall reasonably approximate the unreduced monthly primary old-age Social Security Benefit under Title II of the federal Social Security Act to which a Participant of similar age, sex and earnings would be entitled under the law in effect on the January 1st coincident with or next preceding his Qualifying Employment Severance and which shall be based on the following assumptions:

(i) that the Participant had received, prior to the calendar year immediately preceding the calendar year in which occurs his Qualifying Employment Severance, compensation of the type that is subject to old-age Social Security taxes which changed from one year to the next by an amount equal to the actual change in the national wage for those years as determined by the Social Security Administration;

(ii) that the Participant shall receive no compensation after his Qualifying Employment Severance; and

(iii) if his Qualifying Employment Severance occurs after his Normal Retirement Date, that his compensation had ceased on his Normal Retirement Date.

(b) Except as provided in paragraph (c) of this subsection

(19), when the Primary Social Security Amount is computed under the foregoing provisions of this subsection (19), it shall not thereafter be changed because of any alteration in the amount of said Social Security benefit in fact paid to the Participant, including any possible increases in such benefits because of the application of any formula which is based in whole or in part on one or more factors such as the cost-of-living index.

(c) Notwithstanding any other provisions of this subsection

(19) to the contrary, a Participant shall have the right to supply to the Administrative Committee, within six months after the later of the date of his Qualifying Employment Severance or the date on which he is notified by the Administrative Committee of the pension to which he is entitled under this Schedule A, his actual history of wages earned prior to his Qualifying Employment Severance as evidenced by records of the Social Security Administration or other records which the Administrative Committee deems acceptable. If such wage history is provided, the amounts obtained therefrom shall be substituted for the amounts estimated pursuant to paragraph (a) of this subsection (19) in determining the Participant's Primary Social Security benefit. If payment of a Participant's pension under this Schedule A commences prior to the time he furnishes such wage history to the Administrative Committee, his pension payments shall be increased or reduced, as the case may be, in accordance with such wage history, provided that any reductions

shall be prospective only, and any increases shall be prospective and retroactive in the form of a lump sum payment without interest.

(20) Qualifying Employment Severance and Qualifying Employment Severance Date: A Qualifying Employment Severance occurs on the Retirement of a Participant, a Participant's Employment Severance that makes him eligible for a deferred vested pension under this Schedule A, or the death of a Participant if as a result of his death a benefit is payable under this Schedule A for a Beneficiary of his; and the date on which a Participant's Qualifying Employment Severance occurs shall be referred to as his Qualifying Employment Severance Date.

(21) Reemployment Commencement Date: The date following an Employee's Employment Severance Date on which he again performs an Hour of Service for a Controlled Group Member.

(22) Retirement: A Participant's Employment Severance which makes him eligible for a normal or early retirement pension under this Schedule A.

(23) Service and Years of Service:

(A) General Rule: An Employee shall be credited with Vesting Service and Benefit Service pursuant to the provisions of this subsection (23) or, with respect to the period prior to June 1, 1985, in accordance with the provisions of the Brush Wellman Inc. Pension Plan for Salaried Employees (including the Pre-1981 Restatement Plan) as in effect from time to time before such date if such provisions result in a greater period of Vesting or Benefit Service for the Employee.

(B) Vesting Service: An Employee's Vesting Service, which shall be used to determine his (or his Beneficiary's) eligibility for (as distinguished from the amount of) a benefit, shall equal the total of his periods of employment with the Controlled Group beginning with his Employment Commencement Date or his Reemployment Commencement Date if applicable, and ending on his next following Employment Severance Date, except that if an Employee whose Employment Severance occurs by reason of his resignation, Retirement or discharge performs an Hour of Service for a Controlled Group Member during the 12 consecutive month period (or the 24 consecutive month period if such termination resulted from a reduction in force) beginning on his Employment Severance Date, the period beginning on such Employment Severance Date and ending on the date on which he performs such Hour of Service shall be deemed to be employment with the Controlled Group; provided, however, that if such Employee's Employment Severance occurs by reason of his resignation, Retirement or discharge during a period of absence referred to in Section

1.1(11)(B)(i), the period beginning on his Employment Severance Date and ending on the date on which he performs such Hour of Service shall not be deemed to be employment with the Controlled Group unless such Hour of Service is performed within 12 months of the date on which such period of absence commenced. Notwithstanding the preceding sentence, in the case of an Employee who, on or after June 1, 1981, became a Covered Employee under and by reason of an amendment to the Pre-2000

Restatement Plan, or becomes a Covered Employee by reason of an amendment to this Schedule A, or by reason of a transfer from other employment with the Controlled Group and whose service before so becoming a Covered Employee under any other Schedule or pension or annuity plan (or any similar plan) maintained or contributed to by a Controlled Group Member was determined on the basis of computation periods, such Employee shall be credited with Vesting Service consisting of:

(i) a number of years equal to the number of years of service credited to the Employee for vesting purposes before the computation period during which the transfer occurs, and

(ii) the greater of (a) the Vesting Service that would be credited to the Employee under this subsection (23) during the entire computation period in which the transfer occurs or (b) the service for vesting purposes taken into account under the computation periods method as of the date of the transfer; and

in addition, the Employee shall be credited with Vesting Service for his period of employment with the Controlled Group subsequent to the transfer commencing on the day after the last day of the computation period in which the transfer occurs. Notwithstanding the foregoing provisions of this subsection (23), an Employee shall not be credited with Vesting Service for any period after the termination of the Plan as to him.

Notwithstanding any other provision of the Plan to the contrary, a Covered Employee who was an Employee of Metals Engineering Company on January 1, 1989, shall solely for purposes of this subparagraph (B) be deemed to have as his Employment Commencement Date his date of hire with Metals Engineering Company, or his date of hire with Penn Precision Rolling Mills, Ltd. if earlier.

(C) Benefit Service: An Employee's Benefit Service, which shall be used to determine the amount of (as distinguished from his eligibility for) any benefit, shall mean his periods of employment with the Controlled Group

(i) during which he is a Covered Employee (or is deemed to be a Covered Employee pursuant to Section 3.7) and (ii) which occur between his Employment Commencement Date or his Reemployment Commencement Date, if applicable, and his next following Employment Severance Date.

(D) Years of Service: In determining the number of an Employee's Years of Vesting Service, all periods of his employment with the Controlled Group (whether or not consecutive) counted as Vesting Service pursuant to paragraph (B) above shall be aggregated on the basis of full years and months to the nearest month. Except as provided in Section 3.6(3), in determining the number of an Employee's Years of Benefit Service, each period of his employment with an Employer counted as Benefit Service pursuant to (C) above shall be separately determined on the basis of full years and months to the nearest month in each such period.

(E) Former Wellman Employees: Notwithstanding anything in the Plan to the contrary, a former salaried employee of The S.K. Wellman Corp. (now known as Egbert Corp.) (1) who, prior to May 4, 1986, transferred from employment as a salaried employee of The S.K. Wellman Corp. to employment as a Covered Employee of Brush Wellman Inc., (2) who was a Covered Employee of Brush Wellman Inc. as of May 4, 1986 and (3) whose Qualifying Employment Severance under the Plan occurs after May 4, 1986 shall be credited with Benefit Service under the Plan in an amount equal to the amount of benefit service credited to him under The S.K. Wellman Corp. Retirement Plan for Salaried Employees at the time of his said transfer. Each such former salaried employee of The S.K. Wellman Corp. is hereinafter referred to as a "Former Wellman Employee".

(F) Employees of Lorain Plant: Notwithstanding anything in the Plan to the contrary, a person who is or becomes a Covered Employee on or after January 1, 2002 shall be credited with Benefit Service with respect to period(s) of employment of such person as an Employee at the Lorain Plant after October 31, 1996 and prior to January 1, 2002 (if any) as if such person had been a Covered Employee during such period(s) of employment. Notwithstanding the immediately preceding sentence, no Benefit Service shall be credited to a Covered Employee (i) if such Benefit Service would, if credited during the period of such Covered Employee's employment at the Lorain Plant otherwise in accordance with the immediately preceding sentence, be disregarded in accordance with any other provision of the Plan, including but not limited to Section 5.2(3), Section 5.5(2) and/or Section 10.2(3) (Coverage and Participation), in computing any pension to which such Covered Employee may be entitled under the Plan, or (ii) if the Covered Employee receives credit for "Years of Benefit Service" (under and as defined in Schedule B) with respect to such employment as an Employee at the Lorain Plant.

For purposes of this subparagraph (F), the "Lorain Plant" shall mean the Brush Wellman Inc. facility located at 7375 Industrial Parkway, Lorain, Ohio.

(24) Year of Benefit Service: See Section 1.1(23).

(25) Year of Eligibility Service: An Employee shall be credited with a Year of Eligibility Service if he is credited with at least 1,000 Hours of Service in the 12-month period beginning on his Employment Commencement Date (or, in the case of an Employee whose Employment Severance occurs before he completes such 12-month period, in the 12-month period beginning on his Reemployment Commencement Date), provided that an Employee who is not credited with at least 1,000 Hours of Service during such 12-month period shall be credited with a Year of Eligibility Service if he is credited with at least 1,000 Hours of Service during the Plan Year which includes the first anniversary of his Employment Commencement Date (or his Reemployment Commencement Date) or any Plan Year thereafter.

(26) Year of Vesting Service: See Section 1.1(23).

ARTICLE II. - ELIGIBILITY REQUIREMENTS FOR PARTICIPATION

2.1 Commencement of Participation. (1) A person who, on May 31, 2000, was a "Participant" under the Pre-2000 Restatement Plan or satisfied the eligibility requirements of the Pre-2000 Restatement Plan, and who is an Employee (or a Pensioner) on June 1, 2000, shall become, or shall continue to be, a Participant under this Schedule A on June 1, 2000.

(2) An Employee who is not a Participant pursuant to Section

2.1(1) shall become a Participant under this Schedule A on the date on or after June 1, 2000 on which he satisfies the following eligibility requirements: (A) he is a Covered Employee, (B) he has attained Age 21, and (C) he has been credited with a Year of Eligibility Service.

(3) If a person ceased to be a Participant under the Pre-2000 Restatement Plan prior to June 1, 2000, or ceases to be a Participant under this Schedule A on or after June 1, 2000, and he again becomes an Employee on or after June 1, 2000, he shall again become a Participant under this Schedule A as of the date he so again becomes an Employee whether or not he again becomes a Covered Employee.

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ARTICLE III. - PENSION AND DEATH BENEFITS

3.1 Pensions Prior to June 1, 2000. An Employee or former Employee shall not be eligible for a pension under the Plan as hereby restated as of June 1, 2000 unless, in addition to any other requirements set forth in the Plan, his Qualifying Employment Severance occurs on or after June 1, 2000. The pension payable to or for an Employee or former Employee whose Qualifying Employment Severance occurred before June 1, 2000 (and who is not rehired thereafter) shall be determined by and paid in accordance with the terms and provisions of the Pre-2000 Restatement Plan (including the Pre-1981 Restatement Plan) as in effect at the date of such Qualifying Employment Severance except to the extent certain provisions of the Plan as hereby restated as of June 1, 2000 apply to such pension in accordance with Section 10.1 (Employment Termination Prior to June 1, 2000). Notwithstanding the foregoing provisions of this Section

3.1, or any other provision of the Plan, or any prior provision of the Plan or any predecessor plan document, the last sentence of Exhibit A shall apply with respect to any benefit payable in a lump sum after May 31, 2000 or deemed to be payable after May 31, 2000 in a lump sum, without regard to when employment termination occurred.

3.2 Regular Pension. (1) The regular pension under this Schedule A shall be a monthly amount equal to the greatest of (A), (B) or (C) below, except that only (C) below shall apply to any Participant on May 31, 1981 who was not a Covered Employee on June 1, 1981 and did not become a Covered Employee after such date:

(A) 50% of the Participant's Final Average Monthly Pay reduced by 50% of his Primary Social Security Amount, which result shall then be multiplied by the ratio of (i) the Participant's Years of Benefit Service (but not more than 35 such Years) to (ii) 35;

(B) an amount equal to (i) \$9.00 multiplied by the Participant's Years of Benefit Service if his termination of employment with the Controlled Group shall have occurred on or after June 1, 1985 and prior to January 1, 1992, (ii) \$20.00 multiplied by the Participant's Years of Benefit Service if his termination of employment with the Controlled Group shall have occurred on or after January 1, 1992 and prior to January 1, 2001, and (iii) \$30.00 multiplied by the Participant's Years of Benefit Service if his termination of employment with the Controlled Group shall have occurred on or after January 1, 2001.

(C) the Participant's Anticipated Benefit.

However, in the case of each Pensioner or Beneficiary who shall be entitled to a benefit under any other Schedule or any other retirement plan of one or more Controlled Group Members, which benefit shall be based on years of service other than the Years of Benefit Service taken into account in computing the benefit hereunder, if such other years of service when added to such Years of Benefit Service exceed 35, then there shall be deducted from the regular pension determined under (A) above a fraction of a single life annuity equivalent of each such other benefit of which fraction the numerator

shall be the number of years by which the sum of such other years of service and such Years of Benefit Service exceed 35 and the denominator of which shall be the total of such other years of service. Notwithstanding the foregoing provisions of this Section 3.2(1), the pension to which a Former Wellman Employee (as defined in Section 1.1(23)(E)) or his Beneficiary shall be entitled to under the Plan shall be appropriately reduced (as determined by the Administrative Committee) by the amount of any pension to which he or his Beneficiary is entitled under the Egbert Corp. Retirement Plan for Salaried Employees and which is allocable to the period of the Benefit Service credited to him under Section 1.1(23)(E) resulting from his employment with The S.K. Wellman Corp.

(2) (A) For a person who is not employed as an Employee after April 30, 2001, the following shall apply:

(i) Notwithstanding the foregoing provisions of Section 3.2(1), the regular pension of a Participant who shall have had more than one period of employment with the Controlled Group shall be the sum of his Accrued Benefits. The term "Accrued Benefit" for purposes of this Section 3.2(2)(A) shall mean the monthly benefit in the form of a single life annuity which an Employee has earned under this Schedule A during a period of employment with the Controlled Group calculated as of the last day of such period and which is payable at age 65 in an amount computed under this Schedule A based upon his Earnings (if applicable) during such period (and only such Earnings), his Primary Social Security Benefit (if applicable) as of the end of such period, the Years of Benefit Service with which he was credited during such period and the benefit rate (if applicable) in effect at the end of such period. In any case where the benefit formula contains a limit on the Years of Benefit Service to be counted in computing a Participant's Accrued Benefit, (a) the total Years of Benefit Service credited to him shall not exceed such limit and (b) the periods of his employment which gave him the largest benefit based on his Years of Benefit Service shall be used in the computation of his Accrued Benefit.

(ii) Nothing in this Section 3.2(2)(A) shall be construed to reduce the benefits that any person shall have earned under the Pre-2000 Restatement Plan prior to June 1, 1981.

(B) For a person who is employed as an Employee after April 30, 2001, the following shall apply:

(i) Notwithstanding the foregoing provisions of Section 3.2(1), the regular pension of a Participant who shall have had more than one period of employment with the Controlled Group shall be recalculated on his latest Qualifying Employment Severance Date based on his Accrued Benefit for his entire period of employment. The term "Accrued Benefit" for purposes of this Section 3.2(2)(B) shall mean the monthly benefit in the form of a single life

annuity which an Employee has earned under this Schedule A during his employment with the Controlled Group calculated as of his latest Qualifying Employment Severance Date and which is payable at age 65 in an amount computed under this Schedule A based upon his Earnings (if applicable), his Primary Social Security Benefit (if applicable) as of such Qualifying Employment Severance Date, and the Years of Benefit Service with which he was credited and the benefit rate (if applicable) in effect at such Qualifying Employment Severance Date, but in no event less than the Employee's regular pension as of his immediately preceding Qualifying Employment Severance Date as if he had not been reemployed. In any case where the benefit formula contains a limit on the Years of Benefit Service to be counted in computing a Participant's Accrued Benefit, (a) the total Years of Benefit Service credited to him shall not exceed such limit and (b) the periods of his employment which gave him the largest benefit based on his Years of Benefit Service shall be used in the computation of his Accrued Benefit.

(ii) Nothing in this Section 3.2(2)(B) shall be construed to reduce the benefits that any person shall have earned under the Pre-2000 Restatement Plan prior to June 1, 1981. Further, nothing in this Section

3.2(2)(B) shall be construed to reduce the benefits that any person shall have earned under this Schedule A prior to May 30, 2001.

3.3 Normal Retirement Pension. (1) A Participant whose Employment Severance Date occurs on or after his Normal Retirement Date shall be entitled to a normal retirement pension. Such a Participant's rights to a normal retirement pension shall be nonforfeitable on and after he reaches Normal Retirement Date.

(2) The monthly amount of such normal retirement pension shall be equal to the regular pension specified in Section 3.2.

(3) The normal retirement pension shall commence as of the first day of the first Month following the Participant's Retirement and shall, except as otherwise provided in the Plan, continue during his remaining lifetime, the last monthly payment of such pension being payable as of the first day of the Month in which he dies.

3.4 Early Retirement Pension. (1) A Participant having at least 10 Years of Vesting Service (but less than 30 Years of Vesting Service) whose Employment Severance Date occurs on or after he attains Age 55 but before his Normal Retirement Date shall be eligible for an early retirement pension.

(2) The monthly amount of such early retirement pension shall be equal to the regular pension specified in Section 3.2.

(3) The early retirement pension shall commence as of the first day of the first Month following the Participant's Normal Retirement Date. The Participant may elect,

however, to have his early retirement pension commence, in a reduced amount, as of the first day of any earlier Month designated by him, which day is subsequent to his Retirement and to his filing with the Administrative Committee of his request for such earlier commencement. Such reduced pension shall be equal to the pension he would otherwise receive at his Normal Retirement Date but reduced by 5/9 of 1% for each Month up to 60 Months that such Participant's Pension Commencement Date precedes the first day of the Month following his Normal Retirement Date, and by 5/18 of 1% for each Month in excess of 60 Months that such Participant's Pension Commencement Date precedes the first day of the Month following his Normal Retirement Date. After the Participant's early retirement pension commences, it shall, except as otherwise provided in the Plan, continue during the remainder of his lifetime, the last monthly payment of such pension being payable as of the first day of the Month in which he dies.

3.5 Special Early Retirement Pension. (1) A Participant having at least 30 Years of Vesting Service whose Employment Severance Date occurs on or after he attains Age 55 but before his Normal Retirement Date shall be eligible for a special early retirement pension.

(2) The monthly amount of such special early retirement pension shall be equal to the regular pension specified in Section 3.2.

(3) The special early retirement pension shall commence as of the first day of the first Month following the Participant's attainment of Age 62, if his Spouse consents thereto in a writing filed with the Committee and if such consent is required by applicable law but in no event shall such pension begin later than his Normal Retirement Date. The Participant may elect, however, to have his special early retirement pension commence, in a reduced amount, as of the first day of any earlier Month designated by him, which day is subsequent to his Retirement and to his filing with the Administrative Committee of his request for such earlier commencement, if his Spouse consents thereto in a writing filed with the Committee. Such reduced pension shall be equal to the pension he would otherwise receive at Age 62 but reduced by 5/9 of 1% for each Month up to 24 Months that such Participant's Pension Commencement Date precedes the first day of the Month following his attainment of Age 62, and by 5/18 of 1% for each Month in excess of 24 Months that such Participant's Pension Commencement Date precedes the first day of the Month following his attainment of Age 62. After the Participant's special early retirement pension commences, it shall, except as otherwise provided in the Plan, continue during the remainder of his lifetime, the last monthly payment of such pension being payable as of the first day of the Month in which he dies.

(4) An Employee who was a Participant in The S.K. Wellman Corp. Retirement Plan for Wellman Salaried Employees ("Wellman Plan") as of May 31, 1981 shall be eligible for the special early retirement pension provided for in this Section, but computed under Section 3.2(1)(A) and commencing as of the first day of the Month after his Retirement (if his Spouse consents thereto in a writing filed with the Committee and if such consent is required by applicable law but in no event shall such pension begin later than his Normal Retirement Date) and without reduction because he has not then attained Age 62, if (a) his employment with the

Controlled Group shall be terminated by action of the Company because the job or position which he then held with the Company has been eliminated and, (b) on such Employment Severance Date he shall not have reached his Normal Retirement Date, and (c) on such Date he shall have at least 15 years of Vesting Service and his combined years of Age and Vesting Service (when computed to exact days) equal 75 or more. However, such special early retirement pension shall not be less than the benefit (payable at age 65) accrued for him under the Wellman Plan as of May 31, 1981, determined as if his Employment Severance had occurred on such date.

3.6 Deferred Vested Pension. (1) A Participant having at least five Years of Vesting Service and who is not eligible for a pension under any other Section of this Article III shall be eligible for a deferred vested pension.

(2) A Participant who, on May 31, 1981, was an Employee in a class of Employees then covered by the Pre-1981 Restatement Plan and whose Employment Severance Date occurs before he has 5 Years of Vesting Service shall be eligible for a deferred vested pension (based on his vesting percentage determined under the Pre-1981 Restatement Plan) if he would have been eligible for a deferred vested pension under the Pre-1981 Restatement Plan as in effect on May 31, 1981 if it were in effect at the time of his said Employment Severance Date.

(3) The monthly amount of such deferred vested pension shall be equal to the regular pension specified in Section 3.2; provided, however, that in the case of a Participant who, on May 31, 1981, was an Employee in a class of Employees then covered by the Brush Wellman Inc. Pension Plan for Exempt Salaried Employees and who becomes eligible for a deferred vested pension under subsection (2) of this Section, the monthly amount of such deferred vested pension shall be equal to \$9.00 multiplied by the Participant's Years of Benefit Service (whether consecutive or not) aggregated on the basis of full years and months to the nearest month; and provided further that in the case of a Participant who, on May 31, 1981, was an Employee in a class of Employees then covered by the Brush Wellman Inc. Pension Plan for Exempt Salaried Employees and whose Employment Severance Date occurs before he has 10 Years of Vesting Service and after he has 5 Years of Vesting Service and who would have been eligible for a deferred vested pension under the Pre-1981 Restatement Plan as in effect on May 31, 1981 if it were in effect at the time of his said Employment Severance Date, the monthly amount of such deferred vested pension shall be equal to the greater of: (a) the regular pension specified in Section 3.2 or (b) \$9.00 multiplied by the Participant's Years of Benefit Service (whether consecutive or not) aggregated on the basis of full years and months to the nearest month and further multiplied by his vesting percentage determined under the Pre-1981 Restatement Plan.

(4) The deferred vested pension shall commence as of the first day of the first Month following the Participant's Normal Retirement Date; provided, however, that if the Participant has 10 Years of Vesting Service, if he is entitled to a pension under Section 3.6(2), or if he is described in the last proviso of Section 3.6(3), he may elect to have his deferred vested pension commence in a reduced amount which is the Actuarial Equivalent of the pension which would be payable to him after his Normal Retirement Date, as of the first day of any earlier

Month designated by him, which day is subsequent to his Qualifying Employment Severance Date, his attainment of Age 55 and his filing with the Administrative Committee of his request for such commencement. After the Participant's deferred vested pension commences, it shall, except as otherwise provided in the Plan, continue during his remaining lifetime, the last monthly payment of such pension being payable as of the first day of the Month in which he dies.

3.7 Disability Benefits. (1) Anything in the Plan to the contrary notwithstanding, but subject to the other provisions of this Section, (A) a Participant who has been credited with 10 Years of Vesting Service and whose Employment Severance occurs by reason of bodily or mental injury or disease (as defined in any Long-Term Disability Benefit Contract applicable to him) before his Normal Retirement Date and who at the time of his Employment Severance was regularly scheduled to work for his Employer as a Covered Employee, shall be deemed, solely for the purposes of this Schedule A (including Section 3.8) to continue to be a Participant in the employment of the Employer as a Covered Employee and to be receiving compensation (with no change therein after becoming disabled) as a Participant and a Covered Employee until the earlier of (i) the day immediately preceding his Pension Commencement Date or (ii) the date on which his disability benefits (payable under such Long-Term Disability Benefit Contract) cease because of his recovery from his disability, his election to terminate such disability benefits, his death or otherwise, and (B) except as otherwise provided in subsection (2) of this Section, the occurrence of such event shall for all purposes of this Schedule A be treated as such Participant's Qualifying Employment Severance.

(2) If a Participant's disability benefits under any Long-Term Disability Benefit Contract cease for a reason other than his death, he may elect any normal retirement, early retirement or deferred vested pension for which he then qualifies under the provisions of this Schedule A then in effect; provided, however, that for the sole purpose of determining his Years of Vesting Service, his Employment Severance Date shall be determined pursuant to Section

1.1(11)(B)(i). In determining the amount of any such normal retirement, early retirement or deferred vested pension, no deductions or adjustments shall be made on account of any payments received by him under a Long-Term Disability Benefit Contract before such recovery.

(3) If on a Participant's Employment Severance Date, occurring before his Normal Retirement Date, he has been credited with 10 years of Vesting Service but is not a Covered Employee and is therefore not entitled to disability benefits under any Long Term Disability Benefit Contract and if he is entitled to disability benefits under any other Schedule, or under any other qualified defined benefit plan (herein called "Other Plan") established and maintained by a Controlled Group Member and if the requirements for determining whether he is disabled so as to be entitled to disability benefits under the other Schedule or Other Plan are comparable to those set forth herein, such Participant shall be eligible for a disability pension under this Schedule A equal to the regular pension specified in Section 3.2(1)(A), commencing on the first day of the month in which his disability benefits under the other Schedule or Other Plan commence. After the Participant's disability pension commences it shall, except as otherwise provided in the Plan, continue during the period his disability benefits are payable to him under the other Schedule or Other Plan. When such disability pension ceases, he shall be

entitled to such pension as he would otherwise have been entitled to hereunder if his Employment Severance had then occurred but based on his Years of Service and Final Average Monthly Pay at the time his Employment Severance had in fact occurred.

3.8 Pre-Retirement Surviving Spouse Pension. (1) If a Participant who (a) has at least one Hour of Service under the Plan on or after August 23, 1984 or one hour of paid leave from a Controlled Group Member on or after August 23, 1984 and (b), immediately before his death would have been eligible for a pension under the Plan if his employment with the Controlled Group had then terminated (other than by reason of his death) dies before his Pension Commencement Date, his surviving Spouse, if any, shall be eligible to receive a monthly pension determined in an amount under, and payable as provided in, subsection (2) of this Section 3.8; provided, however, that the pension described in this Section 3.8 shall not be payable under the circumstances described in Section 4.2(3).

(2) The monthly amount of the surviving Spouse pension under Section 3.8(1) shall be, subject to subsection (3) of this Section 3.8,

(a) in the case of a Participant who dies after attaining Age 55 and either (i) at a time when he is credited with at least ten years of Vesting Service or (ii) on or after his Normal Retirement Date, that amount which the surviving Spouse would have been entitled to receive pursuant to Section 4.1(1) if (A) such Participant had terminated employment with the Controlled Group and his Pension Commencement Date occurred on the day before his death (assuming the Plan so provided) and (B) he had not waived the 50% Qualified Joint and Survivor Annuity provided for in Section 4.1; such pension shall begin with the first day of the Month after the Month in which he is deemed to have begun receiving his pension, if his Spouse is living on such day, and shall continue during her remaining lifetime, the last monthly payment of such pension being payable on the first day of the Month in which she dies; and

(b) in the case of a Participant who dies on or before attaining Age 55 and at a time when he is credited with at least ten Years of Vesting Service, who dies when he would have been entitled to a pension under Section 3.6(2) if his Qualifying Employment Severance had occurred on the date of his death, or who is described in the last proviso of Section 3.6(3), that amount which the surviving Spouse would have been entitled to receive pursuant to Section 4.1(1) if such Participant had (i) terminated employment with the Controlled Group (other than by reason of his death) on the date of his death if he was an Employee on such date,

(ii) survived to the date of his 55th birthday, (iii) his Pension Commencement Date occurred on his 55th birthday (assuming the Plan so provided) and his pension was payable as a 50% Qualified Joint and Survivor Annuity, and (iv) dies on the day following such 55th birthday; such pension shall begin with the first day of the Month in which the Participant would have attained age 55, and shall continue during the Spouse's remaining lifetime,

the last monthly payment of such pension being payable on the first day of the Month in which she dies; and

(c) in the case of a Participant who dies before attaining his Normal Retirement Date and at a time when he is credited with at least five but less than 10 Years of Vesting Service and whose surviving Spouse is not eligible for a benefit under paragraph (b) of this subsection (2), that amount which the surviving Spouse would have been entitled to receive pursuant to Section 4.1(1) if such Participant had (i) terminated employment with the Controlled Group (other than by reason of his death) on the date of his death if he was an Employee on such date, (ii) survived to his Normal Retirement Date, (iii) his Pension Commencement Date occurred on his Normal Retirement Date (assuming the Plan so provided) and his pension was payable as a 50% Qualified Joint and Survivor Annuity, and (iv) died on the day following his Normal Retirement Date; such pension shall begin with the first day of the Month in which the Participant would have attained his Normal Retirement Date, and shall continue during the Spouse's remaining lifetime, the last monthly payment of such pension being payable on the first day of the Month in which she dies.

(3) Notwithstanding the foregoing provisions of this Section 3.8,

(a) in the case of a Participant who dies before his Normal Retirement Date, unless his surviving Spouse consents to the commencement of the pension otherwise payable to her as provided in paragraph (2) of this Section 3.8, by a written election filed with the Committee, such pension shall commence on the first day of the Month after the Participant would have reached his Normal Retirement Date had he not died or on the first day of any earlier Month after the death of the Participant and after he attained age 55 (or would have attained such age if he had not died) selected by the Spouse by a written election (in a form approved by the Committee) and filed with the Committee, and

(b) a surviving Spouse may elect to defer, in accordance with Committee rules which are not violative of any applicable law, the commencement of pension payments to her under this Section 3.8 until a date which is not later than the latest permissible commencement date applicable to her under Section 6.14.

(4) A Participant described in Section 4.2(3) may elect at any time during the "applicable election period" as defined below to waive the Pre-Retirement Surviving Spouse Pension that would otherwise be payable under Section 3.8 provided that:

(a) The Participant's Spouse consents in writing to the election to waive such form of payment;

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(b) The election designates a beneficiary, or a different form of payment, which may not be changed without the consent of the spouse (unless any written consent of the Spouse to the designation of a particular beneficiary or a different form of payment expressly permits subsequent designations by the Participant without any requirement of further consent by the Spouse);

(c) The written consent of the Spouse acknowledges the effect of such election and is witnessed by either a Plan representative or a notary public.

The foregoing requirements for a valid spousal consent need not be met if it is established to the satisfaction of the Plan representative that the required spousal consent cannot be obtained, because the Spouse cannot be located, because there is no Spouse, or because of such other circumstances as are described in the Internal Revenue Code and regulations promulgated thereunder. A Participant may revoke any election described in this Section 3.8(4) above at any time during the applicable election period. The "applicable election period" shall mean, with respect to any permitted election to waive the Pre-Retirement Surviving Spouse Pension, the period which begins on the first day on which the Participant can make the election described in Section 4.2(3) and ends on the last day of the period during which the Participant can make the election described in Section 4.2(3). The Committee shall provide each Participant within the "applicable election period" for such Participant and prior to the date on which the Participant makes an election described in Section 4.2(3), a written explanation of the Pre-Retirement Surviving Spouse Annuity in such terms and in such a manner as would be comparable to the explanation provided for meeting the requirements of Section 4.1 applicable to a 50% Qualified Joint and Survivor Annuity.

(5) If part of a Participant's pension has commenced, the pre-retirement surviving spouse pension described in this Section 3.8 shall not apply with respect to the part of the Participant's pension that commenced.

3.9 Post-Retirement Death Benefit. A death benefit in the amount of \$5,000 shall be paid from the Trust Fund to the Death Beneficiary of a normal retirement, early retirement or special early retirement Pensioner who dies on or after June 1, 2000 while he is still a Pensioner.

For purposes of this Section, a Pensioner's Death Beneficiary shall be determined in the manner provided in Section 1.1(8) of the Plan except that the written consent of a Pensioner's Spouse to any designation, revocation or change as described in said Section 1.1(8) shall not be required.

ARTICLE IV. - OPTIONAL FORMS OF BENEFITS

4.1 50% Qualified Joint and Survivor Annuity. (1) If a Participant has a Spouse on his Pension Commencement Date, the pension payable for such Participant under the Plan shall be in the form of a 50% Qualified Joint and Survivor Annuity (as such term is defined in subsection (2) of this Section) unless he effectively waives such 50% Qualified Joint and Survivor Annuity during the election period for this purpose specified in Section 4.4, in which case his pension shall be payable to him for his life only, or he effectively elects some other optional form of benefit provided in Section 4.2 or Section 4.3.

(2) For purposes of this Article IV, the term "50% Qualified Joint and Survivor Annuity" shall mean a reduced pension payable for a Participant during his lifetime and, after his death, a pension payable during the surviving lifetime of his Spouse to whom the Participant was married on his Pension Commencement Date at the rate of 50% of the reduced pension payable during the joint lives of the Participant and his Spouse. The reduced pension shall be the Actuarial Equivalent of the pension otherwise payable for the Participant. Pension payments for the Spouse shall commence on the first day of the Month following the Month in which the Participant dies, provided the Spouse is living on such day and is otherwise eligible to receive such payments under this Section, and shall continue during the Spouse's remaining lifetime, the last monthly payment being payable on the first day of the Month in which the Spouse dies. If a Participant's Spouse predeceases the Participant before the Participant's Pension Commencement Date, the Participant shall be treated as though he had elected to waive the 50% Qualified Joint and Survivor Annuity. If a Participant's Spouse dies on or after the Participant's Pension Commencement Date, the Participant's reduced pension will not be increased thereby.

4.2 Other Options. (1) Instead of the pension to which a Participant is or may become entitled pursuant to other Sections hereof, he may elect (subject to the provisions of this Section and of Section 4.4 and to such administrative rules as may be adopted by the Administrative Committee) any one, or, if paragraph (C) below in this Section is applicable the lump sum option with respect to the portion of the benefit that may be paid in a lump sum as provided in paragraph (C) below and with respect to the remainder of the benefit that may not be paid in a lump sum (if any), one other, of the optional forms of benefits specified in the following paragraphs. Any such optional form of benefit shall be the Actuarial Equivalent of the pension otherwise payable for the Participant. To the extent that ages are material to the determination of such Actuarial Equivalent, the latest ages which shall be used are the age of the Participant, and the age of his Joint Pensioner (if any), on the Participant's Normal Retirement Date; provided, however, that this sentence shall not apply with respect to a Participant who is credited with an Hour of Service on or after June 1, 1988, unless the application of this sentence would result in a larger amount of optional form of benefit based on the benefit accrual provisions of the Plan as in effect on May 31, 1988.

(A) Joint Pensioner Options: A Participant may elect to receive a reduced pension payable for him during his lifetime on and after his Pension Commencement Date and after his death to have a pension payable during the surviving lifetime of and for a natural person

designated by the Participant for such purpose (herein called "Joint Pensioner") at the same reduced rate payable to the Participant or (if elected by the Participant) at a percentage of the reduced pension payable for the Participant; provided, however, that such percentage shall be no less than 50 percent. Pension payments for the Joint Pensioner shall begin as of the first day of the Month after the Month in which the Participant dies, provided his death does not void this option as provided in Section 4.2(3), and provided the Joint Pensioner is living on such day, and the last monthly payment for the Joint Pensioner shall be payable as of the first day of the Month in which the Joint Pensioner dies. If a Participant's Joint Pensioner dies before the Participant's Pension Commencement Date, the election shall be of no effect and the Participant shall be treated the same as though he had not elected an option pursuant to this paragraph. If a Participant's Joint Pensioner dies on or after the Participant's Pension Commencement Date and while the Participant is living, the option elected shall continue in force and the Participant's reduced pension will not be increased thereby.

(B) Continuous and Certain Option: A Participant may elect to receive a reduced pension payable for him during his lifetime on and after his Pension Commencement Date with the provision that, in the event of his death prior to the payment for him of 120 monthly pension payments, monthly pension payments will be continued (at the same reduced rate) to his Death Beneficiary until the number of monthly pension payments made for his Death Beneficiary, when added to the number of monthly pension payments made for the Participant, equals 120.

(C) Lump Sum Option: A Participant may elect to receive a lump sum amount with respect only to the portion of the Participant's pension that accrued prior to July 1, 1992, which shall be payable on the date his pension would otherwise begin in the absence of the election of a lump sum option hereunder; provided, however, that if the amount that is the Actuarial Equivalent (as of the Participant's Pension Commencement Date) of the portion of the Participant's pension that accrued after June 30, 1992 (if any) does not exceed an amount equal to \$10,000 (as adjusted annually commencing with the Plan Year beginning June 1, 1986 by the percentage increase or decrease in the maximum annual benefit guaranteed by the Pension Benefit Guaranty Corporation), the Participant may elect to receive a lump sum amount with respect to his entire pension which shall be payable on the date his pension would otherwise begin in the absence of the election of a lump sum option hereunder. In determining the portion of the pension that accrued prior to July 1, 1992 of a Participant whose pension benefit that had accrued on June 30, 1992 was limited on June 30, 1992 by the provisions of Section 6.11 (Provision Pursuant to Internal Revenue Code Section 415(b)); the portion of the Participant's pension that accrued prior to July 1, 1992 shall be determined without taking into account any increase that becomes effective after June 30, 1992 in the maximum dollar limitation described in clause (a) of subsection (1) of Section 6.11. The portion of the pension that accrued prior to July 1, 1992 shall not be affected (increased or decreased) by any amendment to the Plan (including any amendment relating to the calculation of the pension of a Participant who is reemployed).

(2) An election of an option or options under this Section may be made (and may be rescinded), the Participant's Beneficiary and the portion of the Participant's reduced

pension to be paid after his death to his Joint Pensioner may be designated (and such designations may be changed), solely by an instrument (in a form acceptable to the Administrative Committee) signed by the Participant and, except as otherwise specifically provided in this Section, filed with the Administrative Committee while the Participant is living and before the date his pension is to commence. Except to the extent otherwise required by law and the other provisions of the Plan, the consent of any person other than the Participant to any rescission or change in an option or the terms thereof or to a change in the Participant's Joint Pensioner or Death Beneficiary shall not be required.

(3) The time for the commencement of payments to the Participant shall not be affected by the election of a joint pensioner option. If a Participant duly elects a joint pensioner or the continuous and certain option and dies both before his Pension Commencement Date and before his Normal Retirement Date, the election shall be void. Instead of any benefit that would otherwise be payable for a Participant pursuant to any other Section of this Schedule A, including Section 3.8: (A) with respect only to elections made prior June 1, 2002, if a Participant duly elects a joint pensioner or the continuous and certain option and has waived the Pre-Retirement Surviving Spouse Pension described in Section 3.8, and dies on or after his Normal Retirement Date and before his pension under this Schedule A begins, (even though his employment with the Controlled Group has not yet terminated), the election of such an option shall not be voided by his death and pension payments shall begin to his Beneficiary pursuant to the option elected in the same manner as if the Participant's pension hereunder were payable in the Month before the Month in which he died; and (B) if a Participant who is eligible for a normal retirement pension, an early retirement pension or a special early retirement pension (even though his employment with the Controlled Group has not yet terminated) and who has duly elected the lump sum option and has waived the Pre-Retirement Surviving Spouse Pension described in Section 3.8, dies before such lump sum amount has been paid, the election of such an option shall not be voided by his death and such lump sum amount shall be paid to his Beneficiary pursuant to the option elected in the same manner as if the Participant's pension hereunder were payable in the Month before the Month in which he died. Notwithstanding the preceding clause (B), the lump sum amount payable with respect to a Participant who dies while he is an Employee but who otherwise meets the requirements set forth in such Section shall not exceed 100 times the amount of the regular pension (determined under Section 3.2) that would otherwise be payable to him in a life only form if it commenced as of the first day of the first Month following the Participant's Retirement assuming the Participant remained an Employee until his Normal Retirement Date with Earnings equal to the greater of his Final Average Monthly Pay or to his Earnings in his last full calendar year of his employment with the Controlled Group ending with, or immediately prior to, the date of his death.

(4) Notwithstanding any other provision of this Section, a Participant's election of an option provided for in or permitted by this Section shall not become effective unless the present value of the payments expected to be made to him hereunder is more than 50% of the present value of the total of the payments expected to be made hereunder to him and his Beneficiaries (all as determined by the Administrative Committee), but this limitation shall not

apply to the joint pensioner option provided for in Section 4.2(1)(A) if the Participant's Spouse is the Participant's Joint Pensioner.

(5) The rules of the Administrative Committee with respect to optional forms of benefits may be changed by the Administrative Committee from time to time, but they shall be uniform in their application to all Participants who are similarly situated.

4.3 Small Lump Sum Option. If, following a Participant's termination of employment with the Controlled Group, the lump sum amount that is the Actuarial Equivalent of the Participant's vested accrued pension does not exceed \$10,000 (as adjusted annually commencing with the Plan Year beginning June 1, 1986 by the percentage increase or decrease in the maximum annual benefit guaranteed by the Pension Benefit Guaranty Corporation), such lump sum amount may, subject to applicable law and regulations, with the written consent of the Participant, and with the written consent of his Spouse, if any, meeting the requirements of Section 4.4 filed with the Committee, be paid to the Participant in lieu of all other benefits, except as provided in Section 3.9 if applicable, to the recipient before his pension benefit would otherwise commence under the Plan. To the extent required by regulations, the Participant will be provided with the option of receiving an immediate single life annuity if unmarried or an immediate 50% Qualified Joint and Survivor Annuity if married, which shall be computed by converting the lump sum value otherwise payable under this Section 4.3 to an immediate single life annuity for the Participant's life using the same actuarial assumptions as used to determine the lump sum, and if applicable, by converting such single life annuity to an immediate 50% Qualified Joint and Survivor Annuity using the basis set forth in the first paragraph of Exhibit A.

4.4 Participant Elections. (1) The Administrative Committee in accordance with applicable law and regulations shall deliver to each Participant, not less than 30 days and not more than 90 days before his Pension Commencement Date, a written explanation of:

- (a) the terms and conditions of the forms of payment available, including the 50% Qualified Joint and Survivor Annuity;
- (b) the Participant's right to make, and the effect of, an election to waive the 50% Qualified Joint and Survivor Annuity;
- (c) the rights of the Participant's Spouse; and
- (d) the right to make, and the effect of, a revocation of an election to waive the 50% Qualified Joint and Survivor Annuity.

(2) A Participant's election of a form of benefit payment, including a waiver of the 50% Qualified Joint and Survivor Annuity, and any revocation of such waiver, may be made solely by an instrument (in a form acceptable to the Administrative Committee) signed by the Participant and filed with the Committee during the 90-day period ending on his Pension Commencement Date. Any election to waive the 50% Qualified Joint and Survivor

Annuity (and to elect any other option under Section 4.2) must be consented to by the Participant's Spouse in writing, and such consent must be witnessed by a Plan representative or notary public. Any such consent shall not be required if the Participant establishes to the satisfaction of a Plan representative that such written consent may not be obtained because there is no Spouse or the Spouse cannot be located.

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ARTICLE V. - VARIOUS PROVISIONS CONCERNING PENSIONS

5.1 Application for Pensions. (1) A Participant eligible to receive a pension under the Plan if he were to terminate his employment with the Controlled Group and who wishes to terminate his said employment, and any Pensioner who is eligible for but is not receiving a pension, shall obtain a form of application for that purpose from his Employer or former Employer and shall sign and file with the Administrative Committee his application on such form, furnishing such information as the Administrative Committee may reasonably require, including satisfactory proof of his Age and that of his Beneficiary (if any) and any authority in writing that the Administrative Committee may request authorizing it to obtain pertinent information, certificates, transcripts and/or other records from any public office. An application for a deferred vested pension may not be filed more than 90 days before such pension is to begin.

(2) Except as otherwise provided in Article III or IV of this Schedule, (A) no pension shall be payable hereunder for a Participant if he dies before any benefit hereunder has been paid or distributed to him, and (B) a Pensioner's pension hereunder shall not begin until he files an application for such pension pursuant to Section 5.1(1), but if his application is filed pursuant to Section 5.1(1) after his Normal Retirement Date and before his death, full payment of his pension under the Plan, retroactive to his Normal Retirement Date, shall be made to or for him (without interest) within 60 days after such application is filed. If an application for a pension is not filed by a Pensioner eligible therefor within four years after his Normal Retirement Date, the Administrative Committee shall mail (by certified or registered mail) to such Pensioner at his last known address a reminder that he is eligible for such pension and an application therefor. If such application is not filed with the Committee in accordance with the provisions of the Plan within 180 days after it is so mailed to such Pensioner, his pension shall be forfeited; provided, however, that upon the subsequent filing of an application for such pension by such Pensioner, such pension shall be reinstated retroactive to his Normal Retirement Date (in accordance with the provisions of the first sentence of this subsection (2)) and shall commence within 60 days after such application is filed.

5.2 Payment of Pensions. (1) Except as otherwise provided in the Plan, any pension hereunder shall be paid monthly as of the first day of each Month for which a pension is payable, but no pension shall be payable for a Pensioner or Beneficiary unless he is living on the date his pension is to begin.

(2) If an Employee or former Employee is employed by a Controlled Group Member on or after he has attained his Normal Retirement Date, no pension payment under this Schedule A shall be made for him for any Month, the end of which occurs after he attains his Normal Retirement Date, if (i) he is so employed during such Month, (ii) he completes at least 40 Hours of Service (within the meaning of Section 1.1(13)(A) and (B)) during such month and (iii) he has been given such notice of suspension of benefits as may be required by applicable law. For a person who is employed as an Employee after April 30, 2001, notwithstanding the foregoing provisions of this Section 5.2(2), this Section 5.2(2) shall not apply upon reemployment of a Participant, provision for which is made in Section 5.5.

(3) A Participant whose Employment Severance Date has occurred at a time when the Participant has less than 5 Years of Vesting Service shall be deemed to have received a distribution of his entire Accrued Benefit under this Schedule A on his Employment Severance Date.

5.3 No Duplication of Benefits. There shall be no duplication of any benefits attributable to contributions of an Employer payable under this Schedule A with respect to any Participant and any pension or other benefit payable with respect to him under any other pension, annuity or welfare plan (or any similar plan), including, without limitation, any predecessor plan, maintained, or contributed to, by any Employer, any Controlled Group Member or any predecessor thereof, the amount of which is based in whole or in part on the same period of his employment with any Employer, any Controlled Group Member or any predecessor thereof; and any such benefits shall be deducted from benefits otherwise payable with respect to him under this Schedule A (as determined by the Administrative Committee) to prevent any such duplication except to the extent that benefits payable with respect to him under such other plan are appropriately reduced or deducted from benefits payable under any other plan of any other Employer or Controlled Group Member or predecessor thereof or are stated or clearly intended to be in addition to benefits under this Schedule A. No benefit shall be paid for any Participant under more than one Section of this Schedule A for the same period of time, based on the same period of employment. For purposes of this Section 5.3, each Schedule shall be deemed to be a "plan."

5.4 Transfers To and From Plan Coverage. (1) Upon the transfer of a Covered Employee to other employment with the Controlled Group (or upon an amendment to the Plan) which results in the Employee ceasing to be a Covered Employee, his Benefit Service shall be frozen as of the date of such transfer or such amendment. Subject to the provisions of Section 5.3, if at the time of his Employment Severance he satisfies the eligibility requirements for any pension under the terms of this Schedule A then in effect, such Employee (or his Beneficiary, if applicable) shall be entitled to receive such pension under this Schedule A, based upon his frozen Benefit Service under this Schedule A and calculated and payable in accordance with the provisions of this Schedule A in effect on the Participant's Qualifying Employment Severance Date.

(2) Upon the transfer of an Employee from other employment with the Controlled Group or upon an amendment to the Plan which results in the Employee becoming a Covered Employee, such Employee's period of employment (other than as a Covered Employee) prior to such transfer or amendment shall not, except as otherwise provided in Section 1.1(23)(E) or Section 1.1(23)(F), be counted as Benefit Service under this Schedule A.

5.5 Reemployment of Pensioners. (1) (A) For a person who is not employed as an Employee after April 30, 2001, the following shall apply:

Except as provided in Section 5.5(2), if a Pensioner is reemployed by a Controlled Group Member before his Normal Retirement Date, pension payments to him, if any, shall not be paid for any Month on the first day of which he is an Employee and during which he

completes 40 Hours of Service (within the meaning of Section 1.1(13)(A) and (B)), provided that no pension payment shall not be paid pursuant to this Section 5.5(1)(A) unless he has been given such notice of such suspension, if any, as may be required by applicable law, and upon his subsequent Qualifying Employment Severance he shall be entitled to a pension in accordance with Section 3.2(2) if he then meets the other requirements for a pension under the Plan.

(B) For a person who is employed as an Employee after April 30, 2001, the following shall apply:

(i) Except as provided in Section 5.5(2), if a Participant is reemployed by a Controlled Group Member, no pension payments under this Schedule A shall be made for him for any Month beginning with the Month during which the Participant is credited with a "Year of Reemployment Service" if (I) on the first day of the Month he is an Employee, (II) he completes at least 40 Hours of Service (within the meaning of Section 1.1(13)(A) and (B)) during such Month and (III) if his Normal Retirement Date has occurred, he has been given such notice of suspension of benefits, if any, as may be required by applicable law.

For purposes of this Section 5.5(1)(B)(i), a Participant shall be credited with a "Year of Reemployment Service" on any anniversary of his Reemployment Commencement Date if he is credited with 1000 Hours of Service during the 12-month period beginning on the immediately preceding anniversary date.

(ii) Without limitation of Section 5.5(1)(B)(i): Any additional amount of pension earned by a Participant who is reemployed by a Controlled Group Member after the Participant's reemployment shall be paid only after the Participant's subsequent termination of employment from the Controlled Group, except that if the Participant's Normal Retirement Date has occurred any such additional amount of pension shall, subject to all other requirements of the Plan applicable to the commencement, duration and form of pension payments, be payable for any Month, the end of which occurs after he attains his Normal Retirement Date, unless (i) he is so employed during such Month, (ii) he completes at least 40 Hours of Service (within the meaning of Section 1.1(13)(A) and (B)) during such Month and (iii) he has been given such notice of suspension of benefits, if any, as may be required by applicable law. Upon the subsequent Qualifying Employment Severance of a reemployed Participant, (a) he shall be entitled to a pension in accordance with Section 3.2(2) if he then meets the other requirements for a pension under this Schedule A, and (b) if a Participant whose pension payments have not been paid in accordance with the provisions of Section 5.5(1)(B)(i) becomes entitled to have his pension resume, the pension previously commenced and then ceased shall resume in the same amount and form in effect prior to the cessation, and (I) if the prior pension commencement occurred prior to

the Participant's Normal Retirement Date, any additional amount of pension payments earned by the Participant during the period of reemployment shall be governed by the generally applicable provisions of the Plan as if the Participant had then first terminated employment, and (II) if the prior pension commenced after the Participant's Normal Retirement Date, any additional amount of pension payments earned by the Participant during the period of reemployment shall be paid in the same form as the payments that were previously commenced.

(2) (A) For a person who is not employed as an Employee after April 30, 2001, the following shall apply:

Anything in the Plan to the contrary notwithstanding: If a Participant who is reemployed by a Controlled Group Member has received or is deemed to have received a lump sum payment of his accrued benefit for any period of his employment with the Controlled Group prior to such reemployment, his Years of Benefit Service credited to him during such period of employment shall be disregarded for the purpose of computing the amount of any pension to which he may thereafter be entitled on account of his period of employment with the Controlled Group occurring after such reemployment; provided, however, that if any portion of a Participant's accrued benefit was forfeitable at the time he received such lump sum payment, his said Years of Benefit Service shall be recredited to him if he is reemployed as a Covered Employee and if he repays to the Trust Fund, not later than the occurrence of 5 consecutive "1-year Periods of Severance" (as hereinafter defined) commencing after such payment, the full amount of such lump sum payment with interest thereon at the rate of 5% per annum, compounded annually, from the date he received such lump sum payment to the date of such repayment. If the accrued benefit of a Participant who is reemployed by a Controlled Group Member was deemed distributed as of his Employment Severance Date pursuant to Section 10.2(3) (Coverage and Participation), his Years of Benefit Service credited to him during such period of employment shall be disregarded for the purpose of computing the amount of any pension to which he may thereafter be entitled on account of his period of employment with the Controlled Group occurring after such reemployment; provided, however, that if such Participant is reemployed as a Covered Employee not later than the occurrence of 5 consecutive 1-Year Periods of Severance after his Employment Severance Date, such Participant shall be deemed to have repaid the full amount of his deemed distribution and his Years of Benefit Service shall be recredited to him hereunder. A "1-Year Period of Severance" shall mean a 12-month period beginning on an Employee's Employment Severance Date and ending on the first anniversary of such date provided that during such period such Employee does not perform an Hour of Service. Thereafter, consecutive 1-year Periods of Severance shall begin and end on anniversaries of the Employee's Employment Severance Date. If an Employee's Employment Severance Date occurs on or after June 1, 1985 --

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(a) by reason of pregnancy of the Employee,

(b) by reason of the birth of a child of the Employee;

(c) by reason of the placement of a child with the Employee in connection with the adoption of such child by the Employee, or

(d) for purposes of caring of any such child for a period beginning immediately following such birth or placement, "6 consecutive 1-Year Periods of Severance" shall be substituted for "5 consecutive 1-Year Periods of Severance" in the foregoing provisions of this Section 5.5(2).

(B) For a person who is employed as an Employee after April 30, 2001, the following shall apply:

If a Participant who is reemployed by a Controlled Group Member has received or is deemed to have received a lump sum payment of his accrued benefit for any period of his employment with the Controlled Group prior to such reemployment, his Years of Benefit Service credited to him during such period of employment shall be recredited and considered in determining his regular pension in accordance with Section 3.2(2); provided, however, that if any portion of a Participant's accrued benefit was forfeitable at the time he received such lump sum payment, his said Years of Benefit Service shall be recredited to him only if he is reemployed as a Covered Employee and if he repays to the Trust Fund, not later than the occurrence of 5 consecutive "1-year Periods of Severance" (as hereinafter defined) commencing after such payment, the full amount of such lump sum payment with interest thereon at the rate of 5% per annum, compounded annually, from the date he received such lump sum payment to the date of such repayment. If the accrued benefit of a Participant who is reemployed by a Controlled Group Member was deemed distributed as of his Employment Severance Date pursuant to Section 10.2(3) (Coverage and Participation), his Years of Benefit Service credited to him during such period of employment shall be disregarded for the purpose of computing the amount of any pension to which he may thereafter be entitled on account of his period of employment with the Controlled Group occurring after such reemployment; provided, however, that if such Participant is reemployed as a Covered Employee not later than the occurrence of 5 consecutive 1-Year Periods of Severance after his Employment Severance Date, such Participant shall be deemed to have repaid the full amount of his deemed distribution and his Years of Benefit Service shall be recredited to him hereunder. A "1-Year Period of Severance" shall mean a 12-month period beginning on an Employee's Employment Severance Date and ending on the first anniversary of such date provided that during such period such Employee does not perform an Hour of Service. Thereafter, consecutive 1-year Periods of Severance shall begin and end on anniversaries of the Employee's Employment Severance Date. If an Employee's Employment Severance Date occurs on or after June 1, 1985 --

(a) by reason of pregnancy of the Employee,

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(b) by reason of the birth of a child of the Employee,

(c) by reason of the placement of a child with the Employee in connection with the adoption of such child by the Employee, or

(d) for purposes of caring for any such child for a period beginning immediately following such birth or placement, "6 consecutive 1-Year Periods of Severance" shall be substituted for "5 consecutive 1-Year Periods of Severance" in the foregoing provisions of this Section 5.5(2).

Anything in the Plan to the contrary notwithstanding, if a Participant who is reemployed has received a lump sum payment of his accrued benefit for any period of employment and receives, without repayment of the lump sum payment, Years of Benefit Service upon reemployment for the period of employment for which he received the lump sum payment, the regular pension of the Participant shall be reduced (dollar for dollar) by the monthly amount of the accrued benefit with respect to which the lump sum payment was made.

5.6 Employee Contributions. (1) General: No employee contributions shall be made to the Trust by any Participant. Employee contributions (if any) made by Participants under the provisions of the Pre-2000 Restatement Plan shall, subject to the other provisions hereof, be held and administered in trust pursuant to the terms of the Plan and the Trust Agreement.

(2) Increased Pensions: The pension provided for under Sections 3.3, 3.4, 3.5 or 3.6 for each Participant whose Qualifying Employment Severance Date occurs, subject to meeting the requirements of such Sections and the other applicable provisions of the Plan, shall be increased by the amount of pension which could be purchased for him (as determined by the Actuary on the basis required by the Internal Revenue Code and the regulations thereunder) from the Participant's contributions (which have not been returned to him) with Credited Interest thereon to the end of the Month preceding the Month in which his pension is to commence. For purposes of this Section, the term "Credited Interest" shall mean interest on a Participant's contributions at the rate of 3% per annum for periods before June 1, 1974 and for periods thereafter, the greater of 5% per annum compounded annually, or such rate as is required by applicable provisions of the Internal Revenue Code, and calculated from the first day following the Plan Year with respect to which such contributions were made.

(3) Withdrawal of Contributions: Subject to the qualified joint and survivor annuity requirements of Sections 401(a)(11) and 417 of the Internal Revenue Code, a Participant may elect, by written request filed with the Administrative Committee or its delegate, at any time after his Employment Severance Date and before his Pension Commencement Date, to withdraw his employee contributions, with Credited Interest to the end of the Month preceding the issuance by the Trustee of a check therefor, and (in such event) he shall thereafter be treated the same as if he had never made employee contributions to the Plan. Subject to the qualified

joint and survivor annuity requirements of Sections 401(a)(11) and 417 of the Internal Revenue Code, payment of the amount withdrawn pursuant to this subsection (3) by a Participant shall be made in one lump sum.

(4) Return of Employee Contributions: Subject to the qualified joint and survivor annuity and qualified preretirement survivor annuity requirements of Sections 401(a)(11) and 417 of the Internal Revenue Code, if a Participant's Employment Severance occurs and he is not eligible for a pension under Sections 3.3, 3.4, 3.5 or 3.6, or if a Participant dies before his Pension Commencement Date, then the amount of his contributions, with Credited Interest to the end of the Month preceding the issuance by the Trustee of a check for the payment thereof, shall be paid in one lump sum to him (or to his Beneficiary in case of his death), and he (and his Beneficiary) shall thereafter be treated the same as if he had never made employee contributions to the Pre-2000 Restatement Plan. If a Pensioner dies on or after the date his pension commences and no joint pensioner option (which term for the purpose of this sentence shall include the 50% Qualified Joint and Survivor Annuity provided in Section 4.1) under this Schedule is in effect with respect to him or if a Pensioner with respect to whom such an option is in effect dies on or after the date his pension commences and his joint pensioner (which term for the purpose of this sentence shall include his Spouse under Section 4.1) also dies, his Death Beneficiary shall be paid in one lump sum an amount equal to the excess (if any) of (A) the employee contributions of such Pensioner plus Credited Interest to the date the Pensioner's pension commenced, over (2) the total of the increased payments made with respect to such Pensioner and his Joint Pensioner, if any, pursuant to subsection (2) of this Section. After such payments have been made, the deceased Participant and his Beneficiaries shall have no further interest in the Plan or Trust Fund.

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**EXHIBIT A
TO
SCHEDULE A**

OF

BRUSH ENGINEERED MATERIALS INC. PENSION PLAN
(June 1, 2000 Restatement)

For other than a benefit payable in a lump sum or deemed to be payable in a lump sum: a benefit of equivalent actuarial value to the monthly benefit payable in the single life only form commencing as of the same time as the benefit for which equivalent actuarial value is being determined, when computed on the basis of the actuarial factors and assumptions based upon the Projected Annuity Mortality Table (a table prepared by The Wyatt Company from the unadjusted mortality rates used in constructing the published GA-1951 Mortality Table for males projected 14 years by Scale C and set back five years for females) at 5 1/2% interest adjusted to a unisex basis for a participant population deemed to be 80% male and 20% female; provided, however, that with respect only to benefits commencing after January 1, 1999, equivalent actuarial value for purposes of the joint and survivor reductions provided for in Section 4.1, item (A) of Section 4.2(1), and Section 4.3 shall be computed on the basis of the 1983 Group Annuity Mortality Table at 7% interest adjusted to a unisex basis for an 80% male and 20% female participant population and a complimentary 20% male and 80% female contingent annuitant population, and provided that the application of this proviso shall not result in a benefit payable that is less than the amount payable without regard to this proviso with respect to the benefit accrued prior to January 1, 1999.

For a benefit payable in a lump sum or deemed to be payable in a lump sum: a benefit of equivalent actuarial value to (1) the monthly benefit payable in the single life only form commencing as of the first day of the calendar month following the Participant's Normal Retirement Date (or if the first day of the month following the Participant's Normal Retirement Date has already occurred, the first day of the calendar month on which the pension would commence as a monthly benefit in the absence of the lump sum payment), or (2) if the Participant has attained the age and met the service requirements for immediate commencement of a monthly benefit, other than a monthly benefit payable because of the provisions of Section 4.3, to the monthly benefit payable in the single life only form commencing as of the same time as the benefit for which equivalent actuarial value is being determined, if the application of this clause (2) produces a larger lump sum payment than the application of clause

(1); in either case, when computed on the basis of the "applicable mortality table" and "applicable interest rate" where the "applicable mortality table" for this purpose means the table prescribed from time to time by the Secretary of Treasury pursuant to Section 417(e)(3) of the Internal Revenue Code as in effect on the date of distribution and the "applicable interest rate" for this purpose means the annual rate of interest for purposes of Section 417(e)(3) of the Internal Revenue Code using the Plan Year as the stability period and the second calendar month

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preceding the first day of the Plan Year as the lookback month in accordance with Treasury Regulation Section 1.417(e) - 1(d)(4).

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SCHEDULE AI

COVERED PLANTS, LOCATIONS, OPERATING UNITS AND CLASSIFICATIONS OF EMPLOYEES

This Schedule AI lists all covered plants, locations, operating units, and classifications of employees (to which coverage under this Schedule has been extended), and the later of the effective date of this Schedule AI or the effective date of coverage.

Plant, Location, Operating Unit, or Classification of Employees -----	Later of the Effective Date of this Schedule AI or the Date of Coverage -----
All Brush Wellman Inc. plants and locations in Cleveland, Ohio	November 1, 1996
All BEM Services, Inc. locations	January 1, 2001
All Brush International, Inc. plants and locations in Cleveland, Ohio	January 1, 2001
All Brush Wellman Inc. plants and locations in Tucson, Arizona	November 1, 1996
All Brush Ceramic Products Inc. plants and locations in Tucson, Arizona	January 1, 2001
All Zentrix Technologies Inc. plants and locations in Tucson, Arizona	January 1, 2001
All Brush Wellman Inc. plants and locations in Delta, Utah	November 1, 1996
All Brush Resources Inc. plants and locations in Delta, Utah	January 1, 2001
All Brush Wellman Inc. mining facilities in Juab County, Utah	November 1, 1996
All Brush Resources Inc. mining facilities in Juab County, Utah	January 1, 2001
All Brush Wellman Inc. plants and locations in Elmore, Ohio	November 1, 1996

Plant, Location, Operating Unit, or Classification of Employees	Later of the Effective Date of this Schedule AI or the Date of Coverage
All Brush Wellman Inc. plants and locations in Shoemakersville, Pennsylvania	November 1, 1996
All Brush Wellman Inc. plants and locations in Fremont, California	November 1, 1996
All Brush Wellman Inc. warehouses in Fairfield, New Jersey	November 1, 1996
All Brush Wellman Inc. warehouses in Warren, Michigan	November 1, 1996
All Brush Wellman Inc. warehouses in Elmhurst, Illinois	November 1, 1996
All Brush Wellman Inc. warehouses in Torrance, California	November 1, 1996
All Brush Wellman Inc. plants and locations in Newburyport, Massachusetts	November 1, 1996
All Zentrix Technologies Inc. plants and locations in Newburyport, Massachusetts	January 1, 2001
The Brush Wellman Inc. facility located at 7375 Industrial Parkway, Lorain, Ohio	January 1, 2002
All field sales employees of Brush Wellman Inc. assigned to any of the foregoing plants, locations, or warehouses	November 1, 1996
All field sales employees assigned to any of the foregoing plants, locations, or warehouses	January 1, 2001
All field sales employees assigned to any of the foregoing plants, locations, warehouses, or facility.	January 1, 2002

SCHEDULE B

HOURLY EMPLOYEES OF BEM SERVICES, INC., BRUSH CERAMIC PRODUCTS INC., BRUSH RESOURCES INC., BRUSH WELLMAN INC., METALS ENGINEERING COMPANY, AND ZENTRIX TECHNOLOGIES INC.

ARTICLE I. - SPECIAL DEFINITIONS

1.1 Definitions. The following terms when used in this Schedule B with initial capital letters shall have the following respective meanings unless the context clearly indicates otherwise:

(1) Accrued Benefit: See Section 4.1(c).

(2) Actuarial Equivalent: A benefit of equivalent actuarial value when computed on the basis of the actuarial factors, assumptions and procedures set forth on Exhibit A to this Schedule B.

(3) Beneficiary: A Participant's Spouse, his Joint Pensioner or any other person (other than such Participant) who is or becomes entitled under the Plan, or under an option or options permitted by the terms of the Plan, to receive any part or all of a pension or other benefit payable with respect to such Participant.

(4) Break in Service and 1-Year Break in Service:

(A) In General. An Employee or former Employee incurs a Break in Service if he has either a 1-Year Break in Service or two or more consecutive 1-Year Breaks in Service. The term "1-Year Break in Service" means a Plan Year in which such a person does not complete more than 500 Hours of Service; provided, however, an Employee shall not be deemed to have incurred a Break in Service unless he incurs a termination of employment with the Controlled Group in respect of such Break in Service. Notwithstanding the foregoing, (i) any period during which an Employee is on authorized medical leave from the employment of the Controlled Group, (ii) any period during which an Employee is paid, or entitled to payment (other than in the form of workers' compensation, unemployment compensation or state disability benefits), by one or more Controlled Group Members for reasons (such as holidays, illness or disability) other than for the performance of duties, (iii) any period during which an Employee is laid-off or terminated because of a reduction in force and is reinstated without loss of seniority or (iv) any period in respect of which an Employee receives credit for a Year of Benefit Service or a portion thereof pursuant to the provisions of Section 1.1(20), shall not be considered to be a period during which such Employee has incurred or is incurring a Break in Service.

(B) Benefit Service. If an Employee ceases to be an Employee and later becomes a Covered Employee during or after a Break in Service, and if immediately before he returns to employment with the Controlled Group, he does not have any nonforfeitable right to a benefit under the Plan based on his prior employment with the Controlled Group, none of his

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employment before such Break in Service shall be counted towards Years of Benefit Service unless (i) he completes 13 weeks on the active payroll of an Employer or 1,000 Hours of Service, whichever occurs first, after such Break in Service, and (ii) the number of consecutive 1-Year Breaks in Service during such Break in Service do not equal or exceed the greater of (a) 5 or (b) the aggregate number of his Years of Vesting Service before such Break in Service, and such aggregate number of Years of Vesting Service before such Break in Service shall not include any Years of Vesting Service not counted under clause (ii) of Section 1.1(4)(C) by reason of any prior Break in Service.

(C) Vesting Service. If an Employee ceases to be an Employee and later becomes an Employee during or after a Break in Service, and if, immediately before he returns to employment with the Controlled Group, he does not have any nonforfeitable right to a benefit under the Plan based on his prior employment with the Controlled Group, none of his employment before such Break in Service shall be counted towards Years of Vesting Service unless (i) he completes 13 weeks on the active payroll of a Controlled Group Member or 1,000 Hours of Service, whichever occurs first, after such Break in Service and (ii) the number of consecutive 1-Year Breaks in Service during such Break in Service do not equal or exceed the greater of (a) 5 or (b) the aggregate number of his Years of Vesting Service before such Break in Service, and such aggregate number of Years of Vesting Service before such Break in Service shall not include any Years of Service not counted under this clause (ii) by reason of any prior Break in Service.

(5) Covered Employee: An Employee of an Employer who receives his regular compensation on an hourly basis and who is employed at a covered plant, location, or operating unit listed on Schedule BI or who is a member of a covered classification of employees listed on Schedule BI, but excluding (a) any Employee within a collective bargaining unit covered by a collective bargaining agreement with any Employer pursuant to which the Employer is required to make contributions to another pension, retirement profit sharing, annuity or similar retirement plan or arrangement for Employees in such unit unless the collective bargaining representative for Employees in such unit and such Employer agree that this exclusion shall not apply to Employees in such unit, all as determined by the Company, (b) any Employee of the Newburyport, Massachusetts Ceramics Division of Brush Wellman Inc. during any period of time any such Employee was employed by such Massachusetts Ceramics Division prior to July 1, 1981, or who was not an Employee after May 22, 1989, (c) any leased employee as such term is defined in Section 6.20 (Provision Pursuant to Internal Revenue Code Section 414(n)), and (d) any person who is not treated by the Employer as an employee for purposes of Section 3401 of the Internal Revenue Code (without regard to any determination other than by the Employer that such person is or is not an employee for purposes of Section 3401 of the Internal Revenue Code and without regard to any retroactive treatment by the Employer of such person as an employee for purposes of Section 3401 of the Internal Revenue Code). Wherever the term "Non-Exempt Employee" is used in the Plan, on or after June 1, 1981, such term shall be deemed to refer to the term "Covered Employee" as herein defined. For purposes of this paragraph (5), any person who is an Employee, who is performing services outside of the United States of America as an Employee of an Employer, and who immediately prior to beginning to perform such services outside of the United States of America was a Covered Employee under this paragraph (5) (determined without regard to this sentence) shall be deemed to be a Covered

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Employee employed at the covered plant, location, or operating unit or in the covered classification at which or in which such Covered Employee was employed immediately prior to beginning to perform such services outside of the United States of America until the earliest of the date on which the person is transferred to a plant, location, or operating unit or employment classification listed on Schedule BI, the date on which the person is transferred to a plant, location, or operating unit located within the United States of America that is not listed on Schedule BI, the date on which the person no longer receives his regular compensation on an hourly basis, the date on which the person is no longer an Employee of an Employer, or the date on which the person has a status that would exclude the person from the definition of Covered Employee under clauses (a), (b), (c), or (d) of the first sentence of this paragraph (5).

(6) Deferred Vested Pension: A pension payable pursuant to Sections 3.4 and 4.4.

(7) Delta Mill Employee: An Employee, other than a leased employee as such term is defined in Section 6.20 (Provision Pursuant to Internal Revenue Code Section 414(n)), at the Company's Delta Mill Division who is, and for so long as he is, or who terminates his employment with the Company or Retires as (as the context may require), a member of the then effective bargaining unit established under the collective bargaining agreement, between the Company and the Oil, Chemical and Atomic Workers Union, Local 2-904. For purposes of this Section 1.1(7) only, the following shall apply: "Company's Delta Mill Division" means a "Delta Mill Division" of Brush Wellman Inc. or Brush Resources Inc.; and "Company" means Brush Wellman Inc., Brush Resources Inc. or both.

(8) Disability Pension: A pension payable pursuant to Sections 3.5 and 4.5.

(9) Early Retirement Pension: A pension payable pursuant to Sections 3.3 and 4.3.

(10) Employer: As of June 1, 1985, the only "Employer" was the Company. On and after January 1, 1989, the term "Employer" shall also include Metals Engineering Company, and with respect only to periods after December 31, 1988, Employees of Metals Engineering Company shall be Covered Employees under the Plan (provided such an Employee otherwise meets the requirements to be a Covered Employee described in Section 1.1(5). As of January 1, 2001, Employer shall mean the following business organizations: BEM Services, Inc., Brush Ceramic Products Inc., Brush Resources Inc., Brush Wellman Inc., Metals Engineering Company, and Zentrix Technologies Inc.

(11) Hour of Service: (A) An Employee shall be credited with one Hour of Service for each hour (i) for which he is directly or indirectly paid, or entitled to payment, by one or more of the Controlled Group Members for the performance of duties as an Employee, (ii) for which back pay, irrespective of mitigation of damages, is either awarded or agreed to by one or more Controlled Group Members (which back pay shall be credited to the Employee in the Controlled Group Member's fiscal year as to which such award or agreement pertains), provided that the crediting of Hours of Service as to such back pay with respect to periods described in clause (iii) of this Section 1.1(11)(A) or in Section 1.1(11)(B) shall be subject to the

respective provisions and limitations set forth therein, or (iii) for which he is paid, or entitled to payment, by a Controlled Group Member on account of a period of time during which no duties are performed (irrespective of whether the employment relationship was terminated) due to vacation, holiday, illness, incapacity (including disability), layoff, jury duty, military duty or leave of absence but, except as may otherwise be provided herein, no more than 501 Hours of Service shall be credited under this clause (iii) to an Employee on account of any single continuous period during which an Employee performs no duties; provided, however, that an Hour of Service shall not be credited under two or more of clauses (i), (ii) and (iii) of this Section 1.1(11)(A). Payments made to an Employee or former Employee under a plan maintained solely for the purpose of complying with applicable unemployment compensation laws or which solely reimburse an Employee or former Employee for medical or medically related expenses incurred by such person shall be disregarded for purposes of crediting Hours of Service.

(B) With respect to each Employee whose compensation is not determined on the basis of certain amounts for each hour worked during a given period and for whom hours of work are not required to be counted and recorded by any federal law (other than ERISA), Hours of Service shall be credited on the basis of 48 Hours of Service per week, or 10 Hours of Service per day if he is paid on a daily basis, for each week or day (as the case may be) for which he receives compensation from any Controlled Group Member. If any applicable law or regulations requires any other hours to be counted as Hours of Service for any purpose under the Plan, such hours shall be credited for such purpose. No hour shall be counted more than once or be counted as more than one Hour of Service even though more than straight-time pay may be paid for it. No period of employment after the termination of the Plan pursuant to Article XIII shall be counted toward Hours of Service.

(C) If an Employee is absent from work for any period --

(i) by reason of the pregnancy of the Employee,

(ii) by reason of the birth of a child of the Employee,

(iii) by reason of the placement of a child with the Employee in connection with the adoption of such child by the Employee, or

(iv) for purposes of caring for any such child for a period beginning immediately following such birth or placement, such Employee shall receive credit for Hours of Service (solely for the purpose of determining whether or not he has incurred a 1-Year Break in Service for purposes of participation in the Plan and determining his vested interest) equal to:

(a) the number of Hours of Service which otherwise would normally have been credited to him but for such absence, or

(b) if the number of Hours of Service under clause (a) is not determinable, 8 Hours of Service per day of such absence,

except that no more than 501 Hours of Service shall be credited under this paragraph (C) by reason of any such pregnancy, birth or placement. The hours described in clauses (a) and (b) of this paragraph (C) shall be credited as Hours of Service --

(I) only in the Plan Year in which the absence from work begins, if the Participant would be prevented from incurring a 1-Year Break in Service during such Plan Year solely because of the crediting of Hours of Service as provided in this paragraph (C), or

(II) in any other case, in the immediately following Plan Year.

No credit will be given pursuant to this paragraph (C) unless the Employee furnishes to the Committee such timely information as the Plan may reasonably require to establish that the absence is for the reasons referred to in subparagraphs (i), (ii), (iii) and (iv) of this paragraph (C) and the number of days for which there was such an absence.

(D) Hours of Service shall be credited to eligibility computation periods and Plan Years in accordance with the provisions of 29 C.F.R. Section 2530.200b-2(c).

(12) Normal Retirement Date: The later of the date on which a person attains age 65 or the fifth anniversary of the date he first commenced participation in the Plan.

(13) [Reserved]

(14) Pension Commencement Date: The date as of which a Participant's or Beneficiary's pension under the Plan commences or is to commence under the applicable terms of the Plan, irrespective of whether it has in fact commenced.

(15) Pensioner: A former Employee whose employment with the Controlled Group shall have terminated under such conditions that he is eligible for a pension under this Schedule B, even though such pension may not have commenced or will not commence until after the proper filing of an application and the arrival of the time at which such pension becomes payable.

(16) Pre-Retirement Death Surviving Spouse Pension: A pension payable pursuant to Sections 3.6 and 4.6.

(17) Qualifying Termination: (A) The Retirement of a Participant, (B) the termination of a Participant's employment with the Controlled Group that makes him eligible for a Deferred Vested Pension, (C) the commencement of a period of lay-off or authorized leave of absence of a Participant who if his employment with the Controlled Group were terminated would be eligible for a Deferred Vested Pension, if he does not thereafter return to active employment with the Controlled Group, or (D) the death of a Participant if as a result of his death a benefit is payable hereunder for a Beneficiary of his.

(18) Retirement: The termination of a Participant's employment with the Controlled Group which makes him eligible for a Normal Retirement, Early Retirement or Special Early Retirement Pension or a Disability Pension under this Schedule B. The term "Retire" when referring to a Participant refers to the fact that his employment with the Controlled Group is being or has been terminated under conditions that constitute Retirement.

(19) Service and Years of Service:

Year of Benefit Service: Years of Benefit Service shall be determined as follows:

(A) (Plan Years beginning on or after June 1, 1985) An Employee who is regularly scheduled to work at least 40 hours per week shall be credited with 1/12th of a Year of Benefit Service for each Month he completes in active employment as a Covered Employee. An Employee who does not meet the requirements of the preceding sentence shall be credited with 1/12th of a Year of Benefit Service for each 160 Hours of Service he completes as a Covered Employee and in case the number of Hours of Service credited to an Employee with respect to a Plan Year is not a whole number multiple of 160, he shall be credited with 1/12ths of a Year of Benefit Service to the nearest whole number multiple of 160. In addition, (i) an Employee who has a nonforfeitable right to a benefit under this Schedule B prior to an authorized medical leave of absence from the employment of the Controlled Group, and who becomes eligible for a Disability Pension under this Schedule B, shall be credited with 1/12th of a Year of Benefit Service for each Month during such medical leave of absence for a maximum of six Months or until the date of the determination of his eligibility for Social Security Disability Benefits, whichever occurs first, provided he was a Covered Employee on the day before the first day of his leave of absence, and (ii) an Employee who has a nonforfeitable right to a benefit under the Pre-2000 Restatement Plan or this Schedule B prior to an authorized medical leave of absence from the employment of the Controlled Group or prior to being laid-off or terminated by a Controlled Group Member because of a reduction in work force, shall be credited with 1/12th of a Year of Benefit Service for each of the first 24 consecutive Months (to the nearest Month) he is on authorized medical leave of absence (and not receiving a Disability Pension) or lay-off or after such termination of his employment, provided he was a Covered Employee on the day before he began his medical leave of absence or was laid-off or terminated and further provided:

(AA) he returns from such medical leave of absence, lay-off or termination without loss of seniority, and upon return to active service he completes 13 weeks on the active payroll or 1,000 Hours of Service, whichever occurs first, or

(BB) in the case of an Employee on lay-off, he reaches his Normal Retirement Date on or before the expiration of such 24 Month period.

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However, except as otherwise provided in clause (iii) of Section

1.1(11)(A) as to the crediting of Hours of Service for periods during which duties are not being performed, if at the time of his medical leave of absence, lay-off or termination the Employee did not have a nonforfeitable right to a benefit under the Pre-2000 Restatement Plan or this Schedule B, he shall not be credited with any Years of Benefit Service, or fractions thereof, during the period of his medical leave of absence, lay-off or termination. Nothing in this Section 1.1(19) shall be deemed or construed to entitle an Employee to duplicate credit for the same specified period or to more than one Year of Benefit Service with respect to any Plan Year. No work, employment or time after the termination of the Plan pursuant to Article XIII shall be counted toward Years of Benefit Service.

(B) (Plan Years ending before June 1, 1985) For any period of his employment before June 1, 1985, an Employee shall be credited with the number of Years of Benefit Service (computed to the nearest Month) which is equivalent to his Years of Benefit Service as a Covered Employee under the Pre-2000 Restatement Plan as of May 31, 1985.

(C) (Additional Credits) The Committee may adopt uniform rules for counting additional periods of employment as Years of Benefit Service or fractions thereof, provided such rules do not discriminate in favor of shareholders, officers or highly paid Employees of Controlled Group Members.

(D) (Service at Lorain Plant) Notwithstanding anything in the Plan to the contrary, a person who is or becomes a Covered Employee on or after January 1, 2002 shall be credited with Years of Benefit Service with respect to period(s) of employment of such person as an Employee at the Lorain Plant after October 31, 1996 and prior to January 1, 2002 (if any) as if such person had been a Covered Employee during such period(s) of employment. Notwithstanding the immediately preceding sentence, no Years of Benefit Service shall be credited under this subparagraph (D) to a Covered Employee (i) if such Years of Benefit Service would, if credited during the period of such individual's employment at the Lorain Plant otherwise in accordance with the immediately preceding sentence, be disregarded in accordance with any other provision of the Plan, including without limitation Section 1.1(4)(B), Section 5.2(b), and Section 10.2(3) (Coverage and Participation) for the purpose of computing any pension to which such Covered Employee may be entitled under the Plan, or (ii) if the Covered Employee receives credit for "Years of Benefit Service" (under and as defined in Schedule A) with respect to such employment as an Employee at the Lorain Plant.

For purposes of this subparagraph (D), the "Lorain Plant" shall mean the Brush Wellman Inc. facility located at 7375 Industrial Parkway, Lorain, Ohio.

Year of Eligibility Service: An Employee shall be credited with a Year of Eligibility Service if he completes 1,000 Hours of Service in the 12-month period beginning on the first day on which he is an Employee and completes one Hour of Service and such an Employee who does not complete 1,000 Hours of Service during such period shall be credited

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with a Year of Eligibility Service if he completes 1,000 Hours of Service during the Plan Year which includes the first anniversary of his employment as an Employee or any Plan Year thereafter; provided, however, if an Employee completes 1,000 Hours of Service in both the 12-month period beginning on the first day on which he is an Employee and completes one Hour of Service and during the Plan Year which includes the first anniversary of his employment as an Employee, he shall be credited with two Years of Eligibility Service. Notwithstanding the foregoing, for the purposes of determining whether a Year of Eligibility Service is to be credited to an Employee, the Plan Year shall be substituted for the initial 12-month period beginning with an Employee's employment date regardless of whether or not he completes 1,000 Hours of Service in such initial 12-month period.

Year of Vesting Service: Years of Vesting Service shall be determined as follows:

(A) (Plan Years beginning on or after June 1, 1985) An Employee shall be credited with a Year of Vesting Service in respect of any Plan Year commencing on or after June 1, 1985 during which he completes 1,000 Hours of Service with the Controlled Group during such Plan Year. In addition, an Employee shall be credited with 1/12th of a Year of Vesting Service for each of the first 24 consecutive Months (to the nearest Month) that he is laid-off or terminated by a Controlled Group Member because of a reduction in force (but under no circumstances for a period longer than his Years of Vesting Service when laid-off or terminated), provided:

(i) he returns from lay-off or is re-employed with the Controlled Group without loss of seniority, and

(ii) upon his return to active service, he completes 13 weeks on the active payroll as a Controlled Group Member or 1,000 Hours of Service, whichever occurs first.

Nothing in this Section 1.1(19) shall be deemed or construed to entitle an Employee to duplicate credit for the same specified period or to more than one Year of Vesting Service with respect to any Plan Year.

(B) (Plan Years ending before June 1, 1985) For any period before June 1, 1985, an Employee shall be credited with that number of Years of Vesting Service which is equal to his Years of Vesting Service under the Pre-2000 Restatement Plan as of May 31, 1985.

(C) (Additional Credits) The Committee may adopt uniform rules for counting additional periods of employment as Years of Vesting Service or fractions thereof, provided such rules do not discriminate in favor of shareholders, officers or highly paid Employees of Controlled Group Members.

(D) Notwithstanding any other provision of the Plan to the contrary, in the case of a Covered Employee who was an employee of Metals

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Engineering Company on January 1, 1989, solely for purposes of determining Years of Vesting Service, Metals Engineering Company shall be deemed a Controlled Group Member from such Covered Employee's date of hire with Metals Engineering Company, or his date of hire with Penn Precision Rolling Mills, Ltd. if earlier.

(20) Year of Benefit Service: See Section 1.1(19).

(21) Year of Eligibility Service: See Section 1.1(19).

(22) Year of Vesting Service: See Section 1.1(19).

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ARTICLE II. - ELIGIBILITY REQUIREMENTS FOR PARTICIPATION

2.1 Commencement of Participation. (1) A person who, on May 31, 2000, was a "Participant" under the Pre-2000 Restatement Plan or satisfied the eligibility requirements of the Pre-2000 Restatement Plan, and who is an Employee (or a Pensioner) on June 1, 2000, shall become, or shall continue to be, a Participant under this Schedule B on June 1, 2000.

(2) On or after June 1, 2000 and prior to June 1, 2002, an Employee who is not a Participant pursuant to Section 2.1(1) shall become a Participant under this Schedule B on the next following entry date (namely, any June 1 or December 1) on which he satisfies the following eligibility requirements: (A) he is a Covered Employee, (B) he has attained age 21, and (C) he has been credited with a Year of Eligibility Service. On or after June 1, 2002, an Employee who is not a Participant pursuant to Section 2.1(1) or the preceding sentence shall become a Participant under this Schedule B on the date on which he satisfies the following eligibility requirements: (A) he is a Covered Employee, (B) he has attained age 21, and (C) he has been credited with a Year of Eligibility Service.

(3) If a person ceased to be a Participant under the Pre-2000 Restatement Plan prior to June 1, 2000, or ceases to be a Participant under this Schedule B on or after June 1, 2000, and he again becomes an Employee on or after June 1, 2000, he shall again become a Participant under this Schedule B as of the date he so again becomes an Employee whether or not he again becomes a Covered Employee.

2.2 Termination of Participation. Notwithstanding Section 10.2(2), an Employee's participation in the Plan for purposes of this Schedule B shall cease when his employment with the Controlled Group terminates and he incurs a 1-Year Break in Service, unless he becomes a Pensioner upon such termination.

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ARTICLE III. - ELIGIBILITY FOR PENSIONS

3.1 Benefits for Former Employees Terminated before June 1, 2000. Any benefits payable under the Plan with respect to an Employee or a former Employee whose employment with the Controlled Group terminated before June 1, 2000 shall be governed by the provisions of the Pre-2000 Restatement Plan as in effect from time to time before such date, except to the extent that certain terms or provisions of the Plan, as hereby restated as of June 1, 2000, apply to such benefits in accordance with Section 10.1 (Employment Termination Prior to June 1, 2000). Notwithstanding the foregoing provisions of this Section

3.1, or any other provision of the Plan, or any prior provision of the Plan or any predecessor plan document, the last sentence of Exhibit A shall apply with respect to any benefit payable in a lump sum after May 31, 2000 or deemed to be payable after May 31, 2000 in a lump sum, without regard to when employment termination occurred.

3.2 Normal Retirement. An Employee (including an Employee who is on lay-off status) whose employment with the Controlled Group is terminated on or after June 1, 2000 and on or after his Normal Retirement Date shall be entitled to a Normal Retirement Pension as provided in Section 4.2, based on his Years of Benefit Service at the time of his Retirement. Such a Participant's rights to a Normal Retirement Pension shall be non-forfeitable, except as otherwise permitted by applicable law, on and after he reaches his Normal Retirement Date.

3.3 Early Retirement. An Employee having at least ten years of Vesting Service (at least five Years of Vesting Service in the case of a person who shall have first become an employee as a Delta Mill Employee prior to November 1, 1985 or who shall have first become an employee in any other operation of the Company, other than at its Tucson plant, prior to July 1, 1984), whose employment with the Controlled Group is terminated on or after he attains age 55, and while he is actively employed but before his Normal Retirement Date, shall be eligible for an Early Retirement Pension as provided in Section 4.3, based on his Years of Benefit Service at the time of his Retirement.

3.3A Special Early Retirement Pension. A Participant (excluding any Participant who is a Delta Mill Employee or an Employee employed at the Company's Hampton Plant or Tucson Plant) having at least 30 Years of Vesting Service whose Qualifying Termination date occurs on or after he attains age 62 but before his Normal Retirement Date shall be eligible for a Special Early Retirement Pension as provided in Section 4.3A, based on his Years of Benefit Service at the time of his Retirement. A Participant (excluding any Participant who is a Delta Mill Employee or an Employee employed at the Company's Hampton Plant or Tucson Plant) having at least 30 Years of Vesting Service whose Qualifying Termination date occurs on or after June 30, 1999 and on or after the date he attains age 55 but prior to the date on which he attains age 62 shall be eligible for a special early commencement reduction as provided in Section 4.7(a)(1) with respect to such Participant's benefit accrued as of such Qualifying Termination date. For purposes of this Section 3.3A only, the following shall apply: "Company's Tucson Plant" means a Tucson plant of Brush Wellman Inc., Brush Ceramic Products Inc., or Zentrix Technologies Inc.; and "Company's Hampton Plant" means the Hampton plant of Brush Wellman Inc.

3.4 Deferred Vested Terminations. An Employee having at least five Years of Vesting Service whose employment with the Controlled Group is terminated before his Normal Retirement Date but who does not meet the requirements of Section 3.3 or Section 3.3A shall be eligible for a Deferred Vested Pension as provided in Section 4.4, based on his Years of Benefit Service at the time of his Qualifying Termination.

3.5 Disability Retirement. (a) An Employee (but excluding any such person on lay-off status) having at least ten Years of Vesting Service whose employment with the Controlled Group is terminated on or after June 1, 1985 before his Normal Retirement Date because of his being Permanently and Totally Disabled shall be eligible for a Disability Pension as provided in Section 4.5, based on his Years of Benefit Service at the time of his Retirement.

(b) A person shall be deemed to be "Permanently and Totally Disabled" only if:

(1) he is not engaged in employment or occupation for remuneration or profit in excess of 50 percent of his Disability Pension under the Plan; and

(2) a physician or clinic selected by the Company shall find, on the basis of medical evidence, (A) that he has been totally disabled by bodily or mental injury or disease so as to be prevented thereby from engaging in any employment or occupation for remuneration or profit in excess of 50 percent of his Disability Pension under this Schedule B, and (B) that his total disability will presumably be permanent and continuous during the remainder of his life; provided that no person shall be deemed to be Permanently and Totally Disabled for the purposes of this Schedule B if his disability resulted from (i) chronic alcoholism or the use of narcotics, (ii) his engaging in a criminal act or in an effort to bring about the injury or illness of himself or any other person or (iii) service in the armed forces of any country.

(c) In any case where the physician or clinic selected by the Company is required to make a finding with respect to the Permanent and Total Disability of any Employee or former Employee applying for, claiming or receiving a Disability Pension, such Employee or former Employee shall be required to submit to such examinations as shall be necessary for such physician or clinic to determine whether he is Permanently and Totally Disabled and, when relevant, when his said disability began. Subject to the claims and review procedure in Article IV, the medical opinions of such physician or clinic shall decide such questions and shall be conclusive and binding, for purposes of the Plan, upon all persons as to the condition of such Employee or former Employee. The expenses of such examination shall be paid by the Employee's Employer. Any former Employee who shall be receiving a Disability Pension shall be required to submit to a disability examination in the manner set forth in this Section 3.5 at any time after he ceases to be an Employee for the purpose of determining his condition whenever such examination is requested by the Committee.

3.6 Pre-Retirement Death Surviving Spouse Pension. Subject to Section 3.9, if a Participant, who (1) has at least one Hour of Service under the Pre-2000

Restatement Plan or this Schedule B on or after August 23, 1984 or one hour of paid leave from a Controlled Group Member on or after August 23, 1984 and (2) immediately before his death would have been eligible for a pension under this Schedule B if his employment with the Controlled Group had then terminated (other than by reason of his death), dies before his Pension Commencement Date, his surviving Spouse, if any, shall be eligible for a Pre-Retirement Death Surviving Spouse Pension as provided in Section 4.6.

3.7 Non-Duplication of Early Retirement, Disability and Deferred Vested Pensions. A Participant whose employment with the Controlled Group is terminated under such conditions that he meets the requirements of Section 3.3, Section 3.3A or Section 3.4 and Section 3.5 for a pension shall not be entitled to receive more than one of such pensions except as provided in Section 5.1A(d). He (or a person duly authorized to represent him) shall elect which one of those pensions for which he is eligible shall be payable to him. Such election shall be made by an instrument (in form satisfactory to the Committee) signed by him (or such authorized person) and filed with the Committee before his pension hereunder begins (except as may otherwise be provided in Section 5.1A(d)).

3.8 [Reserved]

3.9 Death Benefit for Certain Employees Who Die Prior to Age

55. In the event of the death of a Covered Employee, other than a Delta Mill Employee, who shall not have attained the age of 55, who shall die on or after June 1, 2000, who shall have at least 15 Years of Vesting Service at the time of his death and who shall leave a Spouse surviving him, a benefit will be paid to such Spouse as described in Section 4.10 or, if larger or after the benefit described in Section 4.10 ceases to be payable, such Spouse will be entitled to a Pre-Retirement Death Surviving Spouse Pension pursuant to Section 3.6.

3.10 Death Benefit for Certain Participants Who Commence Disability Pension Prior to Age 55. In the event of the death of a Disability Pensioner, other than a Delta Mill Disability Pensioner, whose Disability Pension shall have commenced prior to his attaining age 55, on or after June 1, 2000, after having earned at least 15 Years of Vesting Service prior to commencement of his Disability Pension, and who shall leave a Spouse surviving him of a marriage which existed for one year or more at commencement of his Disability Pension, a benefit will be paid to such Spouse as described in Section 4.11.

3.11 Transfers of Employment. In the case of an Employee who transfers from a class of employees whose service shall have been determined on the basis of the elapsed time method of computing service and as a result of such transfer becomes a Covered Employee, such Employee shall receive credit for Years of Vesting Service, (a) as of the date of transfer, for a number of Years of Vesting Service equal to the number of 1-year periods of service credited to him as of the date of transfer, and (b) in the Plan Year which includes the date of transfer, for a number of Hours of Service determined by applying the provisions of Section 1.1(11)(B) to any fractional part of a year credited to the Employee under the elapsed time method of computing service as of the date of transfer.

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ARTICLE IV. - PENSION AND DEATH BENEFITS

4.1 Regular Pensions. (a) An Employee or former Employee shall not be eligible for a pension under the Plan as hereby restated as of June 1, 2000 unless, in addition to any other requirements set forth in the Plan, his Qualifying Termination occurs on or after June 1, 2000. The pension payable to or for an Employee or former Employee whose Qualifying Termination occurred before June 1, 2000 (and who is not rehired thereafter) shall be determined by and paid in accordance with the terms and provisions of the Pre-2000 Restatement Plan as in effect at the date of such Qualifying Termination except to the extent certain provisions of the Plan as hereby restated as of June 1, 2000 apply to such pension in accordance with Section 10.1 (Employment Termination Prior to June 1, 2000). Notwithstanding the foregoing provisions of this Section

4.1, or any other provision of the Plan, or any prior provision of the Plan or any predecessor plan document, the last sentence of Exhibit A shall apply with respect to any benefit payable in a lump sum after May 31, 2000 or deemed to be payable after May 31, 2000 in a lump sum, without regard to when employment termination occurred.

(b) The regular pension payable hereunder to a Participant before June 1, 1976, and, in the case of a Deferred Vested Pensioner who incurred a Qualifying Termination prior to July 1, 1976, the regular pension payable hereunder to such a Deferred Vested Pensioner on or after July 1, 1976, for his Benefit Service accrued before June 1, 1976, shall be a pension in the amount provided for in the Pre-2000 Restatement Plan as in effect before June 1, 1976. Except as provided in the preceding sentence, the regular pension payable hereunder to a Participant shall be an amount equal to the Participant's Years of Benefit Service and any fractions thereof multiplied times the applicable Benefit Rate in effect for the date of the Participant's termination of employment specified in the table below for the plant or location at which such Years of Benefit Service were credited to the Participant, or in the case of the table entitled "Delta Mill Employee" for such Years of Benefit Service as a Delta Mill Employee; provided that if more than one Benefit Rate is so specified, the monthly amount shall be the sum of each amount determined by multiplying each such Benefit Rate times the Years of Benefit Service and fractions thereof credited to the Participant up to the lesser of the total Years of Benefit Service and any fractions thereof so credited (less any Years of Benefit Service and fractions thereof credited at a lower Benefit Rate) or the maximum number of Years of Benefit Service which may be credited at such Benefit Rate specified in such table.

ELMORE PLANT OR READING PLANT

TERMINATION OF EMPLOYMENT		BENEFIT RATE FOR YEARS OF BENEFIT SERVICE		
ON OR AFTER	PRIOR TO	UP TO 15 YEARS	OVER 15 YEARS BUT NOT IN EXCESS OF 25 YEARS	OVER 25 YEARS
June 1, 1976	June 1, 1978	\$9.00	\$9.00	\$9.00
June 1, 1978	June 1, 1981	\$10.00	\$13.00	\$13.00
June 1, 1981	June 1, 1984	\$12.00	\$16.00	\$16.00

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TERMINATION OF EMPLOYMENT		BENEFIT RATE FOR YEARS OF BENEFIT SERVICE		
ON OR AFTER	PRIOR TO	UP TO 15 YEARS	OVER 15 YEARS BUT NOT IN EXCESS OF 25 YEARS	OVER 25 YEARS
June 1, 1984	June 1, 1986	\$13.50	\$17.50	\$17.50
June 1, 1986	October 1, 1989	\$14.50	\$17.50	\$19.00
October 1, 1989	January 1, 1992	\$15.25	\$18.50	\$20.00
January 1, 1992	January 1, 1995	\$20.00	\$20.00	\$20.00
January 1, 1995	January 1, 1998	\$21.00	\$21.00	\$23.00
January 1, 1998	January 1, 1999	\$22.50	\$22.50	\$25.00
January 1, 1999	January 1, 2001	\$27.00	\$27.00	\$30.00
January 1, 2001	Not applicable	\$28.50	\$28.50	\$31.50

CLEVELAND PLANT

TERMINATION OF EMPLOYMENT		BENEFIT RATE FOR YEARS OF BENEFIT SERVICE		
ON OR AFTER	PRIOR TO	UP TO 15 YEARS	OVER 15 YEARS BUT NOT IN EXCESS OF 25 YEARS	OVER 25 YEARS
June 1, 1976	June 1, 1978	\$9.00	\$9.00	\$9.00
June 1, 1978	June 1, 1981	\$10.00	\$13.00	\$13.00
June 1, 1981	June 1, 1984	\$12.00	\$16.00	\$16.00
June 1, 1984	June 1, 1986	\$13.50	\$17.50	\$17.50
June 1, 1986	October 1, 1989	\$14.50	\$17.50	\$19.00
October 1, 1989	January 1, 1992	\$15.25	\$18.50	\$20.00
January 1, 1992	January 1, 1995	\$20.00	\$20.00	\$20.00
January 1, 1995	January 1, 1998	\$21.00	\$21.00	\$23.00
January 1, 1998	Not applicable	\$22.50	\$22.50	\$25.00

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DELTA MILL EMPLOYEE

TERMINATION OF EMPLOYMENT		BENEFIT RATE
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ON OR AFTER	PRIOR TO	
Not applicable	November 1, 1982	\$9.00 (\$8.00 for Years of Benefit Service prior to November 19, 1977)
November 1, 1982	November 1, 1985	\$11.00
November 1, 1985	November 1, 1986	\$12.00
November 1, 1986	November 1, 1987	\$13.00
November 1, 1987	January 1, 1989	\$13.00 for Years of Benefit Service up to 15, \$15.00 for Years of Benefit Service over 15
January 1, 1989	November 1, 1991	\$15.00
November 1, 1991	January 1, 1992	\$15.50
January 1, 1992	November 1, 1994	\$20.00
November 1, 1994	November 1, 1997	\$21.00
November 1, 1997	October 25, 1998	\$21.50
October 25, 1998	October 24, 1999	\$22.00
October 24, 1999	October 29, 2000	\$22.50
October 29, 2000	Not applicable	\$23.00

HAMPTON PLANT (FORMERLY THE CONSOLIDATED CERAMICS & METALIZING DIVISION)

TERMINATION OF EMPLOYMENT		BENEFIT RATE
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ON OR AFTER	PRIOR TO	
Not applicable	June 1, 1978	\$6.00
June 1, 1978	June 1, 1979	\$8.00
June 1, 1979	June 1, 1981	\$9.00
June 1, 1981	June 1, 1984	\$10.00
June 1, 1984	May 31, 1995	\$11.50
June 1, 1995	Not applicable	\$11.50 (or, if higher, the unit dollar amount in effect at last location where Participant was a Covered Employee)

**WAREHOUSE DISTRIBUTION CENTERS AND ANY OTHER FACILITY
NOT LISTED IN ANY OTHER TABLE**

TERMINATION OF EMPLOYMENT		BENEFIT RATE FOR YEARS OF BENEFIT SERVICE		
ON OR AFTER	PRIOR TO	UP TO 15 YEARS	OVER 15 YEARS BUT NOT IN EXCESS OF 25 YEARS	OVER 25 YEARS
June 1, 1976	June 1, 1978	\$9.00	\$9.00	\$9.00
June 1, 1978	June 1, 1981	\$10.00	\$13.00	\$13.00
June 1, 1981	June 1, 1984	\$12.00	\$16.00	\$16.00
June 1, 1984	June 1, 1986	\$13.50	\$17.50	\$17.50
June 1, 1986	October 1, 1989	\$14.50	\$17.50	\$19.00
October 1, 1989	January 1, 1992	\$15.25	\$18.50	\$20.00
January 1, 1992	January 1, 1999	\$20.00	\$20.00	\$20.00
January 1, 1999	Not applicable	\$24.00	\$24.00	\$24.00

For purposes of this Section 4.1(b) only: (i) "Tucson Plant" means a Tucson plant of Brush Wellman Inc., Brush Ceramic Products Inc., or Zentrix Technologies Inc. located in Tucson, Arizona, or the Newburyport, Massachusetts Ceramics Division of Brush Wellman Inc. or Zentrix Technologies Inc. located in Newburyport, Massachusetts; (ii) "Hampton Plant" means the former Hampton plant of Brush Wellman Inc.; (iii) "Elmore Plant" means the Elmore plant of Brush Wellman Inc. located in Elmore, Ohio; (iv) "Reading Plant" means the Reading plant of Brush Wellman Inc. located in Reading, Pennsylvania; (v) "Cleveland Plant" means the Cleveland plant of Brush Wellman Inc. located in Cleveland, Ohio and any location of BEM Services, Inc.; (vi) "Delta Plant" means a plant of Brush Wellman Inc. or Brush Resources Inc. located in Delta, Utah; (vii) "Warehouse Distribution Centers" means the Warehouse Distribution Centers of Brush Wellman Inc. at the locations listed on Schedule BI; (viii) "Lorain Plant" means the Brush Wellman Inc. facility located at 7375 Industrial Parkway, Lorain, Ohio; and (ix) "Other Facility" means other facility of Brush Wellman Inc. or an Employer, wherever located, but only with respect to periods a business organization was an Employer and only with respect to an Employee of the Employer who otherwise meets the requirements to be a Covered Employee described in Section 1.1(5).

(c)(1) For a person who is not employed as an Employee after April 30, 2001, the following shall apply:

(A) Notwithstanding the foregoing provisions of Section 4.1(a) and (b), the regular pension of a Participant who shall have had more than one period of employment with the Controlled Group shall be the sum of his Accrued Benefits. The term "Accrued Benefits" for purposes of this Section 4.1(c)(1)(A) shall mean the monthly benefit in the form of a single life annuity which an Employee has earned under this Schedule B during a period of employment with the Controlled Group calculated as of the last day of such period and which is

payable at age 65 in an amount computed under this Schedule B based upon the benefit rate effective with respect to him under this Schedule B as of his last day of employment for each such period and the Years of Benefit Service with which he is credited during such period. An Accrued Benefit for a period of employment with respect to which a person shall have lost credit for Years of Benefit Service shall be forfeited.

(B) Nothing in this Section 4.1(c)(1) shall be construed to reduce the benefits that any person shall have earned under the Pre-2000 Restatement Plan prior to November 1, 1978.

(2) For a person who is employed as an Employee after April 30, 2001, the following shall apply:

(A) Notwithstanding the foregoing provisions of Section 4.1(a) and (b), the regular pension of a Participant who shall have had more than one period of employment with the Controlled Group shall be recalculated on his latest termination of employment with the Controlled Group based on his Accrued Benefit for his entire period of employment. The term "Accrued Benefit" for purposes of this Section 4.1(c)(2)(A) shall mean the monthly benefit in the form of a single life annuity which an Employee has earned under this Schedule B during his employment with the Controlled Group calculated as of his latest termination of employment with the Controlled Group and which is payable at age 65 in an amount computed under this Schedule B based upon the benefit rate effective with respect to him under this Schedule B as of his latest termination of employment with the Controlled Group and the Years of Benefit Service with which he is credited as of his latest termination of employment with the Controlled Group, but in no event less than the Participant's regular pension as of his immediately preceding termination of employment with the Controlled Group as if he had not been reemployed. An Accrued Benefit for a period of employment with respect to which a person shall have lost credit for Years of Benefit Service shall be forfeited.

(B) Nothing in this Section 4.1(c)(2) shall be construed to reduce the benefits that any person shall have earned under the Pre-2000 Restatement Plan prior to November 1, 1978. Further, nothing in this Section 4.1(c)(2) shall be construed to reduce the benefits that any person shall have earned under this Schedule B prior to May 30, 2001.

4.2 Normal Retirement Pensions. The Normal Retirement Pension for a Pensioner entitled to such a pension shall be a monthly pension (commencing at such time as provided for in Section 5.1A) equal to the regular pension specified in Section 4.1.

4.3 Early Retirement Pensions. The Early Retirement Pension for a Pensioner entitled to such a pension shall be a monthly pension (commencing at such time as provided for in Section 5.1A) equal to the regular pension specified in Section 4.1.

4.3A Special Early Retirement Pensions. The Special Early Retirement Pension for a Pensioner entitled to such a pension shall be a monthly pension (commencing at such time as provided in Section 5.1A) equal to the regular pension specified in Section 4.1.

4.4 Deferred Vested Pensions. The Deferred Vested Pension for a Pensioner entitled to such a pension shall be a monthly pension (commencing at such time as provided for in Section 5.1A) equal to the regular pension specified in Section 4.1 in effect at the time of the Pensioner's Qualifying Termination, without regard to any increased benefit payable under a benefit formula provided for in an amendment to or restatement of the Plan which becomes effective as of a date subsequent to such Qualifying Termination.

4.5 Disability Pensions. The Disability Pension for a Pensioner entitled to such a pension shall be a monthly pension (commencing at such time as provided for in Section 5.1A) equal to the regular pension specified in Section 4.1; provided, however, that if it is determined that the Participant is not eligible for Social Security Disability Benefits and until such time as he becomes eligible for Social Security Disability Benefits (as determined by the Committee) or reaches his Normal Retirement Date, whichever occurs first, the Participant shall receive an additional monthly benefit equal to (a) \$9.00 multiplied by his number of Years of Benefit Service and any fractions thereof other than Years of Benefit Service as a Delta Mill Employee and/or Years of Benefit Service at the Company's Hampton Plant, (b) \$9.00 (\$8.00 before November 19, 1977) multiplied by his number of Years of Benefit Service and any fractions thereof as a Delta Mill Employee, and (c) \$6.00 multiplied by his number of Years of Benefit Service and any fractions thereof at the Company's Hampton Plant. For purposes of this Section 4.5 only, "Company's Hampton Plant" means the Hampton Plant of Brush Wellman Inc.

4.6 Pre-Retirement Death Surviving Spouse Pensions. (a) The Pre-Retirement Death Surviving Spouse Pension for the surviving Spouse of a deceased Participant which Spouse is entitled to such pension shall be, subject to subsection (b) of this Section 4.6:

(1) in the case of a Participant who dies after attaining age 55 and either (A) at a time when he is credited with at least 10 Years of Vesting Service (at least 5 Years of Vesting Service, in the case of a person who shall have first become an Employee as a Delta Mill Employee prior to November 1, 1985 or who shall have first become an Employee in any other operation of the Company, other than at its Tucson Plant, prior to July 1, 1984) or (B) on or after his Normal Retirement Date, that amount which the surviving Spouse would have been entitled to receive pursuant to Section 4.1 if (i) such Participant had terminated employment with the Controlled Group and his Pension Commencement Date occurred on the day before his death (assuming the Plan so provided) and (ii) he had not waived the Automatic Qualified Joint and Survivor Annuity Benefit provided for in Section 4.7(a)(3)(A); such pension shall begin with the first day of the Month after the Month in which he is deemed to have begun receiving his pension, if his Spouse is living on such day, and shall continue during her remaining lifetime, the last monthly payment of such pension being payable on the first day of the Month in which she dies;

(2) in the case of a Participant who dies on or before attaining age 55 and at a time when he is credited with at least 10 Years of Vesting Service (at least 5 Years of Vesting Service, in the case of a person who shall have first become an Employee as a Delta Mill Employee prior to November 1, 1985 or who shall have first become an Employee in any other operation of the Company,

other than at its Tucson Plant, prior to July 1, 1984), that amount which the surviving Spouse would have been entitled to receive pursuant to Section 4.1 if (i) such Participant had terminated employment with the Controlled Group (other than by reason of his death) on the date of his death if he was an Employee on such date, (ii) he survived to the date of his 55th birthday, (iii) his Pension Commencement Date occurred on his 55th birthday, assuming the Plan so provided, (iv) his pension was payable in the form of an Automatic Qualified Joint and Survivor Annuity Benefit provided for in Section 4.7(a)(3)(A), and (v) he died on the day following such 55th birthday; such pension shall begin with the first day of the Month in which the Participant would have attained age 55, and shall continue during the Spouse's remaining lifetime, the last monthly payment of such pension being payable on the first day of the Month in which she dies; and

(3) in the case of a Participant who dies before attaining his Normal Retirement Date and at a time when he is credited with at least 5 but less than 10 Years of Vesting Service (other than a person who shall have first become an Employee as a Delta Mill Employee prior to November 1, 1985 or who shall have first become an Employee in any other operation of the Company, other than its Tucson Plant, prior to July 1, 1984), that amount which the surviving Spouse would have been entitled to receive pursuant to Section 4.1 if such Participant had (i) terminated employment with the Controlled Group (other than by reason of his death) on the date of his death if he was an Employee on such date, (ii) survived to his Normal Retirement Date, (iii) his Pension Commencement Date occurred on his Normal Retirement Date (assuming the Plan so provided) and his pension was payable in the form of an Automatic Qualified Joint and Survivor Annuity Benefit provided for in Section 4.7(a)(3)(A), and (iv) died on the day following his Normal Retirement Date; such pension shall begin with the first day of the Month in which the Participant would have attained his Normal Retirement Date, and shall continue during the Spouse's remaining lifetime, the last monthly payment of such Pension being payable on the first day of the Month in which she dies.

(b) Notwithstanding the foregoing provisions of this Section 4.6,

(i) in the case of a Participant who dies before his Normal Retirement Date, unless his surviving Spouse consents to the commencement of the pension otherwise payable to her as provided in paragraph (a) of this Section 4.6, by a written election filed with the Committee, such pension shall commence on the first day of the Month after the Participant would have reached his Normal Retirement Date had he not died, or on the first day of any earlier Month after the death of the Participant and after he attained age 55 (or would have attained such age 55 if he had not died) selected by the Spouse by a written election (in form approved by the Committee) and filed with the Committee and

(ii) a surviving Spouse may elect to defer, in accordance with Committee rules which are not violative of any applicable law, the commencement of pension payments to her under this Section 4.6 until a date which is not later than the latest permissible commencement date applicable to her under Section 6.14.

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(c) If part of a Participant's pension has commenced, the Pre-Retirement Death Surviving Spouse Pension described in this Section 4.6 shall not apply with respect to the part of the Participant's pension that commenced.

4.7 Optional Forms of Benefits. (a) Regular Options. Instead of the pension to which a Participant is or may become entitled pursuant to other Sections hereof, he may elect or be deemed to have elected (subject to the provisions of this Section 4.7 and to such administrative rules as may be adopted by his Employer or the Committee) any one of the optional forms of benefits specified in the following three subparagraphs or the "Early Income Option" and either the "Joint Pensioner Option" or the "Automatic Qualified Joint and Survivor Annuity Benefit." Any such optional form of benefit shall

(except as otherwise provided in Section 4.7(a)(1) and Section 4.7(a)(3)(A) below) be the Actuarial Equivalent of the pension otherwise payable for the Participant. To the extent that ages are material to the determination of such Actuarial Equivalent, the latest ages which shall be used are the age of the Participant, and the age of his Joint Pensioner (if any), on the Participant's Normal Retirement Date; provided, however, that this sentence shall not apply with respect to a Participant who is credited with an Hour of Service on or after June 1, 1988, unless the application of this sentence would result in a larger amount of optional form of benefit based on the benefit accrued under provisions of the Pre-2000 Restatement Plan as in effect on May 31, 1988.

(1) Early Income Option. A Participant having at least ten Years of Vesting Service (at least five Years of Vesting Service in the case of a person who shall have first become an Employee as a Delta Mill Employee prior to November 1, 1985 or who shall have first become an Employee in any other operation of the Company, other than at its Tucson plant, prior to July 1, 1984) and who is eligible for an Early Retirement Pension or a Deferred Vested Pension may elect, subject to the written consent of his Spouse filed with the Committee, to receive a reduced pension beginning on the first day of any Month designated by him which day is within the ten-year period prior to his Normal Retirement Date and is subsequent to both his Qualifying Termination and the filing with the Committee of his election of such option. The pension payable under this early income option shall be an amount equal to his Early Retirement Pension or Deferred Vested Pension reduced by, (A) in the case of Delta Mill Employees, 6/10ths of one percent, and in the case of Employees other than Delta Mill Employees, 5/9ths of one percent, for each Month between age 60 and 65 and (B) in the case of Delta Mill Employees, 6/15ths of one percent, and in the case of Employees other than Delta Mill Employees, 5/18ths of one percent, for each Month between age 55 and age 60, for which the Participant receives an early income pension under this Section 4.7(a)(1); provided, however, that the pension payable under this early income option of a Participant who is entitled to the special early commencement reduction provided for under Section 3.3A shall, in lieu of such reduction, be reduced by 5/9ths of one percent for each Month up to 24 Months that the Participant's Pension Commencement Date precedes the first day of the Month following the Month in which he would attain age 62 if he survived until his 62nd birthday and by 5/18ths of one percent for each Month in excess of 24 Months that the Participant's Pension Commencement Date precedes the first day of the Month following the Month in which he would attain age 62 if he survived until his 62nd birthday.

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(2) Joint Pensioner Option. Except with respect to a Disability Pension, a Participant may elect to receive a reduced pension payable for him during his lifetime and on and after the date his pension hereunder is to begin, and after his death, to have a pension payable during the surviving lifetime of and for a natural person (for purposes of this Section 4.7 called his "Joint Pensioner") designated by the Participant for such purposes at the same reduced rate payable to the Participant or (if elected by the Participant) at any percentage of the reduced rate payable to the Participant; provided, however, that such percentage shall be no less than 50 percent and further provided that the value at the date the pension is to begin of the monthly benefit payable to the Participant (unless the Joint Pensioner is his Spouse) shall be more than 50% of the aggregate value of the joint and survivor benefit. Pension payments for the Joint Pensioner shall begin with the first day of the Month after the Month in which the Participant dies, provided his death does not void this option as provided in Section 4.7(c), and provided the Joint Pensioner is living on such day, and the last monthly payment for her shall be payable on the first day of the Month in which she dies. If a Participant's Joint Pensioner dies before the Participant's Pension Commencement Date, the election shall be of no effect and the Participant shall be treated the same as though he had not elected an option pursuant to this Section 4.7(a)(2). If a Participant's Joint Pensioner dies on or after the Participant's Pension Commencement Date and while the Participant is living, the option elected shall continue in force and the Participant's reduced pension will not be increased thereby.

(3) Automatic Qualified Joint and Survivor Annuity Benefit. (A) A Participant who is eligible for a Normal Retirement Pension, an Early Retirement Pension, or a Special Early Retirement Pension and who has a Spouse shall be deemed to have automatically elected the Joint Pensioner Option provided for in Section 4.7(a)(2) with such Spouse as his Joint Pensioner (herein together with the benefit described in Section 4.7(a)(3)(B) below called the "Automatic Qualified Joint and Survivor Annuity Benefit" which is a pension payable during the surviving lifetime of his Spouse to whom the Participant was married on his Pension Commencement Date at the rate of 50% of the reduced pension payable during the joint lives of the Participant and his Spouse, unless the context otherwise requires) unless he specifically rejects such option during the election period provided for in Section 4.8. The Participant or his Spouse must furnish evidence satisfactory to the Committee of his marriage to his Spouse and of their dates of birth. The Automatic Qualified Joint and Survivor Annuity Benefit, in cases of Participants other than Delta Mill Employees, which first became payable on or after June 1, 1978, shall be a reduced pension paid to the Participant during his lifetime equal to the amount which would have been payable to him under a Joint Pensioner Option as provided in Section 4.7(a)(2), with 50 percent of such amount being payable to his surviving Spouse during her lifetime. The survivor benefit payable to the surviving Spouse of such a Participant shall be a monthly benefit for the further lifetime of such surviving Spouse equal to 50 percent of such a Participant's reduced monthly pension as so determined. Notwithstanding the foregoing, the Automatic Qualified Joint and Survivor Annuity Benefit payable with respect to Delta Mill Employees and with respect to other Employees in cases where the benefit was first payable prior to June 1, 1978, shall be a pension paid to the Participant in an amount determined by multiplying the monthly pension otherwise payable to him by 95 percent, provided that such percentage shall be increased by one-half of one percent (1/2 percent) (up to a maximum of 100 percent) for each 12 Months in excess of five years that the Spouse's age is greater than the Participant's age and shall be decreased one-half of one percent (1/2 percent) for each 12 Months

in excess of five years that the Spouse's age is less than the Participant's age. The survivor benefit payable to the surviving Spouse of a Participant covered by the preceding sentence who is deemed to have made an election under this Section 4.7(a)(3)(A), and who dies after such election becomes effective, shall be a monthly benefit for the further lifetime of such surviving Spouse equal to 55 percent of the amount of such Participant's monthly pension as so determined.

(B) A Participant who is eligible to receive a Deferred Vested Pension and who has a Spouse shall be deemed to have automatically elected the joint pensioner option provided for in Section 4.7(a)(2) with such Spouse as his Joint Pensioner unless he specifically rejects such option during the election period for this option provided for in Section 4.8. The Participant or his Spouse must furnish evidence satisfactory to the Committee of his marriage to his Spouse and of their dates of birth. The Automatic Qualified Joint and Survivor Annuity Benefit payable to a Deferred Vested Pensioner shall be a reduced pension as provided in Section 4.7(a)(2), with 50 percent of such amount payable to his surviving Spouse during her lifetime. The survivor benefit payable to the surviving Spouse of such a Participant shall be a monthly benefit for the further lifetime of such surviving Spouse equal to 50% of such a Participant's reduced monthly pension as so determined.

(b) Election of Options. This Section 4.7(b) shall not apply to the Automatic Qualified Joint and Survivor Annuity Benefit. An election of an option or options under this Section 4.7 may be made (and may be rescinded), and the Participant's Joint Pensioner and the portion of the Participant's reduced pension to be paid after his death to his Joint Pensioner may be designated (and such designations may be changed), solely by an instrument (in form acceptable to the Committee) signed by the Participant and filed with the Committee while he is living and before his pension hereunder is to begin. Except to the extent otherwise provided in this Section 4.7 or required by law, the consent of any person other than the Participant to any rescission or change in an option or the terms thereof or to a change in the Participant's Joint Pensioner shall not be required.

(c) Other Terms of Options. The time for the commencement of pension payments for the Participant shall not be affected by the election of a joint pensioner option (which term for this purpose includes the Automatic Qualified Joint and Survivor Annuity Benefit). If a Participant duly elects (or is, pursuant to Section 4.7(a)(3), deemed to have elected) a joint pensioner option under Section 4.7(a)(2), and dies before his Pension Commencement Date, the election shall be of no effect and the Participant shall be treated the same as though he had not elected such option. Instead of any other benefit that would otherwise be payable for a Participant pursuant to any other Section of this Schedule B, if a Participant duly elects (or is, pursuant to Section 4.7(a)(3), deemed to have elected) a joint pensioner option under Section 4.7(a)(2), and dies on or after his Pension Commencement Date, the election of such option shall not be voided by his death and benefit payments shall be made to his Beneficiary pursuant to the option elected as if the Participant's pension hereunder had begun in the Month before the Month in which he died.

(d) Limitation on Options. Notwithstanding any other provision of this Section 4.7, a Participant's election of an option provided for in or permitted by this Section 4.7 shall not become effective unless the present value of the payments expected to be made to him

hereunder is more than 50 percent of the present value of the total of the payments expected to be made hereunder to him and his Beneficiaries, but this limitation shall not apply to the joint pensioner option provided for in Section

4.7(a)(2) if the Participant's Spouse is the Participant's Joint Pensioner. Such present values shall be determined by the Actuary as of the date the Participant's pension hereunder begins (or, if earlier, the date which is one month before the Participant's death), using actuarial assumptions that are not inconsistent with those that would be used in determining the amount of the reduction in the Participant's pension hereunder if the option he elected or attempted to elect had become effective.

(e) Any Committee rules with respect to optional forms of benefits may be changed by the Committee from time to time, but they shall be uniform in their application to all Participants who are similarly situated.

4.7A Small Lump Sum Option. If, following a Participant's termination of employment with the Controlled Group, the lump sum amount that is the Actuarial Equivalent of the Participant's vested accrued pension does not exceed \$10,000 (as adjusted annually commencing with the Plan Year beginning June 1, 1986 by the percentage increase or decrease in the maximum annual benefit guaranteed by the Pension Benefit Guaranty Corporation), such lump sum amount may, subject to applicable law and regulations, with the written consent of the Participant, and with the written consent of his Spouse, if any, meeting the requirements of Section 4.8 below filed with the Committee, be paid to the Participant in lieu of all other benefits, to the recipient before his pension benefit would otherwise commence under the Plan. To the extent required by regulations, the Participant will be provided with the option of receiving an immediate single life annuity if unmarried or an immediate 50% Qualified Joint and Survivor Annuity if married, which shall be computed by converting the lump sum value otherwise payable under this Section 4.7A to an immediate single life annuity for the Participant's life using the same actuarial assumptions as used to determine the lump sum, and if applicable, by converting such single life annuity to an immediate 50% Qualified Joint and Survivor Annuity using the basis set forth in the first paragraph of Exhibit A.

4.8 Participant Elections. (a) The Committee in accordance with applicable law and regulations shall deliver to each Participant, not less than 30 days and not more than 90 days before his Pension Commencement Date, a written explanation of:

- (i) the terms and conditions of the forms of payment available, including the Automatic Qualified Joint and Survivor Annuity Benefit;
- (ii) The Participant's right to make, and the effect of, an election to waive the Automatic Qualified Joint and Survivor Annuity Benefit;
- (iii) the rights of the Participant's Spouse;
- (iv) the right to make, and the effect of, a revocation of an election to waive the Automatic Qualified Joint and Survivor Annuity Benefit; and
- (v) and all other matters that may be required by applicable law.

(b) A Participant's election of a form of benefit payment, including a waiver of the Automatic Qualified Joint and Survivor Annuity Benefit, and any revocation of such waiver, may be made solely by an instrument (in form acceptable to the Committee) signed by the Participant and filed with the Committee during the 90-day period ending on his Pension Commencement Date. Any election to waive the Automatic Qualified Joint and Survivor Annuity Benefit, and to elect any other option and the designation of the Joint Pensioner or other Beneficiary under such option (unless the Joint Pensioner or Beneficiary designated is the Participant's Spouse), must be consented to by the Participant's Spouse in writing, and such consent must be witnessed by a Plan representative or notary public. Any such consent shall not be required if the Participant establishes to the satisfaction of a plan representative that such written consent may not be obtained because there is no Spouse or the Spouse cannot be located.

4.9 Special Age 65 Benefit. A former Delta Mill Employee receiving benefits pursuant to Section 3.2 or Section 3.3 or a surviving Spouse of a Delta Mill Employee receiving a benefit pursuant to Sections 3.6, 4.7(a)(2) or 4.7(a)(3) (other than the surviving Spouse of a former Delta Mill Employee who received or was entitled to receive a Deferred Vested Pension pursuant to Section 3.4) who is age 65 or over, shall be entitled to a monthly supplemental retirement benefit of \$5.30 in addition to the benefit payable under Section 3.2 or Section 3.3. Such supplemental benefit (1) shall be payable in the same manner as a Normal Retirement Pension or Early Retirement Pension, and (2) shall, together with any supplemental retirement benefit payable under Section 4.8 of the Pre-2000 Restatement Plan, be disregarded in computing the amount of any benefit otherwise payable to a former Delta Mill Employee's surviving Spouse pursuant to Sections 3.6, 4.7(a)(2) or 4.7(a)(3) or in determining the amount of his reduced pension under any of the provisions of Section 4.7.

4.10 Death Benefit for Certain Employees Who Die Prior to Age

55. The death benefit provided in Section 3.9 shall be a monthly amount equal to 50 percent of the monthly benefit that would have been payable on a single life annuity basis to the Participant, commencing at age 55 if he had retired at age 55 with Years of Benefit Service equal to his actual Years of Benefit Service plus the Years of Benefit Service he would have earned up to age 55 if he had been regularly scheduled to work at least 40 hours per week until age 55 and had been actively employed as a Covered Employee between the date of his death and the fifty-fifth anniversary of his birth and shall be payable to the surviving Spouse until the earlier of her death, attainment of age 60 or remarriage.

4.11 Death Benefit for Certain Participants Who Commence Disability Pension Prior to Age 55. The death benefit provided in Section 3.10 shall be a monthly amount equal to (a) the greater of 25 percent of the monthly benefit that was paid to the Disability Pensioner just prior to his death or (b) the benefit provided under Section 4.6(a)(2). If the benefit provided under clause (a) of the immediately preceding sentence is greater than the benefit provided under Section 4.6(a)(2), the surviving Spouse will receive such benefit until such benefit is no longer greater than the benefit described under Section

4.6(a)(2) or the earlier of the surviving Spouse's death, attainment of age 60 or remarriage. Upon remarriage or attainment of age 60, the surviving Spouse shall receive the benefit described under Section 4.6(a)(2) for his or her life.

4.12 Increased Pre-Retirement Death Surviving Spouse Pension for Certain Employees Who Die Prior to Age 65. In the event of the death of a Covered Employee of the Company, other than a Delta Mill Employee and other than a Covered Employee whose principal place of employment is at the Company's Hampton Plant or at its Tucson Plant, who shall not have attained the age of 65, who shall have at least 30 Years of Vesting Service at the time of his death, and who shall leave a Spouse surviving him, notwithstanding the provisions of Section 4.6 or other provisions of the Plan taken into account in determining the amount of such benefit, the Pre-Retirement Death Surviving Spouse Pension such Spouse is entitled to pursuant to Section 3.6 payable to such Spouse as described in Section 4.6 shall be computed by applying no early commencement reduction (as provided in Section 4.7(a)(1)) if the Participant had attained at least age 61 and 11 months before his death, or would have (if he had survived) attained age 62 on or before the date as of which such Pre-Retirement Death Surviving Spouse Pension commences, and if the Participant had not attained at least age 61 and 11 months before his death, or would have (if he had survived) attained age 62 on or before the date as of which the Pre-Retirement Death Surviving Spouse Pension to which his Spouse is entitled pursuant to Section 3.6 commences, the Pre-Retirement Death Surviving Spouse Pension such Spouse is entitled to pursuant to Section 3.6 payable to such Spouse as described in

Section 4.6 shall, solely for purposes of applying the reduction for commencement of such benefit prior to the date the Participant would have attained age 65, be computed by applying no early commencement reduction (as provided in Section 4.7(a)(1)) with respect to the period after the date on which the Participant would have (if he had survived) attained age 62. For purposes of this Section 4.11 only, the following shall apply: "Company's Tucson Plant" means a Tucson plant of Brush Wellman Inc., Brush Ceramic Products Inc., or Zentrix Technologies Inc.; "Company's Hampton Plant" means the Hampton plant of Brush Wellman Inc.; "Covered Employee of the Company" means a Covered Employee of Brush Wellman Inc. or an Employer, but only with respect to periods a business organization was an Employer and only with respect to an Employee of the Employer who otherwise meets the requirements to be a Covered Employee described in Section 1.1(5).

4.13 Newburyport Employees. Notwithstanding any other provision of the Plan to the contrary, for all purposes under this Schedule B except Section 1.1(5), employment at or service at the Company's Newburyport, Massachusetts Ceramics Division shall be deemed employment at or service at the Company's Tucson Plant, and all provisions of this Schedule B with respect to employment at or service at the Company's Tucson Plant shall be construed and applied accordingly. For purposes of this Section 4.12 only, the following shall apply: "Company's Newburyport, Massachusetts Ceramics Division" means a Newburyport, Massachusetts Ceramics Division of Brush Wellman Inc. or Zentrix Technologies Inc.; and "Company's Tucson Plant" means a Tucson plant of Brush Wellman Inc., Brush Ceramic Products Inc., or Zentrix Technologies Inc.

ARTICLE V. - VARIOUS PROVISIONS CONCERNING PENSIONS

5.1 Application for Pensions. (a) A Participant eligible to receive a pension under the Plan if he were to terminate his employment with the Controlled Group and who wishes to terminate his said employment, and any Pensioner who is eligible for but is not receiving a pension, shall obtain a form of application for that purpose from his Employer or former Employer and shall sign and file with the Administrative Committee his application on such form, furnishing such information as the Administrative Committee may reasonably require, including satisfactory proof of his Age and that of his Beneficiary (if any) and any authority in writing that the Administrative Committee may request authorizing it to obtain pertinent information, certificates, transcripts and/or other records from any public office. An application for a Deferred Vested Pension may not be filed more than 90 days before such pension is to begin.

(b) Except as otherwise provided in Article III or IV, (1) no pension shall be payable hereunder for a Participant if he dies before any benefit hereunder has been paid or distributed to him, and (2) a Pensioner's pension hereunder shall not begin until he files an application for such pension pursuant to Section 5.1(a), but if his application is filed pursuant to Section

5.1(a) after his Normal Retirement Date and before his death, full payment of his pension under the Plan, retroactive to his Normal Retirement Date, shall be made to or for him (without interest) within 60 days after such application is filed. If an application for a pension is not filed by a Pensioner eligible therefor within four years after his Normal Retirement Date, the Administrative Committee shall mail (by certified or registered mail) to such pensioner at his last known address a reminder that he is eligible for such pension and an application therefor. If such application is not filed with the Committee in accordance with the provisions of the Plan within 180 days after it is so mailed to such Pensioner, his pension shall be forfeited; provided, however, that upon the subsequent filing of an application for such pension by such Pensioner, such pension shall be reinstated retroactive to his Normal Retirement Date (in accordance with the provisions of the first sentence of this subsection (b) and shall commence within 60 days after such application is filed.

5.1A Commencement and Duration of Pensions. (a) A Pensioner's Normal Retirement Pension shall begin on the first of the Month after his Retirement.

(b) A Pensioner's Early Retirement Pension, Special Early Retirement Pension or Deferred Vested Pension shall begin on the first of the Month after his Normal Retirement Date unless he elects, in accordance with Section 4.7(a)(1), to have such pension begin earlier, in a reduced amount if applicable.

(c) Except as otherwise provided in the Plan, after a Pensioner's Normal Retirement, Early Retirement, Special Early Retirement or Deferred Vested Pension has begun as provided in this Section 5.1A or in Section 4.7(a)(1), it shall, except as otherwise provided in the Plan, continue during his remaining lifetime, the last monthly payment of such pension being payable on the first of the Month in which he dies.

(d) A Pensioner's Disability Pension shall begin as of the first of the Month after at least five consecutive Months shall have elapsed since the date on which his

Permanent Total Disability began, provided a written application for a Disability Pension is received within six months after the termination of the Participant's employment with the Controlled Group. Such pension shall not be paid before the physician or clinic selected by the Company shall have found (in the manner set forth in Section 3.5) and certified to the Committee that such Pensioner is Permanently and Totally Disabled and that such disability has existed continuously for a period of five consecutive Months or more. After such pension begins it shall continue until the Pensioner dies but shall stop forthwith if the Pensioner ceases to be Permanently and Totally Disabled, if he reaches his Normal Retirement Date or he elects commencement of an Early Retirement Pension for which he is eligible. A person who shall refuse to submit to any medical examination required under this Schedule B shall not be entitled to receive any Disability Pension for so long as he refuses to submit to such examination. If a Pensioner's Disability Pension ceases for a reason other than his death, he may elect any Normal Retirement, Early Retirement or Deferred Vested Pension for which he also qualified on his Retirement. In determining the amount of any such Early Retirement or Deferred Vested Pension, no deductions or adjustments shall be made on account of the Disability Pension payments received by him before such recovery.

5.2 Payment of Pensions. (a) Except as otherwise provided in the Plan, the pension hereunder for each Pensioner or Beneficiary shall be paid monthly on the first of each Month for which his or her pension is payable, but no pension shall be payable for a Pensioner or Beneficiary unless he or she is living on the date his or her pension is to begin. No interest shall be due on any pension payment by reason of the fact that it is not paid on or before the date it is payable.

(b) A Participant whose employment with the Controlled Group has terminated at a time when the Participant has less than 5 Years of Vesting Service shall be deemed to have received a distribution of his entire accrued benefit under this Schedule B on the date his employment with the Controlled Group terminates. Anything in the Plan to the contrary notwithstanding, if the accrued benefit of a Participant who is reemployed by a Controlled Group Member was deemed distributed as of the date his employment with the Controlled Group terminated pursuant to this Section 5.2(b) or Section 10.2(3) (Coverage and Participation), his Years of Benefit Service credited to him during such period of employment shall be disregarded for the purpose of computing the amount of any pension to which he may thereafter be entitled on account of his period of employment with the Controlled Group occurring after such reemployment; provided, however, that if such Participant is reemployed as a Covered Employee not later than the occurrence of 5 consecutive 1-Year Breaks in Service after the date his employment with the Controlled Group terminated, such Participant shall be deemed to have repaid the full amount of his deemed distribution and his Years of Benefit Service shall be recredited to him hereunder.

(c) If an Employee or former Employee is employed by a Controlled Group Member on or after he has attained his Normal Retirement Date, no pension payment under this Schedule B shall be made for him for any Month the end of which occurs after he attains his Normal Retirement Date if (i) he is so employed during such Month, (ii) he completes at least 40 Hours of Service during such Month and (iii) he has been given such notice of suspension of benefits as may be required by applicable law. For a person who is employed as

an Employee after April 30, 2001, notwithstanding the foregoing provisions of this Section 5.2(c), this Section 5.2(c) shall not apply upon reemployment of a Participant, provision for which is made in Section 5.5.

(d) For a person who is employed as an Employee after April 30, 2001, the following shall apply: If a Participant who is reemployed by a Controlled Group Member has received a lump sum payment of his Accrued Benefit for any period of his employment with the Controlled Group prior to such reemployment, his Years of Benefit Service credited to him during such period of employment shall be recredited and considered in determining his regular pension in accordance with Section 4.1(c). Anything in the Plan to the contrary notwithstanding, if a Participant who is reemployed has received a lump sum payment of his accrued benefit for any period of employment and receives Years of Benefit Service upon reemployment for the period of employment for which he received the lump sum payment, the regular pension of the Participant shall be reduced (dollar for dollar) by the monthly amount of the Accrued Benefit with respect to which the lump sum payment was made.

5.2A Deduction of Other Benefits. There shall be no duplication as to any benefits attributable to contributions of an Employer payable under this Schedule B with respect to any Participant and any pension or similar benefit payable with respect to him under any other pension, annuity or welfare plan (or any similar plan), including without limitation any predecessor plan, maintained, or contributed to by any Employer, Controlled Group Member or any predecessor thereof, the amount of which is based in whole or in part on the same period of his employment with any Employer, any Controlled Group Member or any predecessor thereof or under any other benefit program (other than Social Security) payable with respect to him under any federal or state law the cost of which is borne directly or indirectly (through employer contributions, premiums, taxes or otherwise) by a Controlled Group Member including (but not limited to) workers' compensation and weekly indemnity insurance; and any such benefits shall be deducted from benefits otherwise payable with respect to him under this Schedule B (as determined by the Committee) to prevent any such duplication except to the extent that benefits payable with respect to him under such other plan or under such law are appropriately reduced or are stated or clearly intended to be in addition to benefits under this Schedule B or deducted from benefits payable under any other plan of any other Employer or other Controlled Group Member or predecessor thereof, provided, however, that no deduction shall be made in respect of unemployment compensation from the benefit of any Pensioner who shall have been employed by a Controlled Group Member on or after June 1, 1985. Except as otherwise provided in Section 5.1A(d), no pension or other benefit shall be paid for any Participant under more than one section of this Schedule B for the same period of time, based on the same period of employment. For purposes of this Section 5.2A, each Schedule shall be deemed to be a "plan."

If the benefits so deductible are stated as a specified amount per week for a designated calendar period, then the monthly amount of such benefits shall, for the purposes of this Section, be deemed to be 4-1/3 times such weekly amount.

Any lump sum payment which is in lieu of a definite, known amount of periodic payments of any such deductible benefits shall be deducted in the manner that would be applicable if such benefit had been paid at such periodic intervals, but the aggregate of the amount so deducted for such lump sum payment shall not exceed the amount of such lump sum

payment. The deduction of any other lump sum payment of such deductible benefits shall be prorated on a monthly basis from the date of payment thereof, after taking into account any other benefits otherwise payable to such Participant.

If a Participant receives a pension under the Plan during any period for which he later shall receive deductible benefits of the type referred to in this Section 5.2A, the amount of such previous pension payments shall be reimbursed to the Trust Fund upon payment of such deductible benefits applicable to such past period, but not in an amount exceeding the amount of such benefits which would have been deductible under this Section 5.2A if they had been paid at the beginning of, or periodically during, the period for which they were paid.

5.3 Transfers To and From Plan Coverage. (a) Upon the transfer of a Covered Employee to other employment with the Controlled Group (or upon an amendment to the Plan) which results in the Employee ceasing to be a Covered Employee, his Years of Benefit Service shall be frozen as of the date of such transfer or such amendment and, subject to the provisions of Section 5.2A, if at the time his employment with the Controlled Group is terminated he satisfies the eligibility requirements for any pension under the terms of this Schedule B then in effect, such Employee (or his Beneficiary, if applicable) shall be entitled to receive such pension under this Schedule B, based upon his frozen Years of Benefit Service under this Schedule B and calculated and payable in accordance with the provisions of this Schedule B in effect on the date his employment so terminates; provided, however, that no pension shall be paid under this Schedule B for any Employee who, on or before June 1, 1981, ceased to be a Covered Employee (and did not thereafter become a Covered Employee) and became a participant under the Brush Wellman Inc. Pension Plan for Exempt Salaried Employees (which, as subsequently amended from time to time prior to June 1, 2000, is hereinafter in this Section referred to as the "Salaried Plan"), who on the date his employment with the Controlled Group is terminated was eligible for a pension under the Salaried Plan or is eligible for a pension under Schedule A, and whose pension under the Salaried Plan or Schedule A commences (or is paid in a lump sum) on or after June 1, 1982; and provided further that no pension shall be paid under this Schedule B to any former Employee (or his Beneficiary) who, on May 31, 1982, was receiving a pension under the Pre-2000 Restatement Plan and under the Salaried Plan.

(b) Upon the transfer of an Employee, who ceased to be a Covered Employee and became a Participant under the Salaried Plan on or before June 1, 1981, from other employment with the Controlled Group (or upon an amendment to the Plan) which results in the Employee becoming a Covered Employee, such Employee's period of employment as a Covered Employee prior to June 1, 1981 shall not be counted as Years of Benefit Service under this Schedule B.

5.4 Reemployment of Pensioners. (a) For a person who is not employed as an Employee after April 30, 2001, the following shall apply:

If a Pensioner is reemployed by a Controlled Group Member before his Normal Retirement Date and is receiving compensation for work currently being performed, (1) pension payments to him, if any, shall not be paid for any month on the first day of which he is an Employee and during which he completes 40 Hours of Service, provided that, no

pension payment shall not be paid pursuant to this Section 5.4(a) unless he has been given such notice of such suspension, if any, as may be required by applicable law, (2) he shall be recredited for the Years of Benefit Service and the Years of Vesting Service he had at the time of the termination of his employment with the Controlled Group which made him eligible to receive a pension under the Pre-2000 Restatement Plan or this Schedule B (hereinafter in this Section 5.4(a) referred to as "original termination of employment"), and (3) upon subsequent termination of his employment, he shall be entitled to a pension in accordance with Section

4.1(c) if he then meets the requirements for a pension under this Schedule B; provided, however, that (A) the pension payable upon his subsequent termination of employment with respect to his period of employment with the Controlled Group prior to his original termination of employment shall not be less than it would have been if he had not been so reemployed, (B) in the case of a Pensioner who has completed two or more periods of employment with the Controlled Group, his benefits shall be calculated separately for each such period based on the benefit rate effective with respect to him under the provisions of the Pre-2000 Restatement Plan or this Schedule B, as applicable, as of his last day of employment during each such period, and (C) if his pension, other than a Disability Pension, commenced before such reemployment, there shall be deducted from the amount of his new monthly pension during the period it is paid to him the quotient obtained by dividing the total amount of pension payments previously paid to or for the Participant from the Trust Fund by the number of months of his remaining life expectancy (as of the date his pension again commences after his subsequent termination of employment) as determined in accordance with the mortality table set forth in Exhibit A.

(b) For a person who is employed as an Employee after April 30, 2001, the following shall apply:

(1) If a Participant is reemployed by a Controlled Group Member, no pension payments under this Schedule B shall be made for any Month beginning with the Month during which the Participant is credited with a "Year of Reemployment Service" if (i) on the first day of the Month he is an Employee (ii) he completes at least 40 Hours of Service during such Month and (iii) if his Normal Retirement Date has occurred, he has been given such notice of suspension of benefits, if any, as may be required by applicable law.

For purposes of this Section 5.4(b)(1), a Participant shall be credited with a "Year of Reemployment Service" on any anniversary of his Reemployment Commencement Date if he is credited with 1000 Hours of Service during the 12-month period beginning on the immediately preceding anniversary date.

(2) Without limitation of Section 5.4(b)(1): Any additional amount of pension earned by a Participant who is reemployed by a Controlled Group Member after the Participant's reemployment shall be paid only after the Participant's subsequent termination of employment from the Controlled Group, except that if the Participant's Normal Retirement Date has occurred any such additional amount of pension shall, subject to all other requirements of the Plan applicable to the commencement, duration and form of pension payments, be payable for any Month, the

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end of which occurs after he attains his Normal Retirement Date, unless (A) he is so employed during such Month, (B) he completes at least 40 Hours of Service during such Month and (C) he has been given such notice of suspension of benefits, if any, as may be required by applicable law. Upon the subsequent termination of employment from the Controlled Group by a reemployed Participant, he shall be entitled to a pension in accordance with Section 4.1(c) if he then meets the requirements for a pension under this Schedule B; provided, however, that if a Participant whose pension payments have not been paid in accordance with the provisions of Section 5.4(b)(1) becomes entitled to have his pension resume, the pension previously commenced and then ceased shall resume in the same amount and form in effect prior to the cessation and (a) if the prior pension commencement occurred prior to the Participant's Normal Retirement Date, any additional amount of pension payments earned by the Participant during the period of reemployment shall be governed by the generally applicable provisions of the Plan as if the Participant had then first terminated employment, and (b) if the prior pension commenced after the Participant's Normal Retirement Date, any additional amount of pension payments earned by the Participant during the period of reemployment shall be paid in the same form as the payments that were previously commenced.

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**EXHIBIT A
TO
SCHEDULE B**

OF

BRUSH ENGINEERED MATERIALS INC. PENSION PLAN

(June 1, 2000 Restatement)

For other than a benefit payable in a lump sum or deemed to be payable in a lump sum: a benefit of equivalent actuarial value to the monthly benefit payable in the single life only form commencing as of the same time as the benefit for which equivalent actuarial value is being determined, when computed on the basis of the actuarial factors and assumptions based upon the Projected Annuity Mortality Table (a table prepared by The Wyatt Company from the unadjusted mortality rates used in constructing the published GA-1951 Mortality Table for males projected 14 years by Scale C and set back five years for females) at 5 1/2% interest adjusted to a unisex basis for a participant population deemed to be 80% male and 20% female; provided, however, that with respect only to benefits commencing after January 1, 1999, equivalent actuarial value for purposes of the joint and survivor reductions provided for in Section 4.7(a)(2) and Section 4.7A shall be computed on the basis of the 1983 Group Annuity Mortality Table at 7% interest adjusted to a unisex basis for an 80% male and 20% female participant population and a complimentary 20% male and 80% female contingent annuitant population, and provided that the application of this proviso shall not result in a benefit payable that is less than the amount payable without regard to this proviso with respect to the benefit accrued prior to January 1, 1999.

For a benefit payable in a lump sum or deemed to be payable in a lump sum: a benefit of equivalent actuarial value (1) to the monthly benefit payable in the single life only form commencing as of the first day of the calendar month following the Participant's Normal Retirement Date (or if the first day of the month following the Participant's Normal Retirement Date has already occurred, the first day of the calendar month on which the pension would commence as a monthly benefit in the absence of the lump sum payment), or (2) if the Participant has attained the age and met the service requirements for immediate commencement of a monthly benefit, other than a monthly benefit payable because of the provisions of Section 4.7A, to the monthly benefit payable in the normal (single life only) form commencing as of the same time as the benefit for which equivalent actuarial value is being determined, if the application of this clause (2) produces a larger lump sum payment than the application of clause (1); in either case, when computed on the basis of the "applicable mortality table" and "applicable interest rate" where the "applicable mortality table" for this purpose means the table prescribed from time to time by the Secretary of Treasury pursuant to Section 417(e)(3) of the Internal Revenue Code as in effect on the date of distribution and the "applicable interest rate" for this purpose means the annual rate of interest for purposes of Section 417(e)(3) of the Internal Revenue Code using the Plan Year as the stability period and the second calendar month preceding the first day of the Plan Year as the lookback month in accordance with Treasury Regulation Section 1.417(e) - 1(d)(4).

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SCHEDULE BI

COVERED PLANTS, LOCATIONS, OPERATING UNITS AND CLASSIFICATIONS OF EMPLOYEES

This Schedule BI lists all covered plants, locations, operating units, and classifications of employees (to which coverage under this Schedule has been extended), and the later of the effective date of this Schedule BI or the effective date of coverage.

Plant, Location, Operating Unit, or Classification of Employees -----	Later of the Effective Date of this Schedule BI or the Date of Coverage -----
All Brush Wellman Inc. plants and locations in Tucson, Arizona	November 1, 1996
All Brush Ceramic Products Inc. plants and locations in Tucson, Arizona	January 1, 2001
All Zentrix Technologies Inc. plants and locations in Tucson, Arizona	January 1, 2001
All Brush Wellman Inc. plants and locations in Delta, Utah	November 1, 1996
All Brush Resources Inc. plants and locations in Delta, Utah	January 1, 2001
All Brush Wellman Inc. mining facilities in Juab County, Utah	November 1, 1996
All Brush Resources Inc. mining facilities in Juab County, Utah	January 1, 2001
All Brush Wellman Inc. plants and locations in Cleveland, Ohio	November 1, 1996
All BEM Services, Inc. locations	January 1, 2001
All Brush Wellman Inc. plants and locations in Elmore, Ohio	November 1, 1996
All Brush Wellman Inc. plants and locations in Shoemakersville, Pennsylvania	November 1, 1996

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Plant, Location, Operating Unit, or Classification of Employees	Later of the Effective Date of this Schedule BI or the Date of Coverage
All Brush Wellman Inc. plants and locations in Fremont, California	November 1, 1996
All Brush Wellman Inc. warehouses in Fairfield, New Jersey	November 1, 1996
All Brush Wellman Inc. warehouses in Warren, Michigan	November 1, 1996
All Brush Wellman Inc. warehouses in Elmhurst, Illinois	November 1, 1996
All Brush Wellman Inc. warehouses in Torrance, California	November 1, 1996
All Brush Wellman Inc. plants and locations in Newburyport, Massachusetts	November 1, 1996
All Zentrix Technologies Inc. plants and locations in Newburyport, Massachusetts	January 1, 2001
The Brush Wellman Inc. facility located at 7375 Industrial Parkway, Lorain, Ohio	January 1, 2002
All field sales employees of Brush Wellman Inc. assigned to any of the foregoing plants, locations, or warehouses	November 1, 1996
All field sales employees assigned to any of the foregoing plants, locations, or warehouses	January 1, 2001
All field sales employees assigned to any of the foregoing plants, locations, warehouses, or facility.	January 1, 2002

SCHEDULE C

SALARIED AND HOURLY EMPLOYEES OF TECHNICAL MATERIALS, INC.

ARTICLE I. - SPECIAL DEFINITIONS

1.1 Definitions. The following terms when used in this Schedule C with initial capital letters shall have the following respective meanings unless the context clearly indicates otherwise:

(1) **Accrued Benefit:** An amount, determined as of any specified date on or before Normal Retirement Date that is equal to the normal retirement benefit as determined under Section 3.2, calculated on the basis of the Participant's Final Average Monthly Pay as of the specified date, as if such date were his Qualifying Employment Severance Date, and multiplied by a fraction, the numerator of which is the number of his years of Benefit Service accumulated to such date and the denominator of which is the number of years of Benefit Service that he would have if he continued in the employment of the Employer until his Normal Retirement Date.

(2) **Actuarial Equivalent:** A benefit that has a value equal to the benefit or benefits otherwise payable, as determined pursuant to the provisions of Article VI.

(3) **Age:** A person's "Age" at any time shall be his age on the then most recent anniversary of his date of birth.

(4) **Beneficiary:** A Participant's Death Beneficiary, his Spouse or any other person (other than such Participant) who is or becomes entitled under this Schedule C, or under an option or options permitted by the terms of this Schedule C, to receive any part or all of a pension or other benefit payable with respect to such Participant.

(4A) **Controlled Group:** "Controlled Group" and "Controlled Group Member" shall have the respective definitions ascribed to such terms set forth in Section 1.1(7) of Article I - (Definitions and Interpretation), except that the Employer shall be substituted for the Company for purposes of such definitions with respect to periods prior to June 1, 2000.

(5) **Covered Employee:** An Hourly Covered Employee or a Salaried Covered Employee, but excluding any leased employee as such term is defined in Section 6.20 (Provision Pursuant to Internal Revenue Code Section 414(n)), and any person who is not treated by the Employer as an employee for purposes of Section 3401 of the Internal Revenue Code (without regard to any determination other than by the Employer that such person is or is not an employee for purposes of Section 3401 of the Internal Revenue Code and without regard to any retroactive treatment by the Employer of such person as an employee for purposes of Section 3401 of the Internal Revenue Code).

(A) Hourly Covered Employee: An Employee of an Employer who is employed on an hourly-rate basis (as distinguished from a salaried basis) but excluding any such Employee within a collective bargaining unit covered by a collective bargaining agreement with any Employer pursuant to which the Employer is required to make contributions to another pension, retirement profit sharing, annuity or similar retirement plan or arrangement for employees in such unit unless the collective bargaining representative for Employees in such unit and the Employer agree that this exclusion shall not apply to employees in such unit.

(B) Salaried Covered Employee: An Employee of an Employer who receives his regular compensation on a salary basis or on a salary and commission basis but excluding any such Employee within a collective bargaining unit covered by a collective bargaining agreement with any Employer pursuant to which the Employer is required to make contributions under another Schedule or to another pension, retirement profit sharing, annuity or similar retirement plan or arrangement for employees in such unit unless the collective bargaining representative for Employees in such unit and the Employer agree that this exclusion shall not apply to employees in such unit.

(6) Death Beneficiary: (a) A Participant's Death Beneficiary shall be his Spouse if such Spouse survives him, and if such Spouse's death occurs after the Participant's death, the Participant's Death Beneficiary shall be such Spouse's estate.

(b) If a Participant has no Spouse at the time of his death or his Spouse consents (in the manner hereinafter described in this paragraph (b)) to the designation hereinafter provided for in this paragraph (b), his Death Beneficiary shall be such person or persons (other than, or in addition to, his Spouse in the case of a married Participant) as may be designated by a Participant as his death beneficiary or contingent death beneficiary under the Plan. Such a designation may be made, revoked or changed only by an instrument (in a form acceptable to the Committee) which is signed by the Participant, which, if he has a Spouse, includes his Spouse's written consent to the action to be taken pursuant to such instrument (unless such action results in the Spouse being named as the Participant's sole Death Beneficiary), and which is filed with the Committee before the Participant's death. A Spouse's written consent required by this paragraph (b) shall be signed by the Spouse, shall acknowledge the effect of such consent, shall be witnessed by any person designated by the Committee as a Plan representative or by a notary public and shall be effective only with respect to such Spouse. A person designated by a Participant as a Death Beneficiary who ceases to exist shall not be entitled to any payment thereafter to be made to the Participant's Death Beneficiary; provided, however, that if a Participant's designation includes his Spouse, such Spouse's death occurs after the Participant's death and such designation does not provide that payments otherwise to be made to the Spouse shall be made to some other person or persons after such Spouse's death, such payments shall be made to the Spouse's estate. At any time when all the persons designated by the Participant as his Death Beneficiary have ceased to exist, his Death Beneficiary shall be his Spouse or, if he

does not then have a Spouse (and his Spouse's estate is not entitled to payments pursuant to the provisions of the immediately preceding sentence), such relative or relatives of the Participant (by blood, marriage or adoption) and in such proportions as the Committee may select, or, in the discretion of the Committee, the Participant's estate.

(c) If a Participant has no Spouse and he has not made an effective Death Beneficiary designation pursuant to paragraph (b) above, his Death Beneficiary shall be determined by the Committee as provided in the last sentence of such paragraph (b).

(7) Earnings: (A) For an Hourly Covered Employee, "Earnings" shall mean all nondeferred compensation (before withholdings and deductions for taxes or other purposes) paid in cash or by check by a Controlled Group Member to an Hourly Covered Employee except for (i) payment of, or reimbursement for, expenses or losses incurred or to be incurred by an Hourly Covered Employee, and (ii) all other payments which represent a fringe or supplemental benefit with respect to such an Hourly Covered Employee.

(B) For a Salaried Covered Employee, "Earnings" shall mean the regular base salary or base wages, overtime, incentive compensation paid pursuant to any incentive compensation plan (or any similar plan) of any Controlled Group Member, as from time to time in effect, and commissions paid or to be paid by a Controlled Group Member to a Salaried Covered Employee but exclusive of all other forms of compensation. Notwithstanding the foregoing, an amount that is includible in a Salaried Covered Employee's gross income for Federal income tax purposes as a result of performance restricted shares granted to the Salaried Covered Employee under the Brush Wellman Inc. 1995 Stock Incentive Plan, as amended or the Brush Engineered Materials Inc. 1995 Stock Incentive Plan, as amended (the "1995 Stock Plan") being not, or no longer being, subject to a substantial risk of forfeiture or restriction on transfer under the 1995 Stock Plan, as a result of a payment under the 1995 Stock Plan by a Controlled Group Member to the Salaried Covered Employee in respect of performance shares granted to the Salaried Covered Employee under the 1995 Stock Plan, or as a result of payment under the 1995 Stock Plan by a Controlled Group Member to the Salaried Covered Employee in respect of performance units granted to the Salaried Covered Employee under the 1995 Stock Plan, except for any such amount in respect of dividends or other distributions or dividend equivalents or equivalents to other distributions with respect to such performance restricted shares, performance shares, or performance units, shall be considered Earnings at the time that such amount is includible in the Salaried Covered Employee's gross income for Federal income tax purposes; provided, however, that in determining the amount of any such Earnings and the time at which any such amount is Earnings any election pursuant to Section 83(b) of the Internal Revenue Code shall be disregarded.

(C) Earnings shall not be affected by any compensation reduction elections of an Hourly Covered Employee or a Salaried Covered Employee under Internal Revenue Code Section 125 or 401(k).

(8) Employer: Technical Materials, Inc.

(8A) Employment Commencement Date: The date on which an Employee first performs an Hour of Service for a Controlled Group Member.

(9) Employment Severance and Employment Severance Date: An Employment Severance occurs on the earlier of (A) the date on which an Employee's employment with the Controlled Group is terminated because of death, resignation, Retirement or discharge or (B) (i) with respect to an Hourly Covered Employee, the first anniversary of the first day of a period in which the Hourly Covered Employee remains absent from employment (with or without pay) with the Controlled Group for any reason other than death, resignation, Retirement or discharge, or (ii) with respect to a Salaried Covered Employee, the later of (a) the first anniversary of the first day of a period in which the Salaried Covered Employee remains absent from employment (with or without pay) with the Controlled Group for any reason other than death, resignation, Retirement or discharge, or (b) the date on which the Salaried Covered Employee's disability benefit payable under any Long-Term Disability Benefit Contract applicable to him ceases; and the date on which an Employee's Employment Severance occurs shall be referred to as his Employment Severance Date.

(10) Final Average Monthly Pay: The amount determined by ascertaining the amount of an Employee's Earnings during each of the five highest consecutive calendar years (or, if he has been employed for a lesser number of consecutive calendar years, such lesser number of consecutive calendar years) ending not later than the end of the calendar year in which occurs the earliest of (A) his Qualifying Employment Severance Date, or (B) the effective date of the termination of the Plan with respect to him, and by dividing 60 into the total amount of his Earnings during such five consecutive calendar years; provided, however, that (i) if an Employee has less than five consecutive calendar years of employment with the Controlled Group upon the occurrence of such event, the average shall be taken over his total period of employment and (ii) if an Employee does not have any Earnings during a calendar year, such year shall be ignored for all purposes of this definition.

(11) Hour of Service: Hours of Service shall be credited in accordance with the following rules:

(A) An Employee shall be credited with one Hour of Service for each hour for which he is paid, or entitled to payment, by one or more Controlled Group Members for the performance of duties as an Employee.

(B)(i) An Employee shall be credited with one Hour of Service (on the basis set forth in subparagraph (iv) below) for each hour for which he is paid, or entitled to payment, by one or more Controlled Group Members on account of a period of time during which no duties are performed (irrespective of whether the employment relationship has terminated) due to vacation, holiday, illness, incapacity (including disability), lay-off, jury duty, military duty or leave of absence.

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(ii) Notwithstanding the foregoing provisions of this paragraph (B),

(a) no more than 501 Hours of Service shall be credited under this paragraph (B) to an Employee on account of any single continuous period during which he performs no duties (whether or not such period occurs in a single Plan Year);

(b) an hour for which an Employee is directly or indirectly paid, or entitled to payment, on account of a period during which no duties are performed shall not be credited to the Employee if such payment is made or due under a plan maintained solely for the purpose of complying with applicable worker's compensation or unemployment compensation or disability insurance laws; and

(c) Hours of Service shall not be credited for a payment which solely reimburses an Employee for medical or medically related expenses incurred by the Employee.

(iii) For purposes of this paragraph (B), a payment shall be deemed to be made by or due from a Controlled Group Member regardless of whether such payment is made by or due from such Controlled Group Member directly, or indirectly through, among others, a trust fund, or insurer, to which such Controlled Group Member contributes or pays premiums and regardless of whether contributions made or due to the trust fund, insurer or other entity are for the benefit of particular Employees or are on behalf of a group of Employees in the aggregate.

(iv) For purposes of this paragraph (B), an Employee shall be credited with Hours of Service on the basis of his regularly scheduled working hours per week (or per day if he is paid on a daily basis) or, in the case of an Employee without a regular work schedule, on the basis of 40 Hours of Service per week (or 8 Hours of Service per day if he is paid on a daily basis) for each week (or day) during such period of time during which no duties are performed. Notwithstanding the foregoing provisions of this subparagraph (iv), an Employee shall not be credited with a greater number of Hours of Service for a period during which no duties are performed than (a) the number of hours for which he is regularly scheduled for the performance of duties during such period or (b) in the case of an Employee without a regular work schedule, 40 Hours of Service per week (or 8 Hours of Service per day if he is paid on a daily basis).

(C) An Employee shall be credited with one Hour of Service for each hour for which back pay, irrespective of mitigation of damages, has been either awarded or agreed to by one or more Controlled Group Members, provided, however, that (i) an hour shall not be credited under both paragraph (A) or (B), as

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the case may be, and this paragraph (C), and (ii) Hours of Service credited under this paragraph (C) with respect to periods described in paragraph (B) shall be subject to the limitations and provisions set forth in said paragraph (B).

(D) Hours of Service shall be determined from records maintained by Controlled Group Members of hours for which payment is made or due, except that with respect to each Employee whose compensation is not determined on the basis of certain amounts for each hour worked during a given period and for whom hours of work are not required to be counted and recorded by any federal law (other than ERISA), he shall be credited with 45 Hours of Service for each week, or 10 Hours of Service for each day if he is paid on a daily basis, in which he is credited with an Hour of Service under paragraphs (A) or (B) of this subsection (11).

(E) No hour shall be counted more than once or be counted as more than one Hour of Service even though the Employee may receive more than straight-time pay for it.

(F) Hours of Service shall be credited to eligibility computation periods and Plan Years in accordance with the provisions of 29 C.F.R. Section 2530.200b-2(c), which provisions are hereby incorporated herein by reference.

(G) Anything in the Plan to the contrary notwithstanding, an Employee shall be credited with such Hours of Service not otherwise credited to him under the Plan as may be required by applicable law.

(12) Long-Term Disability Benefit Contract: Any contract or other arrangement entered into between an Employer and any commercial insurance carrier or any formalized plan or program of an Employer which is communicated in writing to the participants, the costs of which are borne in whole or in part by such Employer and which provides for long-term disability benefits for participants, on a uniform and nondiscriminatory basis, after termination of any said participant's active employment with every Employer because of bodily or mental injury or disease, as defined from time to time in such contract, arrangement, plan or program, and subject to the other provisions and conditions contained therein.

(13) Normal Retirement Date: The later of the date on which a person attains Age 65 or the fifth anniversary of the date he first commenced participation in the Plan.

(14) Pension Commencement Date: The date as of which a Participant's or Beneficiary's pension under this Schedule C, other than the disability retirement pension described in Section 3.6 or the disability benefit described in Section 3.7(3), commences or is to commence under the applicable terms of this Schedule C, irrespective of whether it has in fact commenced.

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(15) Pensioner: A former Employee whose Qualifying Employment Severance has occurred and who is eligible for or is receiving a pension under this Schedule C, even though such pension may not have commenced or will not commence until after the proper filing of an application and the arrival of the time at which such pension becomes payable.

(16) Pre-1985 Plan: The Technical Materials, Inc. Pension Plan as in effect prior to June 1, 1985.

(17) Plan Year: For purposes of this Schedule C only, the Plan Year for periods prior to June 1, 1984 shall be the calendar year, except that the final Plan Year ending before June 1, 1985 shall be the period beginning January 1, 1984 and ending May 31, 1984.

(17A) Qualifying Employment Severance and Qualifying Employment Severance Date: A Qualifying Employment Severance occurs on the Retirement of a Participant, a Participant's Employment Severance that makes him eligible for a deferred vested pension, or the death of a Participant if as a result of his death a benefit is payable under the Plan for a Beneficiary of his; and the date on which a Participant's Qualifying Employment Severance occurs shall be referred to as his Qualifying Employment Severance Date.

(18) Reemployment Commencement Date: The date following an Employee's Employment Severance Date on which he again performs an Hour of Service for a Controlled Group Member.

(19) Retirement: A Participant's Employment Severance which makes him eligible for a normal, late, early or disability retirement pension under this Schedule C.

(20) Service and Years of Service:

(A) General Rule. An Employee shall be credited with Vesting Service and Benefit Service pursuant to the provisions of this subsection (20) or, with respect to the period prior to June 1, 1985, Vesting Service and Benefit Service shall be equal to an Employee's "Year(s) of Service" credited to him in accordance with the provisions of the Pre-1985 Plan as in effect from time to time before such date if such provisions result in a greater period of Vesting or Benefit Service for the Employee.

(B) Vesting Service. An Employee's Vesting Service, which shall be used to determine his (or his Beneficiary's) eligibility for (as distinguished from the amount of) a benefit under this Schedule C, shall equal the total of his periods of employment with the Controlled Group beginning with his Employment Commencement Date or his Reemployment Commencement Date if applicable, and ending on his next following Employment Severance Date, except that if an Employee whose Employment Severance occurs by reason of his resignation, Retirement or discharge performs an Hour of Service for a Controlled Group Member during the 12 consecutive month period (or the 24 consecutive month period if such termination resulted from a reduction in force) beginning on his Employment Severance Date, the period beginning on such Employment Severance Date and ending on the date on which he

performs such Hour of Service shall be deemed to be employment with the Controlled Group; provided, however, that if such Employee's Employment Severance occurs by reason of his resignation, Retirement or discharge during a period of absence referred to in Section 1.1(9)(B)(i), the period beginning on his Employment Severance Date and ending on the date on which he performs such Hour of Service shall not be deemed to be employment with the Controlled Group unless such Hour of Service is performed within 12 months of the date on which such period of absence commenced. Notwithstanding the preceding sentence, in the case of an Employee who, on or after June 1, 1985, became a Covered Employee under and by reason of an amendment to the Pre-2000 Restatement Plan, or becomes a Covered Employee by reason of an amendment to this Schedule C, or by reason of a transfer from other employment with the Controlled Group and whose service before so becoming a Covered Employee under any other Schedule or pension or annuity plan (or any similar plan) maintained or contributed to by a Controlled Group Member was determined on the basis of computation periods, such Employee shall be credited with Vesting Service consisting of:

(i) a number of years equal to the number of years of service credited to the Employee for vesting purposes before the computation period during which the transfer occurs, and

(ii) the greater of (a) the Vesting Service that would be credited to the Employee under this subsection (20) during the entire computation period in which the transfer occurs or (b) the service for vesting purposes taken into account under the computation periods method as of the date of the transfer; and

in addition, the Employee shall be credited with Vesting Service for his period of employment with the Controlled Group subsequent to the transfer commencing on the day after the last day of the computation period in which the transfer occurs. Notwithstanding the foregoing provisions of this subsection (20), an Employee shall not be credited with Vesting Service for any period after the termination of the Plan as to him.

(C) Benefit Service. An Employee's Benefit Service, which shall be used to determine the amount of (as distinguished from his eligibility for) any benefit, shall mean his periods of employment with the Controlled Group

(i) during which he is a Covered Employee (or is deemed to be a Covered Employee pursuant to Section 3.7) and (ii) which occur between his Employment Commencement Date or his Reemployment Commencement Date, if applicable, and his next following Employment Severance Date.

(D) Years of Service. In determining the number of an Employee's Years of Vesting Service, all periods of his employment with the Controlled Group (whether or not consecutive) counted as Vesting Service pursuant to paragraph (B) above shall be aggregated on the basis of full years and months to the nearest month. In determining the number of an Employee's Years of Benefit Service, each period of his employment with an Employer counted as Benefit Service pursuant to (C) above shall be separately determined on the basis of full years and months to the nearest month in each such period.

(21) Year of Benefit Service: See Section 1.1(20).

(22) Year of Eligibility Service: An Employee shall be credited with a Year of Eligibility Service if he is credited with at least 1,000 Hours of Service in the 12-month period beginning on his Employment Commencement Date (or, in the case of an Employee whose Employment Severance occurs before he completes such 12-month period, in the 12-month period beginning on his Reemployment Commencement Date), provided that an Employee who is not credited with at least 1,000 Hours of Service during such 12-month period shall be credited with a Year of Eligibility Service if he is credited with at least 1,000 Hours of Service during the Plan Year which includes the first anniversary of his Employment Commencement Date (or his Reemployment Commencement Date) or any Plan Year thereafter.

(23) Year of Vesting Service: See Section 1.1(20).

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ARTICLE II. - ELIGIBILITY REQUIREMENTS FOR PARTICIPATION IN THE PLAN

2.1 Commencement of Participation. (1) A person who, on May 31, 2000, is a "Participant" under the Pre-2000 Restatement Plan or satisfied the eligibility requirements of the Pre-2000 Restatement Plan, and who is a Covered Employee (or a Pensioner) on June 1, 2000, shall become, or shall continue to be, a Participant under this Schedule C on June 1, 2000.

(2) An Employee who is not a Participant pursuant to Section

2.1(1) shall become a Participant under this Schedule C on the date on or after June 1, 2000 on which he satisfies the following eligibility requirements: (A) he is a Covered Employee, (B) he has attained Age 21, and (C) he has been credited with a Year of Eligibility Service.

(3) If a person ceased to be a Participant under the Pre-2000 Restatement Plan prior to June 1, 2000, or ceases to be a Participant under this Schedule C on or after June 1, 2000, and he again becomes an Employee on or after June 1, 2000, he shall again become a Participant as of the date he so again becomes an Employee whether or not he again becomes a Covered Employee.

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ARTICLE III. - PENSION AND DEATH BENEFITS

3.1 Pensions Prior to June 1, 2000. An Employee or former Employee shall not be eligible for a pension under the Plan as hereby restated as of June 1, 2000 unless, in addition to any other requirements set forth in the Plan, his Qualifying Employment Severance occurs on or after June 1, 2000. The pension payable to or for an Employee or former Employee whose Qualifying Employment Severance occurred before June 1, 2000 (and who is not rehired thereafter) shall be determined by and paid in accordance with the terms and provisions of the Pre-2000 Restatement Plan as in effect at the date of such Qualifying Employment Severance except to the extent certain provisions of the Plan as hereby restated as of June 1, 2000 apply to such pension in accordance with Section 10.1 (Employment Termination Prior to June 1, 2000). Notwithstanding the foregoing provisions of this Section 3.1, or any other provision of the Plan, or any prior provision of the Plan or any predecessor plan document, the second paragraph of Section 4.2(1)(C) shall apply with respect to any benefit payable in a lump sum after May 31, 2000 or deemed to be payable after May 31, 2000 in a lump sum, without regard to when employment termination occurred.

3.2 Normal Retirement Pension. Each Participant whose Employment Severance Date occurs at his Normal Retirement Date shall be entitled to receive a monthly normal retirement pension determined as of such date. The amount of his monthly pension shall be equal to thirty-five percent (35%) of his Final Average Monthly Pay; reduced by one-thirtieth (1/30) for each year of Benefit Service of his less than thirty (30). The normal retirement pension shall commence as of the first day of the first Month following the Participant's Retirement. A Participant's right to his normal retirement pension shall be nonforfeitable upon his attainment of his Normal Retirement Date.

3.3 Late Retirement Pension. A Participant who remains in the employ of the Controlled Group after his Normal Retirement Date may commence to receive his monthly late retirement pension (which shall be computed on the same basis as the normal retirement pension) as of the first day of the month following his actual Retirement.

The amount of a Participant's late retirement pension shall be equal to the greater of: (a) the Actuarial Equivalent of the monthly amount that would have been payable to such Participant as of the first day of the first Month following his Normal Retirement Date; or (b) thirty-five percent (35%) of the Participant's Final Average Monthly Pay, reduced by one-thirtieth (1/30) for each year of Benefit Service of his less than thirty (30).

3.4 Early Retirement Pension. (1) A Participant having at least 15 Years of Vesting Service whose Employment Severance Date occurs on or after he attains Age 60 but before his Normal Retirement Date shall be eligible for an early retirement pension.

(2) The monthly amount of such early retirement pension shall be equal to his Accrued Benefit determined as of his Employment Severance Date.

(3) The early retirement pension shall commence as of the first day of the first Month following the Participant's Normal Retirement Date. The Participant may elect, however, to have his early retirement pension commence, in a reduced amount, equal to the Actuarial Equivalent (determined pursuant to Section 6.1(1)) of his Accrued Benefit determined as of his Employment Severance Date, as of the first day of any earlier Month designated by him, which day is subsequent to his Retirement and to his filing with the Administrative Committee of his request for such earlier commencement.

3.5 Deferred Vested Pension. (1) A Participant having at least five Years of Vesting Service at the time his Employment Severance Date occurs and who is not eligible for a pension under any other Section of this Article III shall be eligible for a deferred vested pension in an amount equal to his Accrued Benefit as of such date.

(2) The deferred vested pension shall commence as of the first day of the first Month following the Participant's Normal Retirement Date. A Participant who has a Qualifying Employment Severance and who, subsequent to his Qualifying Employment Severance Date, satisfies the age and service requirements of Section 3.4, shall, however, have the right to elect to receive the Actuarial Equivalent of his deferred vested pension as of the first day of any Month following what would have been his early retirement date under the provisions of Section 3.4. Actuarial Equivalence under this subsection (2) shall be determined pursuant to Section 6.1(1).

3.6 Disability Retirement for Certain Hourly Covered Employees. (1) A Participant whose Employment Severance occurs when he is an Hourly Covered Employee and before he reaches his Normal Retirement Date by reason of his total and permanent disability shall be eligible for a disability retirement pension as hereinafter provided in this Section 3.6.

(2) The monthly amount of such disability retirement pension shall be equal to his Accrued Benefit (which shall then immediately become fully vested even if he then has less than 5 years of Vesting Service) determined as of his Qualifying Employment Severance Date.

(3) The disability retirement pension shall commence as of the first day of the Month following the Participant's Qualifying Employment Severance Date and shall terminate with the payment for the Month in which the earliest of the following events shall have occurred, namely, the death of the disability pensioner, his sixty-fifth birthday, a determination by the Employer's doctor that his total and permanent disability has ended or the Pensioner has engaged in an occupation or employment other than for rehabilitation, or as provided in Section 3.6(5).

(4) "Total and permanent disability" shall mean suffering from a physical or mental condition that in the opinion of the Administrator, based upon appropriate medical advice and examination by the Employer's doctor, can be expected to result in death or can be expected to last for a continuous period of no less than twelve (12) months and which condition has existed for a period of at least three (3) months, and in accordance with uniform and

consistent rules, prevents a Participant from engaging in any substantial gainful activity. Notwithstanding any other provision of this Section which may be to the contrary, if it shall be determined by the Social Security Administration that a Participant is entitled to a Social Security Disability Benefit, he shall be deemed totally and permanently disabled for purposes of this Section.

(5) The disability pensioner shall be subject to a medical examination by the Employer's doctor at least once annually or at such other reasonable times as may be necessary in order to determine whether or not he continues to be totally and permanently disabled. If a disability pensioner shall refuse to submit to a medical examination reasonably requested, his disability pension will be forfeited until he submits to such examination.

(6) If such pensioner shall continue to be totally and permanently disabled until his sixty-fifth birthday, if he ceases to be permanently and totally disabled as described in Section 3.6(3), or if he elects to commence payment of an early retirement pension or deferred vested pension for which he is eligible (other than pursuant to Section 4.2(1)(C)), he shall thereafter no longer be entitled to a disability retirement pension under the provisions of this section, but he shall thereafter be entitled to receive any normal retirement pension, early retirement pension, or deferred vested pension, as applicable, for which he is eligible pursuant to the provisions hereof as in effect at the time of his Qualifying Employment Severance Date.

(7) In the event of a determination prior to a disability pensioner's sixty-fifth birthday that such pensioner is no longer totally and permanently disabled within the meaning of Section 3.6(4) and if he reenters employment covered by this Schedule C, his Benefit Service and Vesting Service credited to him at the time of his Qualifying Employment Severance Date shall be restored and he shall upon such reemployment accrue benefits under this Schedule C based upon his employment both before his Qualifying Employment Severance and after his reemployment.

(8) Notwithstanding any other provision of the Plan to the contrary, a Participant who qualifies for the disability retirement pension under the provisions of this Section and who is eligible for any other pension hereunder at the time of his Employment Severance and elects to commence payment of such other pension (other than pursuant to Section 4.2(1)(C)) shall not be eligible for the disability pension under the provisions of this Section.

3.7 Disability Benefits for Certain Salaried Covered Employees. (1) Anything in the Plan to the contrary notwithstanding, but subject to the other provisions of this Section 3.7, (A) a Participant who has been credited with at least 5 Years of Vesting Service and whose Employment Severance occurs by reason of bodily or mental injury or disease (as defined in any Long-Term Disability Benefit Contract applicable to him) before his Normal Retirement Date and who at the time of his Employment Severance was regularly scheduled to work for his Employer as a Salaried Covered Employee, shall be deemed, solely for the purposes of this Schedule C (including Section 3.8) to continue to be a Participant in the employment of the Employer as a Salaried Covered Employee and to be receiving compensation (with no

change therein after becoming disabled) as a Participant and a Salaried Covered Employee until the earlier of (i) the day immediately preceding his Pension Commencement Date, or (ii) the date on which his disability benefits (payable under such Long-Term Disability Benefit Contract) cease because of his recovery from his disability, his election to terminate such disability benefits, his death or otherwise, and (B) except as otherwise provided in subsection (2) of this Section 3.7, the occurrence of such event shall for all purposes of this Schedule C be treated as such Participant's Qualifying Employment Severance.

(2) If a Participant's disability benefits under any Long-Term Disability Benefit Contract cease before he reaches his Normal Retirement Date, he may elect any early retirement or deferred vested pension for which he then qualifies under the provisions of this Schedule C then in effect; provided, however, that for the sole purpose of determining his Years of Vesting Service, his Employment Severance Date shall be determined pursuant to Section

1.1(9)(B)(ii)(a). In determining the amount of any such early retirement or deferred vested pension, no deductions or adjustments shall be made on account of any payments received by him under a Long-Term Disability Benefit Contract before such recovery.

(3) If on a Participant's Employment Severance Date occurring before his Normal Retirement Date, he is not a Salaried Covered Employee, he is not entitled to disability benefits under any Long-Term Disability Benefit Contract, he is not an Hourly Covered Employee, he is entitled to disability benefits under any other Schedule, or under any other qualified defined benefit plan (herein called "Other Plan") established and maintained by a Controlled Group Member, and the requirements for determining whether he is disabled so as to be entitled to disability benefits under the other Schedule or Other Plan are comparable to those set forth in this Section 3.7, such Participant shall be eligible for a disability retirement pension under this Schedule C determined under Section 3.6 treating such Participant as an Hourly Covered Employee as of his Employment Severance.

(4) Notwithstanding the foregoing provisions of this Section

3.7, if the disability benefit provided under this Section 3.7 does not meet the current availability test of Section 401(a)(4) of the Code and regulations promulgated thereunder for a Plan Year, the provisions of this Section 3.7 shall not apply to any Participant who is a "highly compensated employee" (as defined in Internal Revenue Code Section 414(q)) and whose Employment Severance occurs during such Plan Year.

3.8 Pre-Retirement Surviving Spouse Pension. (1) If a Participant who (a) has at least one Hour of Service under the Plan on or after August 23, 1984 or one hour of paid leave from a Controlled Group Member on or after August 23, 1984 and (b), immediately before his death was eligible for a normal retirement pension, early retirement pension or deferred vested pension under the Plan dies before his Pension Commencement Date, his surviving Spouse, if any, shall be eligible to receive a monthly pension determined in an amount under, and payable as provided in, subsection (2) of this Section 3.8.

(2) The monthly amount of the surviving Spouse pension under Section 3.8(1) shall be,

(a) in the case of a Participant who dies after attaining Age 60 and either (i) at a time when he is credited with at least 15 Years of Vesting Service or (ii) on or after his Normal Retirement Date, that amount which the surviving Spouse would have been entitled to receive pursuant to Section 4.1(1) if (A) such Participant's Pension Commencement Date occurred on the day before his death (assuming the Plan so provided) and (B) he had not waived the 50% Qualified Joint and Survivor Annuity provided for in Section 4.1; such pension shall begin with the first day of the Month after the Month in which he is deemed to have begun receiving his pension, if his Spouse is living on such day, and shall continue during her remaining lifetime, the last monthly payment of such pension being payable on the first day of the Month in which she dies;

(b) in the case of a Participant who dies on or before attaining Age 60 and at a time when he is credited with at least 15 Years of Vesting Service, that amount which the surviving Spouse would have been entitled to receive pursuant to Section 4.1(1) if such Participant had (i) survived to the date of his 60th birthday, (ii) his Pension Commencement Date occurred on his 60th birthday (assuming the Plan so provided) and his pension was payable as a 50% Qualified Joint and Survivor Annuity, and (iii) died on the day following such 60th birthday; such pension shall begin with the first day of the Month in which the Participant would have attained age 60, and shall continue during the Spouse's remaining lifetime, the last monthly payment of such pension being payable on the first day of the Month in which she dies; and

(c) in the case of a Participant who dies before attaining his Normal Retirement Date and at a time when he is credited with at least five but less than 15 Years of Vesting Service that amount which the surviving Spouse would have been entitled to receive pursuant to Section 4.1(1) if such Participant had (i) survived to his Normal Retirement Date, (ii) his Pension Commencement Date occurred on his Normal Retirement Date (assuming the Plan so provided) and his pension was payable as a 50% Qualified Joint and Survivor Annuity, and (iii) died on the day following his Normal Retirement Date; such pension shall begin with the first day of the Month in which the Participant would have attained his Normal Retirement Date, and shall continue during the Spouse's remaining lifetime, the last monthly payment of such pension being payable on the first day of the Month in which she dies.

(3) The amount of the surviving Spouse pension under this Section 3.8 shall be based on the Participant's Years of Vesting Service and Accrued Benefit as of the date of his death.

(4) Notwithstanding the foregoing provisions of this Section

3.8, a surviving Spouse may elect to defer, in accordance with Committee rules which are not violative of any applicable law, the commencement of pension payments to her under this Section 3.8 until a date which is not later than the latest permissible commencement date applicable to her under Section 6.14 (Provision Pursuant to Internal Revenue Code Section 401(a)(9)).

(5) A Participant described in Section 4.2(3) may elect at any time during the "applicable election period" as defined below to waive the Pre-Retirement Surviving Spouse Pension that would otherwise be payable under Section 3.8 provided that:

(a) The Participant's Spouse consents in writing to the election to waive such form of payment;

(b) The election designates a beneficiary, or a different form of payment, which may not be changed without the consent of the spouse (unless any written consent of the Spouse to the designation of a particular beneficiary or a different form of payment expressly permits subsequent designations by the Participant without any requirement of further consent by the Spouse);

(c) The written consent of the Spouse acknowledges the effect of such election and is witnessed by either a Plan representative or a notary public.

The foregoing requirements for a valid spousal consent need not be met if it is established to the satisfaction of the Plan representative that the required spousal consent cannot be obtained, because the Spouse cannot be located, because there is no Spouse, or because of such other circumstances as are described in the Internal Revenue Code and regulations promulgated thereunder. A Participant may revoke any election described in this Section 3.8(5) above at any time during the applicable election period. The "applicable election period" shall mean, with respect to any permitted election to waive the Pre-Retirement Surviving Spouse Pension, the period which begins on the first day on which the Participant can make the election described in Section 4.2(3) and ends on the last day of the period during which the Participant can make the election described in Section 4.2(3). The Committee shall provide each Participant within the "applicable election period" for such Participant and prior to the date on which the Participant makes an election described in Section 4.2(3), a written explanation of the Pre-Retirement Surviving Spouse Annuity in such terms and in such a manner as would be comparable to the explanation provided for meeting the requirements of Section 4.1 applicable to a 50% Qualified Joint and Survivor Annuity.

(6) If part of a Participant's pension has commenced, the pre-retirement surviving spouse pension described in this Section 3.8 shall not apply with respect to the part of the Participant's pension that commenced.

3.9 [Reserved]

3.10 Normal Form of Benefit Payments. Except as otherwise provided in this Schedule C, all pensions payable under the provisions of Section 3.2, 3.3, 3.4, 3.5, 3.6, or 3.7(3) shall be paid in the form of monthly installments payable to and during the lifetime of the Participant with the provision that if the Participant should die within 120 months of the commencement of his monthly pension, such pension shall then be paid to his Death Beneficiary (as defined in Section 1.1(6)) for the balance of the 120 month period, provided, however, that the foregoing provisions of this Section providing for the continuation of pension payments until 120 monthly payments have been made shall not apply to pensions payable under Section 3.6 or Section 3.7(3).

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ARTICLE IV. - OPTIONAL FORMS OF BENEFITS

4.1 50% Qualified Joint and Survivor Annuity. (1) If a Participant has a Spouse on his Pension Commencement Date, the pension payable for such Participant under the Plan, other than the pension described in Section 3.6 or Section 3.7(3), shall be in the form of a 50% Qualified Joint and Survivor Annuity (as such term is defined in subsection (2) of this Section) unless he effectively waives such 50% Qualified Joint and Survivor Annuity during the election period for this purpose specified in Section 4.4, in which case his pension, other than the pension described in Section 3.6 or Section 3.7(3), shall be payable to him as provided in Section 3.10, or he effectively elects some other optional form of benefit as provided in Section 4.2 or Section 4.3.

(2) For purposes of this Section, the term "50% Qualified Joint and Survivor Annuity" shall mean a reduced pension payable for a Participant during his lifetime and, after his death, a pension payable during the surviving lifetime of his Spouse to whom the Participant was married on his Pension Commencement Date at the rate of 50% of the reduced pension payable during the joint lives of the Participant and his Spouse. The reduced pension shall be the Actuarial Equivalent of the pension otherwise payable for the Participant. Pension payments for the Spouse shall commence on the first day of the Month following the Month in which the Participant dies, provided the Spouse is living on such day and is otherwise eligible to receive such payments under this Section, and shall continue during the Spouse's remaining lifetime, the last monthly payment being payable on the first day of the Month in which the Spouse dies. If a Participant's Spouse predeceases the Participant before the Participant's Pension Commencement Date, the Participant shall be treated as though he had elected to waive the 50% Qualified Joint and Survivor Annuity. If a Participant's Spouse dies on or after the Participant's Pension Commencement Date, the Participant's reduced pension will not be increased thereby.

4.2 Other Options. (1) Instead of the pension to which a Participant is or may become entitled pursuant to other Sections hereof, other than Section 3.6 and Section 3.7(3), he may elect (subject to the provisions of this Section and to such rules as may be adopted by the Administrative Committee) any one of the optional forms of benefits specified in the following paragraphs. Any such optional form of benefit shall be the Actuarial Equivalent of the pension otherwise payable for the Participant.

(A) Joint Pensioner Options. A Participant may elect to receive a reduced pension payable for him during his lifetime on and after his Pension Commencement Date and after his death to have a pension payable during the surviving lifetime of and for a natural person designated by the Participant for such purpose (herein called "Joint Pensioner") at the same reduced rate payable to the Participant or (if elected by the Participant) at a percentage of the reduced pension payable for the Participant; provided, however, that such percentage shall be no less than 50 percent. Pension payments for the Joint Pensioner shall begin as of the first day of the Month after the Month in which the Participant dies, provided his death does not void this option as provided in Section 4.4(4), and provided the Joint Pensioner is living on such day, and the last monthly payment for the Joint Pensioner shall be payable as of the first day of the Month

in which the Joint Pensioner dies. If a Participant's Joint Pensioner dies before the Participant's Pension Commencement Date, the election shall be of no effect and the Participant shall be treated the same as though he had not elected an option pursuant to this paragraph. If a Participant's Joint Pensioner dies on or after the Participant's Pension Commencement Date and while the Participant is living, the option elected shall continue in force and the Participant's reduced pension will not be increased thereby.

(B) Life Only Option. A Participant may elect to receive a pension for his life only, without a guarantee of a minimum number of payments.

(2) Reserved.

4.3 Small Lump Sum Option. If, following a Participant's termination of employment with the Controlled Group, the lump sum amount that is the Actuarial Equivalent of the Participant's vested accrued pension does not exceed \$5,000 (as adjusted annually commencing with the Plan Year beginning June 1, 1986 by the percentage increase or decrease in the maximum annual benefit guaranteed by the Pension Benefit Guaranty Corporation), such lump sum amount may, subject to applicable law and regulations, with the written consent of the Participant, and with the written consent of his Spouse, if any, meeting the requirements of Section 4.4 filed with the Committee, be paid to the Participant in lieu of all other benefits, to the recipient before his pension benefit would otherwise commence under the Plan. To the extent required by regulations, the Participant will be provided with the option of receiving an immediate single life annuity if unmarried or an immediate 50% Qualified Joint and Survivor Annuity if married, which shall be computed by converting the lump sum value otherwise payable under this Section 4.3 to an immediate single life annuity for the Participant's life using the same actuarial assumptions as used to determine the lump sum, and if applicable, by converting such single life annuity to an immediate 50% Qualified Joint and Survivor Annuity using the basis set forth in clause (3) of Section 6.1.

4.4 Participant Elections. (1) The Administrative Committee in accordance with applicable law and regulations shall deliver to each Participant, not less than 30 days and not more than 90 days before his Pension Commencement Date, a written explanation of:

- (a) the terms and conditions of the forms of payment available, including the 50% Qualified Joint and Survivor Annuity;
- (b) the Participant's right to make, and the effect of, an election to waive the 50% Qualified Joint and Survivor Annuity;
- (c) the rights of the Participant's Spouse; and
- (d) the right to make, and the effect of, a revocation of an election to waive the 50% Qualified Joint and Survivor Annuity.

(2) A Participant's election of a form of benefit payment, including a waiver of the 50% Qualified Joint and Survivor Annuity, and any revocation of such waiver, may be made solely by an instrument (in a form acceptable to the Administrative Committee) signed by the Participant and filed with the Committee during the 90-day period ending on his Pension Commencement Date. Any election to waive the 50% Qualified Joint and Survivor Annuity (and to elect any other option under Section 4.2) must be consented to by the Participant's Spouse in writing, and such consent must be witnessed by a Plan representative or notary public. Any such consent shall not be required if the Participant establishes to the satisfaction of a Plan representative that such written consent may not be obtained because there is no Spouse or the Spouse cannot be located.

(3) An election of an option or options under this Section may be made (and may be rescinded), the Participant's Beneficiary and the portion of the Participant's reduced pension to be paid after his death to his Joint Pensioner may be designated (and such designations may be changed), solely by an instrument (in a form acceptable to the Administrative Committee) signed by the Participant and, except as otherwise specifically provided in this Section, filed with the Administrative Committee while the Participant is living and before the date his pension is to commence. Except to the extent otherwise required by law and the other provisions of the Plan, the consent of a Participant's Beneficiary to any rescission or change in an option or the terms thereof or to a change in the Participant's Joint Pensioner or Death Beneficiary shall not be required.

(4) The time for the commencement of payments to the Participant shall not be affected by the election of a joint pensioner option. Except as otherwise provided in the immediately following sentence, if a Participant duly elects a joint pensioner option and dies before his Pension Commencement Date, the election shall be void. With respect only to elections made prior to June 1, 2002, instead of any benefit that would otherwise be payable for a Participant pursuant to any other Section of this Schedule C, including Section 3.8, if a Participant duly elects a joint pensioner option and dies on or after his Normal Retirement Date and before his pension under this Schedule C begins, and the Participant has waived the benefit provided under Section 3.8, the election of such an option shall not be voided by his death and pension payments shall be made to his Beneficiary pursuant to the option elected in the same manner as if the Participant's pension hereunder were payable in the Month before the Month in which he died.

(5) Notwithstanding any other provision of this Section, a Participant's election of an option provided for in or permitted by this Section shall not become effective unless the present value of the payments expected to be made to him hereunder is more than 50% of the present value of the total of the payments expected to be made hereunder to him and his Beneficiaries (all as determined by the Administrative Committee), but this limitation shall not apply to the joint pensioner option provided for in Section 4.2(1)(A) if the Participant's Spouse is the Participant's Joint Pensioner.

(6) The rules of the Administrative Committee with respect to optional forms of benefits may be changed by the Administrative Committee from time to time, but they shall be uniform in their application to all Participants who are similarly situated.

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ARTICLE V. - VARIOUS PROVISIONS CONCERNING PENSIONS

5.1 Application for Pensions. (1) A Participant eligible to receive a pension under the Plan if he were to terminate his employment with the Controlled Group and who wishes to terminate his said employment, and any Pensioner who is eligible for but is not receiving a pension, shall obtain a form of application for that purpose from his Employer or former Employer and shall sign and file with the Administrative Committee his application on such form, furnishing such information as the Administrative Committee may reasonably require, including satisfactory proof of his Age and that of his Beneficiary (if any) and any authority in writing that the Administrative Committee may request authorizing it to obtain pertinent information, certificates, transcripts and/or other records from any public office. An application for a deferred vested pension may not be filed more than 90 days before such pension is to begin.

(2) Except as otherwise provided in Article III or IV, (A) no pension shall be payable hereunder for a Participant if he dies before any benefit hereunder has been paid or distributed to him, and (B) a Pensioner's pension hereunder shall not begin until he files an application for such pension pursuant to Section 5.1(1), but if his application is filed pursuant to Section 5.1(1) after his Normal Retirement Date and before his death, full payment of his pension under the Plan, retroactive to his Normal Retirement Date, shall be made to or for him (without interest) within 60 days after such application is filed. If an application for a pension is not filed by a Pensioner eligible therefor within four years after his Normal Retirement Date, the Administrative Committee shall mail (by certified or registered mail) to such Pensioner at his last known address a reminder that he is eligible for such pension and an application therefor. If such application is not filed with the Committee in accordance with the provisions of the Plan within 180 days after it is so mailed to such Pensioner, his pension shall be forfeited; provided, however, that upon the subsequent filing of an application for such pension by such Pensioner, such pension shall be reinstated retroactive to his Normal Retirement Date (in accordance with the provisions of the first sentence of this subsection (2)) and shall commence within 60 days after such application is filed.

5.2 Payment of Pensions. (1) Except as otherwise provided in the Plan, any pension hereunder shall be paid monthly as of the first day of each Month for which a pension is payable, but no pension shall be payable for a Pensioner or Beneficiary unless he is living on the date his pension is to begin.

(2) For a person who is employed as an Employee after April 30, 2001, the following shall apply: If an Employee is employed by a Controlled Group Member on or after he has attained his Normal Retirement Date, his pension shall, subject to all other requirements of the Plan applicable to the commencement, duration and form of pension payments, be payable for any Month, the end of which occurs after he attains his Normal Retirement Date, unless (i) he is so employed during such Month, (ii) he completes at least 40 Hours of Service during such Month and (iii) he has been given such notice of suspension of benefits as may be required by applicable law. Notwithstanding the foregoing provisions of this

Section 5.2(2), this Section 5.2(2) shall not apply upon reemployment of a Participant, provision for which is made in Section 5.5.

5.3 No Duplication of Benefits. There shall be no duplication of any benefits attributable to contributions of an Employer payable under this Schedule C with respect to any Participant and any pension or other benefit payable with respect to him under any other pension, annuity or welfare plan (or any similar plan), including, without limitation, any predecessor plan, maintained, or contributed to, by any Employer, any Controlled Group Member or any predecessor thereof, the amount of which is based in whole or in part on the same period of his employment with any Employer, any Controlled Group Member or any predecessor thereof; and any such benefits shall be deducted from benefits otherwise payable with respect to him under this Schedule C (as determined by the Administrative Committee) to prevent any such duplication except to the extent that benefits payable with respect to him under such other plan are appropriately reduced or deducted from benefits payable under any other plan of any other Employer or Controlled Group Member or predecessor thereof or are stated or clearly intended to be in addition to benefits under this Schedule C. No benefit shall be paid for any Participant under more than one Section of this Schedule C for the same period of time, based on the same period of employment. For purposes of this Section 5.3, each Schedule shall be deemed to be a "plan."

5.4 Transfers To and From Plan Coverage. (1) Upon the transfer of a Covered Employee to other employment with the Controlled Group (or upon an amendment to the Plan) which results in the Employee ceasing to be a Covered Employee, his Benefit Service shall be frozen as of the date of such transfer or such amendment. Subject to the provisions of Section 5.3, if at the time of his Employment Severance he satisfies the eligibility requirements for any pension under the terms of this Schedule C then in effect, such Employee (or his Beneficiary, if applicable) shall be entitled to receive such pension under this Schedule C, based upon his frozen Benefit Service under this Schedule C and calculated and payable in accordance with the provisions of this Schedule C in effect on the Participant's Qualifying Employment Severance Date.

(2) Upon the transfer of an Employee from other employment with the Controlled Group (or upon an amendment to the Plan) which results in the Employee becoming a Covered Employee, such Employee's period of employment (other than as a Covered Employee) prior to such transfer or amendment shall not be counted as Benefit Service under this Schedule C.

5.5 Reemployment of Pensioners. (1)(A) For a person who is not employed as an Employee after April 30, 2001, the following shall apply: Except as provided in Section 10.2(3) (Coverage and Participation), if a Pensioner is reemployed by a Controlled Group Member before his Normal Retirement Date, pension payments to him, if any, shall not be paid for any Month on the first day of which he is an Employee and during which he completes 40 Hours of Service (within the meaning of Section 1.1(11)(A) and (B)), provided that no pension payment shall not be paid pursuant to this Section 5.5(1)(A) unless he has been given such notice of suspension of benefits, if any, as may be required by applicable law, and upon the

Employee's subsequent Qualifying Employment Severance he shall be entitled to any additional benefits to which his period of reemployment may entitle him pursuant to the provisions of Article III. For purposes of determining such a Pensioner's benefits after such a period of reemployment, his Accrued Benefit shall be the sum of his Accrued Benefits determined separately for each separate period of employment.

(B) For a person who is employed as an Employee after April 30, 2001, the following shall apply:

(i) Except as provided in Section 10.2(3) (Coverage and Participation), if a Participant is reemployed by a Controlled Group Member before his Normal Retirement Date, no pension payments under this Schedule C shall be made for him for any Month beginning with the Month during which the Participant is credited with a "Year of Reemployment Service" if (I) on the first day of the Month he is an Employee, (II) he completes at least 40 Hours of Service (within the meaning of Section 1.1(11)(A) and (B)) during such Month and (III) if his Normal Retirement Date has occurred, he has been given such notice of suspension of benefits, if any, as may be required by applicable law.

For purposes of this Section 5.5(1)(B)(i), a Participant shall be credited with a "Year of Reemployment Service" on any anniversary of his Reemployment Commencement Date if he is credited with 1000 Hours of Service during the 12-month period beginning on the immediately preceding anniversary date.

(ii) Without limitation of Section 5.5(1)(B)(i): Any additional amount of pension earned by a Participant who is reemployed by a Controlled Group Member after the Participant's reemployment shall be paid only after the Participant's subsequent termination of employment from the Controlled Group, except that if the Participant's Normal Retirement Date has occurred any such additional amount of pension shall, subject to all other requirements of the Plan applicable to the commencement, duration and form of pension payments, be payable for any Month, the end of which occurs after he attains his Normal Retirement Date, unless (a) he is so employed during such Month, (b) he completes at least 40 Hours of Service (within the meaning of Section 1.1(11)(A) and (B)) during such Month and (c) he has been given such notice of suspension of benefits, if any, as may be required by applicable law. Upon the Employee's subsequent Qualifying Employment Severance of a reemployed Participant, (I) he shall be entitled to any additional benefits to which his period of reemployment may entitle him pursuant to the provisions of Article III, (II) if a Participant whose pension payments have not been paid in accordance with the provisions of Section 5.5(1)(B)(i) becomes entitled to have his pension resume, the pension previously commenced and then ceased shall resume in the same amount and form in effect prior to the cessation and (A) if the prior pension commencement occurred prior to the Participant's Normal Retirement Date, any additional amount of pension payments earned by the Participant during the period of reemployment shall be governed by the generally applicable provisions of the Plan as if the Participant had then first

terminated employment, and (B) if the prior pension commenced after the Participant's Normal Retirement Date, any additional amount of pension payments earned by the Participant during the period of reemployment shall be paid in the same form as the payments that were previously commenced, and (III) for purposes of determining such a Pensioner's benefits after such a period of reemployment, his Accrued Benefit shall be the sum of his Accrued Benefits determined separately for each separate period of employment.

(2) Anything in the Plan to the contrary notwithstanding, if a Participant who is reemployed by a Controlled Group Member has received or is deemed to have received a lump sum payment pursuant to Section 4.2(1)(C) or Section 10.2(3) (Coverage and Participation) for any period of his employment with the Controlled Group prior to such reemployment, his Years of Benefit Service credited to him during such period of employment shall be disregarded for the purpose of computing the amount of any pension to which he may thereafter be entitled on account of his period of employment with the Controlled Group occurring after such reemployment; provided, however, that if any portion of a Participant's Accrued Benefit was forfeitable at the time he received such lump sum payment, his said Years of Benefit Service shall be recredited to him if he is reemployed as a Covered Employee and if he repays to the Trust Fund, not later than the occurrence of 5 consecutive "1-year Periods of Severance" (as hereinafter defined) commencing after such payment, the full amount of such lump sum payment with interest thereon at the rate of 5% per annum, compounded annually, from the date he received such lump sum payment to the date of such repayment. If the Accrued Benefit of a Participant who is reemployed by a Controlled Group Member was deemed distributed as of his Employment Severance Date pursuant to Section 10.2(3) (Coverage and Participation), his Years of Benefit Service credited to him during such period of employment shall be disregarded for the purpose of computing the amount of any pension to which he may thereafter be entitled on account of his period of employment with the Controlled Group occurring after such reemployment; provided, however, that if such Participant is reemployed as a Covered Employee not later than the occurrence of 5 consecutive 1-Year Periods of Severance after his Employment Severance Date, such Participant shall be deemed to have repaid the full amount of his deemed distribution and his Years of Benefit Service shall be recredited to him hereunder. A "1-Year Period of Severance" shall mean a 12-month period beginning on an Employee's Employment Severance Date and ending on the first anniversary of such date provided that during such period such Employee does not perform an Hour of Service. Thereafter, consecutive 1-year Periods of Severance shall begin and end on anniversaries of the Employee's Employment Severance Date. If an Employee's Employment Severance Date occurs on or after June 1, 1985 --

(a) by reason of pregnancy of the Employee,

(b) by reason of the birth of a child of the Employee,

(c) by reason of the placement of a child with the Employee in connection with the adoption of such child by the Employee, or

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(d) for purposes of caring for any such child for a period beginning immediately following such birth or placement,

"6 consecutive 1-Year Periods of Severance" shall be substituted for "5 consecutive 1-Year Periods of Severance" in the foregoing provisions of this Section 5.5(2).

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ARTICLE VI - ACTUARIAL DETERMINATIONS

6.1 Actuarial Determinations. In making the determination of actuarial equivalence with regard to benefits, the following rules shall apply:

(1) Where benefits may be provided in case of Employment Severance prior to Normal Retirement Date, and such benefits are payable before Normal Retirement Date, any such benefits shall be determined in accordance with the applicable provisions of the Plan, reduced proportionately by 1/15 for each of the first five (5) years by which the starting date of the benefit precedes Normal Retirement Date.

(2) When determining the amount of a benefit under clause (a) of Section 3.3 for Retirement subsequent to Normal Retirement Date, such benefit shall be equal to the normal retirement pension the Participant would have received had he retired as of his Normal Retirement Date, as computed according to Section 3.2, increased by one-half of one percent (0.5%) for each full month between his actual date of Retirement and his Normal Retirement Date.

(3) For purposes of Sections 4.1(2), 4.2(1)(A), and 4.2(1)(B), Actuarial Equivalent shall mean a benefit of equivalent actuarial value to the monthly benefit payable in the single-life-only-with-120-months-certain form commencing as of the same time as the benefit for which equivalent actuarial value is being determined, when computed on the basis of unisex actuarial factors based upon the Projected Annuity Mortality Table (a table prepared by The Wyatt Company from the unadjusted mortality rates used in constructing the published GA-1951 Mortality Table for males projected 14 years by Scale C and set back five years for females) at 5-1/2% interest, with the unisex factors based on 80% of the male factor plus 20% of the female factor; provided, however, that with respect only to benefits commencing after January 1, 1999, for purposes of Sections 4.1(2), 4.2(1)(A), and 4.3 benefits shall be computed on the basis of the 1983 Group Annuity Mortality Table at 7% interest adjusted to a unisex basis for an 80% male and 20% female participant population and a complimentary 20% male and 80% female contingent annuitant population, and provided that the application of this proviso shall not result in a benefit payable that is less than the amount payable without regard to this proviso with respect to the benefit accrued prior to January 1, 1999.

(4) For a benefit payable in a lump sum or deemed to be payable in a lump sum, Actuarial Equivalent shall mean a benefit of equivalent actuarial value to (1) the monthly benefit payable in the single-life-only-with-120-months-certain form commencing as of the first day of the calendar month following the Participant's Normal Retirement Date (or if the first day of the month following the Participant's Normal Retirement Date has already occurred, the first day of the calendar month on which the pension would commence as a monthly benefit in

the absence of the lump sum payment), or (2) if the Participant has attained the age and met the service requirements for immediate commencement of a monthly benefit, other than a monthly benefit payable because of the provisions of Section 4.3, to the monthly benefit payable in the single-life-only-with-120-months-certain form commencing as of the same time as the benefit for which equivalent actuarial value is being determined, if the application of this clause (2) produces a larger lump sum payment than the application of clause (1); in either case, when computed on the basis of the "applicable mortality table" and "applicable interest rate" where the "applicable mortality table" for this purpose means the table prescribed from time to time by the Secretary of Treasury pursuant to Section 417(e)(3) of the Internal Revenue Code as in effect on the date of distribution and the "applicable interest rate" for this purpose means the annual rate of interest for purposes of Section 417(e)(3) of the Internal Revenue Code using the Plan Year as the stability period and the second calendar month preceding the first day of the Plan Year as the lookback month in accordance with Treasury Regulation Section 1.417(e) - 1(d)(4).

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ARTICLE VII. - TMI PENSION PLAN FOR SALARIED EMPLOYEES

7.1 Crediting of Earnings, Years of Eligibility Service, Years of Vesting Service and Years of Benefit Service. Each Participant (hereinafter referred to as a "TMI Salaried Plan Participant") in the TMI Pension Plan for Salaried Employees, maintained under an instrument dated June 1, 1985, as amended (hereinafter referred to as the "Salaried Plan") shall be credited under this Schedule C with:

- (1) Years of Eligibility Service under the Plan pursuant to the provisions of this Schedule C; provided, however, that the Years of Eligibility Service credited in no event shall be less than the "Years of Eligibility Service" that would be credited to the TMI Salaried Plan Participant under the provisions of the Salaried Plan as in effect on May 31, 1992; and
- (2) Years of Vesting Service under the Plan pursuant to the provisions of this Schedule C; provided, however, that the Years of Vesting Service credited in no event shall be less than the "Years of Vesting Service" that would be credited to the TMI Salaried Plan Participant under the provisions of the Salaried Plan as in effect on May 31, 1992; and
- (3) Years of Benefit Service under the Plan pursuant to the provisions of this Schedule C; provided, however, that the Years of Benefit Service credited in no event shall be less than "Years of Benefit Service" credited to the TMI Salaried Plan Participant under the provisions of the Salaried Plan as of May 31, 1992; and
- (4) Earnings under the Plan pursuant to the provisions of this Schedule C; provided, however, that the Earnings credited in no event shall be less than "Earnings" credited to the TMI Salaried Plan Participant under the provisions of the Salaried Plan as of May 31, 1992.

Notwithstanding the forgoing provisions of this Section or any other provision of the Plan, however, in no event shall any TMI Salaried Plan Participant receive dual credit under the Plan for Earnings, Years of Eligibility Service, Years of Vesting Service or Years of Benefit Service with respect to any period.

7.2 Accrued Benefit. Notwithstanding any provision of the Plan to the contrary, in no event shall the Accrued Benefit under the Plan on or after May 31, 1992 of any TMI Salaried Plan Participant be less than his "Accrued Benefit" under the Salaried Plan as of May 31, 1992. Any applications, elections and waivers under the Salaried Plan that are applicable to a TMI Salaried Plan Participant's benefit transferred from the Salaried Plan to the Plan as of May 31, 1992 shall continue to be applicable to such benefit hereunder.

SCHEDULE D

SALARIED AND HOURLY EMPLOYEES OF WILLIAMS ADVANCED MATERIALS INC.

ARTICLE I. - SPECIAL DEFINITIONS

1.1 Definitions. The following terms when used in this Schedule D with initial capital letters shall have the following respective meanings unless the context clearly indicates otherwise.

(1) **Accrued Benefit:** The monthly benefit to which a Participant would be entitled on his Normal Retirement Date, determined as of any given date by multiplying (1) his benefit computed under Article IV on the basis of his current Final Average Monthly Compensation and the Years of Credited Service he would have if he continues to participate under this Schedule D until his Normal Retirement Date, by (2) a fraction, the numerator of which is the number of Years of Credited Service completed on such date and the denominator of which is the number of Years of Credited Service the Participant would have completed if he had continued to participate until his Normal Retirement Date.

(2) **Actuarial Equivalent:** A benefit of equivalent actuarial value to the monthly benefit payable in the single life only form commencing as of the same time as the benefit for which equivalent actuarial value is being determined, when computed in accordance with the actuarial assumptions set forth below. The basis shall be the UP-84 Table of Mortality with interest at the per annum rate from the table below, compounded annually, for conversion from the normal form of payment to any other optional form, including the automatic form, but not for calculating single-sum distributions.

The interest rate, to be used at the time the conversion is effective, is found from the following:

PBGC Immediate Annuity Rate	Interest
from 1% to 4%	3%
from 4% to 5%	4%
from 5% to 7%	5%
from 7% to 12%	6%
from 12% to 14%	7%
from 14% to 18%	8%
over 18%	9%

The PBGC Immediate Annuity Rate referred to in the above table is the rate of interest for the applicable time period in the column labeled as the immediate annuity rate found in Appendix C to Part 4022 of 29 CFR Chapter XL (Lump Sum Interest Rates for Private-Sector Payments).

(2A) Controlled Group: "Controlled Group" and "Controlled Group Member" shall have the respective definitions ascribed to such terms set forth in Section 1.1(7) of Article I - (Definitions and Interpretation), except that the Employer shall be substituted for the Company for purposes of such definitions with respect to periods prior to June 1, 2000.

(3) Covered Compensation shall mean, with respect to any Participant, the amount of compensation (rounded to the nearest whole multiple of \$600) with respect to which old-age and survivors insurance benefits would be provided for him under the Social Security Act (as in effect for the year in which the Participant's employment with the Employer terminates) if for each year until he reaches age 65 his annual compensation is at least equal to the taxable wage base. For purposes of the preceding sentence "taxable wage base" means with respect to any year, the maximum amount of earnings which may be considered wages for such year under Section 3121(a)(1) of the Internal Revenue Code.

(4) Covered Employee shall mean an Employee of an Employer who is employed at a Buffalo, New York operation of the Employer and/or a Wheatfield, New York operation of the Employer, determined in accordance with the Employer's personnel policies in effect from time to time, provided that no Employee covered by a collective bargaining agreement, including the collective bargaining agreement between the Employer and the Teamsters Union, Local 115, shall be a Covered Employee, unless such agreement specifically provides for coverage under this Schedule D, and, provided further, that no Employee who is not treated by the Employer as an employee for purposes of Section 3401 of the Internal Revenue Code (without regard to any determination other than by the Employer that such person is or is not an employee for purposes of Section 3401 of the Internal Revenue Code and without regard to any retroactive treatment by the Employer of such person as an employee for purposes of Section 3401 of the Internal Revenue Code) shall be a Covered Employee.

(5) Credited Service for benefit purposes shall mean all Years of Credited Service and fractional parts of a Year of Credited Service for benefit purposes prior to December 31, 1993, plus all calendar years in which a Participant has completed at least 1,000 hours of service for the Employer after December 31, 1993. One-twelfth (1/12) of a Year of Credited Service shall be given for each month of service completed by a Participant in such a calendar year in which the Participant terminates employment in the event the Participant has not completed 1,000 hours of service for the Employer in such calendar year.

Credited Service for eligibility purposes shall mean all Years of Credited Service and fractional parts of a Year of Credited Service for eligibility purposes prior to December 31, 1993, plus all calendar years in which the Employee completes at least 1,000 hours of service for a Controlled Group Member after December 31, 1993 regardless of employment classification, except that service prior to attaining age eighteen (18) shall be counted only with respect to a person who is an Employee on or after June 1, 2002. For eligibility purposes, a Year of Credited Service shall also be given for the twelve (12) month period beginning with the Employee's first day of employment if the Employee completes at least 1,000 hours of service for a Controlled Group Member within such twelve (12) month period. One-twelfth (1/12th) of a Year of Credited Service shall be given for each month of

service completed by a Participant in a calendar year in which the Participant terminates employment in the event the Participant has not completed 1,000 hours of service in such calendar year. Hours of service as a leased Employee as defined in Section 6.20 (Provision Pursuant to Internal Revenue Code Section 414(n)) shall count for purposes of determining Credited Service for eligibility purposes.

Credited Service for vesting purposes shall mean all Years of Credited Service and fractional parts of a Year of Credited Service for vesting purposes prior to December 31, 1993, plus all calendar years in which the Employee completes at least 1,000 hours of service for a Controlled Group Member after December 31, 1993 regardless of employment classification, except that service prior to attaining age eighteen (18) shall be counted only with respect to a person who is an Employee on or after June 1, 2002. One-twelfth (1/12th) of a Year of Credited Service shall be given for each month of service completed by a Participant in such a calendar year in which the Participant terminates employment in the event the Participant has not completed 1,000 hours of service in such calendar year. Hours of service as a leased Employee as defined in Section 6.20 (Provision Pursuant to Internal Revenue Code Section 414(n)) shall count for purposes of determining Credited Service for vesting purposes.

The period of employment shall not be deemed to be interrupted by absence for military service, sick leave, maternity leave, vacation leave or other leave approved in writing by the Committee which (except military service) does not exceed twelve (12) months. Absence for military service will come within the meaning of the provision only if the Participant is drafted, called, or otherwise required by law to enter military service or enlisted in lieu of being legally required to serve; and if the Participant returns to employment within three (3) months of his release from military service. Any other interruption of continuous employment of a Participant by the Employer shall constitute a break in service if the Participant does not complete more than 500 hours of service during a calendar year.

If a former Participant is rehired by a Controlled Group Member, the following provisions shall apply:

(A) If the former Participant has a one (1) year break in service, service before such break shall be disregarded until he has completed a Year of Credited Service after his return to employment with a Controlled Group Member.

(B) If the former Participant does not have a nonforfeitable right to a retirement benefit, years of service before a break in service shall be disregarded if the number of his consecutive one (1) year breaks in service equals or exceeds the greater of (i) 5 or (ii) the aggregate number of Years of Credited Service before such break in service. If any Years of Credited Service are not required to be taken into account by reason of a break in service to which this Section 1.1(5)(B) applies, such Years of Credited Service shall not be taken into account in applying this Section 1.1(5)(B) to a subsequent period of breaks in

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service. In computing the aggregate number of Years of Credited Service prior to such break in service, such Employee shall be credited with a Year of Credited Service if during the first twelve (12) months of his employment, he completes 1,000 hours of service and shall also be credited with a Year of Credited Service if he completes 1,000 hours of service in the first Plan Year following his date of hire.

(C)(1) For a person who is not employed as an Employee of a Controlled Group Member after April 30, 2001, the following shall apply: If the Participant has a nonforfeitable right to a retirement benefit, Years of Credited Service before a break in service shall be counted for purposes of eligibility and vesting, but shall not be counted for purposes of accrual of additional benefits.

(2) For a person who is employed as an Employee of a Controlled Group Member after April 30, 2001, the following shall apply: If the Participant has a nonforfeitable right to a retirement benefit, (A) Years of Credited Service before a break in service shall be counted for purposes of eligibility and vesting, (B) the monthly benefit of a Participant who shall have had more than one period of employment with the Controlled Group shall be recalculated on his latest termination of employment from the Controlled Group based on his entire period of employment (and based on his Final Average Monthly Compensation, Covered Compensation, and Credited Service at his latest termination of employment with the Controlled Group). Notwithstanding the immediately preceding sentence, the benefit shall not be less than the Employee's benefit as of his immediately preceding termination of employment with the Controlled Group as if he had not been reemployed. Any additional amount of pension earned by a Participant who is reemployed by the Controlled Group after the Participant's reemployment shall be paid only after the Participant's subsequent termination of employment from the Controlled Group, except that if the Participant's Normal Retirement Date has occurred any such additional amount of pension shall, subject to all other requirements of the Plan applicable to the commencement, duration and form of pension payments, be payable for any Month, the end of which occurs after he attains his Normal Retirement Date. Upon the subsequent termination of employment with the Controlled Group by a reemployed Participant, (i) he shall be entitled to any additional benefits to which his period of reemployment may entitle him pursuant to the provisions of Article IV and (ii) the pension previously commenced shall continue in the same amount and form in effect prior to the reemployment and (I) if the prior pension commencement occurred prior to the Participant's Normal Retirement Date, any additional amount of pension payments earned by the Participant during the period of reemployment shall be governed by the generally applicable provisions of the Plan as if the Participant had then first terminated employment, and (II) if the prior pension commenced after the Participant's Normal Retirement Date, any additional amount of pension payments earned by the Participant during the period of reemployment shall be paid in the same form as the payments that were previously commenced.

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(D) (1) For a person who is not employed as an Employee of the Controlled Group after April 30, 2001, the following shall apply:

Anything in the Plan to the contrary notwithstanding, if the accrued benefit of a Participant who is reemployed in employment covered under this Schedule D was deemed distributed as of the date his employment terminated pursuant to Section 10.2(3) (Coverage and Participation) his Years of Credited Service credited to him during such period of employment shall be disregarded for the purpose of computing the amount of any pension to which he may thereafter be entitled on account of his period of employment covered under this Schedule D occurring after such reemployment; provided, however, that if such Participant is reemployed in employment covered under this Schedule D not later than the occurrence of 5 consecutive 1-year breaks in service after his employment covered under this Schedule D terminated, such Participant shall be deemed to have repaid the full amount of his deemed distribution and his Years of Credited Service shall be recredited to him hereunder. Anything in the Plan to the contrary notwithstanding, if the accrued benefit of a Participant who is reemployed in employment covered under this Schedule D was distributed in a single-sum payment, his Years of Credited Service credited to him during such period of employment shall be disregarded for the purpose of computing the amount of any pension to which he may thereafter be entitled on account of his period of employment covered under this Schedule D occurring after such reemployment.

(2) For a person who is employed as an Employee of the Controlled Group after April 30, 2001, the following shall apply:

Anything in the Plan to the contrary notwithstanding, if the accrued benefit of a Participant who is reemployed in employment covered under this Schedule D was deemed distributed as of the date his employment terminated pursuant to Section 10.2(3) (Coverage and Participation), his Years of Credited Service credited to him during such period of employment shall be disregarded for the purpose of computing the amount of any pension to which he may thereafter be entitled on account of his period of employment covered under this Schedule D occurring after such reemployment; provided, however, that if such Participant is reemployed in employment covered under this Schedule D not later than the occurrence of 5 consecutive 1-year breaks in service after his employment covered under this Schedule D terminated, such Participant shall be deemed to have repaid the full amount of his deemed distribution and his Years of Credited Service shall be recredited to him hereunder. Anything in the Plan to the contrary notwithstanding: If the accrued benefit of a Participant who is reemployed in employment covered under this Schedule D was distributed in a single-sum payment, his Years of Credited Service credited to him during such prior period of employment shall be recredited and considered in determining his monthly benefit in accordance with Section 1.1(5)(C). If a Participant who is reemployed has received a single-sum payment and receives Years of Credited Service upon reemployment for the period of employment for which he received the single-sum payment, the monthly benefit of the Participant

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shall be reduced (dollar for dollar) by the monthly amount of the accrued benefit with respect to which the single-sum payment was made.

(6) Employer shall mean Williams Advanced Materials Inc.

(7) Years of Credited Service, Hours of Service and Breaks in Service:

(A) A Year of Credited Service (beginning after December 31, 1993) is defined as a year in which an Employee has at least 1,000 hours of service within whichever of the following twelve (12) month periods is applicable in the context of "Year of Credited Service" at that point:

(i) For eligibility purposes, the year shall be measured by the twelve (12) month period beginning with the first day of employment, provided, however, that if the Employee does not have 1,000 hours of service in such period for determining succeeding periods, eligibility shall be measured by the first calendar year starting after the Employee's employment and succeeding calendar years.

(ii) For vesting and benefit accrual purposes, the Year of Credited Service shall be measured by the calendar year.

(B) An hour of service shall be credited for:

(i) Each hour for which an Employee is directly or indirectly paid or entitled to payment by a Controlled Group Member for the performance of services. These hours shall be credited to the Employee for the computation period or periods in which the services are performed; and

(ii) Each hour (up to a maximum of five hundred and one (501) hours for any single continuous period) for which an Employee is directly or indirectly paid or entitled to payment by a Controlled Group Member for reasons other than for the performance of duties, such as vacation, sickness, or disability. These hours shall be credited to the Employee for the computation period or periods in which payment is made or amounts payable to the Employee become due; and

(iii) Each hour for which back pay, irrespective of mitigation of damage, has been either awarded or agreed to by a Controlled Group Member. These hours shall be credited to the Employee for the computation period to which the award or agreement pertains rather than the computation period in which the award, agreement or payment was made. The number of hours to be credited and the computation period for which such hours shall be credited shall be determined under Title 29, CFR, Section 2530.200b-2(b) & (c) which is hereby incorporated by reference.

(iv) One hour of service for each hour for which an Employee otherwise would normally have been credited but for the absence from work of the Employee for any period:

(a) by reason of pregnancy of the Employee,

(b) by reason of the birth of a child of the Employee,

(c) by reason of the placement of a child with the Employee in connection with the adoption of such child by such Employee, or

(d) for purposes of caring for such child for a period beginning immediately following such birth or placement.

Crediting of hours of service under this Section 1.1(7)(B)(iv) shall be limited to a maximum of 501 hours with respect to any single continuous period during which the Employee performs no duties, and such hours shall be credited to an Employee only in the computation period in which the absence from work begins, if the Employee would be prevented from incurring a one-year break in service in such period solely because the period of absence is treated as hours of service, or in any case, in the immediately following computation period. An Employee absent from work for any period described in this Section 1.1(7)(B)(iv) above shall submit to the Committee, within 60 days of his or her return to work, a written statement to establish that the absence from work was for the reasons referred to herein and the number of days for which there was such an absence. Such statement shall be filed with the Committee on forms provided by the Committee.

(C) A break in service will be deemed to have occurred in any calendar year in which an Employee is not credited with more than five hundred (500) continuous hours of service.

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ARTICLE II. - ELIGIBILITY REQUIREMENTS FOR PARTICIPATION

2.1 Commencement of Participation. (1) A person who, on May 31, 2000, was a "Participant" under the Pre-2000 Restatement Plan or satisfied the eligibility requirements of the Pre-2000 Restatement Plan, and who is an Employee (or a Pensioner) on June 1, 2000, shall become, or shall continue to be, a Participant under this Schedule D on June 1, 2000.

(2) On or after June 1, 2000 and prior to June 1, 2002, an Employee who is not a Participant pursuant to Section 2.1(1) shall become a Participant under this Schedule D on the first day of the month following the date on which he satisfies the following eligibility requirements: (A) he is a Covered Employee, (B) he has attained age 21, and (C) he has been credited with a Year of Credited Service. On or after June 1, 2002, an Employee who is not a Participant pursuant to Section 2.1(1) or the preceding sentence shall become a Participant under this Schedule D on the date on which he satisfies the following eligibility requirements: (A) he is a Covered Employee, (B) he has attained age 21, and (C) he has been credited with a Year of Credited Service.

(3) If a person ceased to be a Participant under the Pre-2000 Restatement Plan prior to June 1, 2000, or ceases to be a Participant under this Schedule D on or after June 1, 2000, and he again becomes an Employee on or after June 1, 2000, he shall again become a Participant under this Schedule D as of the date he so again becomes an Employee whether or not he again becomes a Covered Employee.

2.2 Change in Employment Classification. Notwithstanding any other provision of this Schedule D to the contrary, in the event a person employed by a Controlled Group Member who is not in the class of employees who are eligible to participate under this Schedule D becomes a member of such class, such person's prior service with the Controlled Group Member shall be included as Credited Service in determining his eligibility to participate and vesting as if he had been a member of such class during such Credited Service, such person shall be eligible to participate on the date he becomes a member of the eligible class if he then meets the eligibility requirements, but for benefit accrual purposes service shall be taken into account (as Credited Service) only for periods during which he is a Participant. In the event a Participant becomes ineligible to participate because he ceases to be in the class of employees who are eligible to participate under this Schedule D, he shall be eligible to participate immediately upon once again becoming a member of such class, but service for benefit accrual purposes shall be taken into account (as Credited Service) only for periods during which he is a Participant.

ARTICLE III. - PENSION BENEFITS

3.1 Normal Retirement Pension. The "Normal Retirement Date" of a Participant shall mean the later of (a) the date on which he attains age 65, or (b) the earlier of the date the Participant has accrued five (5) Years of Credited Service or the fifth anniversary of the date the Participant commenced participation under this Schedule D or under the Pre-2000 Restatement Plan. A Participant whose employment with the Controlled Group terminates for any reason other than his death on or after his Normal Retirement Date shall be entitled to a normal retirement pension. Such a Participant's rights to a normal retirement pension shall be nonforfeitable on and after he reaches his Normal Retirement Date.

3.2 Early Retirement Pension. A Participant who is not entitled to a normal retirement pension under Section 3.1 and whose employment with the Controlled Group terminates for any reason other than his death after he has attained age fifty-five (55) and completed fifteen (15) or more Years of Credited Service shall be entitled to an early retirement pension.

3.3 Deferred Vested Pension. A Participant who is not entitled to either a normal retirement pension under Section 3.1 or an early retirement pension under Section 3.2 and whose employment with the Controlled Group terminates for any reason other than his death after he has completed five (5) or more Years of Credited Service shall be entitled to a deferred vested pension.

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ARTICLE IV. - AMOUNT OF BENEFIT

4.1 Normal Retirement Benefit. The monthly normal retirement pension payable to a Participant entitled thereto under Section 3.1 shall be in an amount equal to (a) plus (b), adjusted as necessary under (c):

(a) .75% of the Participant's Final Average Monthly Compensation multiplied by the Participant's Years of Credited Service, and

(b) .75% of the Participant's Final Average Monthly Compensation in excess of his monthly Covered Compensation multiplied by the Participant's Years of Credited Service; but

(c) Notwithstanding (a) and (b) above, if a Participant participated in the Pre-2000 Restatement Plan prior to January 1, 1980, the normal retirement benefit projected for him under this Schedule D shall not be less than the accrued monthly retirement benefit projected for him under the Pre-2000 Restatement Plan as in effect before January 1, 1980.

4.2 Early Retirement Benefit. The monthly early retirement pension payable to a Participant entitled thereto under Section 3.2 shall be equal to the normal retirement pension benefit he had accrued in accordance with Section 4.1, reduced for commencement thereof prior to his Normal Retirement Date (if applicable) by 1/15th per year for the first five (5) years preceding his Normal Retirement Date and by 1/30th per year for the second five years preceding his Normal Retirement Date.

4.3 Deferred Vested Retirement Benefit. The monthly deferred vested pension payable to a Participant entitled thereto under Section 3.3 shall be equal to the normal retirement pension he had accrued in accordance with Section 4.1, reduced, if the Participant is eligible for commencement thereof prior to his Normal Retirement Date as provided in Section 5.1(b)(3), for commencement thereof prior to his Normal Retirement Date (if applicable) by 1/15th per year for the first five (5) years preceding his Normal Retirement Date and by 1/30th per year for the second five years preceding his Normal Retirement Date.

4.4 Late Retirement Benefit. Notwithstanding Section 4.1, the monthly benefit payable to a Participant retiring after his Normal Retirement Date shall be not less than the normal retirement pension he had accrued under this Schedule D in accordance with Section 4.1 up to his Normal Retirement Date increased to the Actuarial Equivalent amount thereof to reflect the later commencement of the payment of the monthly benefit determined in accordance with the actuarial assumptions in effect at his Normal Retirement Date used to convert a normal form of payment to an optional form of payment other than a single-sum distribution.

4.5 Annual Compensation. (a) "Annual Compensation" shall mean

(1) for years beginning prior to January 1, 1998, the rate of annual basic compensation paid by

the Employer or, effective as of March 23, 1995 and only for those Employees employed on or after that date, another Controlled Group Member (but only during the period that it is a Controlled Group Member and provided that this change shall not reduce any Employee's accrued benefit determined as of the date immediately prior to March 23, 1995 under the provisions of the Pre-2000 Restatement Plan then in effect), to an Employee as of September 1 of each year excluding overtime payments, bonuses and commissions, provided, however, that with respect to a salesman, commissions paid in the calendar year immediately preceding such September 1 shall be included in his Annual Compensation; and (2) for years beginning on and after January 1, 1998, the rate of annual basic compensation paid by the Employer or, effective as of March 23, 1995 and only for those Employees employed on or after that date, another Controlled Group Member (but only during the period that it is a Controlled Group Member and provided that this change shall not reduce any Employee's accrued benefit determined as of the date immediately prior to March 23, 1995 under the provisions of the Pre-2000 Restatement Plan then in effect), to an Employee as of September 1 of each year excluding overtime payments, bonuses and commissions; provided, however, that with respect to a salesman, commissions paid in the calendar year immediately preceding such September 1 shall be included in his Annual Compensation; and, provided further, that effective as of September 1, 1998 and only for Employees employed on or after that date, incentive compensation paid in the 12 months immediately preceding such September 1 pursuant to any incentive compensation plan (or any similar plan) of any Controlled Group Member, as from time to time in effect, shall be included in his Annual Compensation, except that incentive compensation paid prior to January 1, 1998 shall not be included; and, provided further, that effective as of September 1, 1998 and only for Employees employed on or after that date, an amount that is includible in an Employee's gross income for Federal income tax purposes, as a result of performance restricted shares granted to the Employee under the Brush Wellman Inc. 1995 Stock Incentive Plan, as amended or the Brush Engineered Materials Inc. 1995 Stock Incentive Plan, as amended (the "1995 Stock Plan") being not, or no longer being, subject to a substantial risk of forfeiture or restriction on transfer under the 1995 Stock Plan, as a result of payment under the 1995 Stock Plan by a Controlled Group Member to the Employee in respect of performance shares granted to the Employee under the 1995 Stock Plan, or as a result of payment under the 1995 Stock Plan by a Controlled Group Member to the Employee in respect of performance units granted to the Employee under the 1995 Stock Plan, except for any such amount in respect of dividends or other distributions or dividend equivalents or equivalents to other distributions with respect to such performance restricted shares, performance shares, or performance units, during the 12 months immediately preceding September 1 of each year shall be included in his Annual Compensation, except that any amount so includible prior to January 1, 1998 shall not be included; provided, however, that in determining the amount of any such Annual Compensation and the time at which any such amount is includible in gross income, any election pursuant to Section 83(b) of the Internal Revenue Code shall be disregarded. Annual Compensation shall not be affected by salary reduction arrangements pursuant to Section 401(k) and/or Section 125 of the Internal Revenue Code.

(b) Notwithstanding the foregoing, the annual earnings for the period ending December 25, 1964 with respect to a Participant who was employed by H. D. Justi &

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Son, Inc. immediately prior to March 17, 1964 shall be 75% of such Participant's rate of annual earnings on March 17, 1964.

(c) "Final Average Monthly Compensation" shall mean (i) for a person who is not employed as an Employee of the Controlled Group after April 30, 2001, the average of the highest five consecutive years of Annual Compensation earned by a Participant during the ten years immediately preceding any date on which benefits are calculated, divided by sixty or, if he has fewer than five consecutive years of service prior to such date, the average of his Annual Compensation for the number of his actual consecutive years of service prior to such date, and (ii) for a person who is employed as an Employee of the Controlled Group after April 30, 2001, the average of the highest five consecutive years of Annual Compensation earned by a Participant preceding any date on which benefits are calculated, divided by sixty or, if he has fewer than five consecutive years of service prior to such date, the average of his Annual Compensation for the number of his actual consecutive years of service prior to such date.

-D12-

ARTICLE V. - PAYMENT OF RETIREMENT BENEFITS

5.1 Retirement Benefit Commencement Date. (a) All pension benefits shall be payable commencing as of a Participant's "Retirement Benefit Commencement Date" (as hereafter defined).

(b) "Retirement Benefit Commencement Date," for a Participant who is eligible for a pension benefit as determined under Article III, means the date for commencement of monthly retirement income, which will be the later of the first day of the appropriate month following the date on which the Participant has made timely and proper application therefor (taking into account the election period required under Section 5.4 or Section 5.4A), and whichever is applicable of the following:

(1) with respect to a normal retirement pension -- (A) in the case of a Participant who commenced participation under this Schedule D prior to June 1, 2002, the first day of the month coinciding with or following the date on which occurs the Participant's termination of employment with the Controlled Group; and (B) in the case of a Participant who commenced participation under this Schedule D on or after June 1, 2002, the first day of the month following the date on which occurs the Participant's termination of employment with the Controlled Group;

(2) with respect to an early retirement pension, the first day of the month following the date on which occurs the Participant's termination of employment with the Controlled Group; and

(3) with respect to a deferred vested pension -- (A) if the Participant has fewer than 15 Years of Credited Service -- (i) in the case of a Participant who commenced participation under this Schedule D prior to June 1, 2002, the first day of the month coinciding with or following the date on which the participant attains age 65; and (ii) in the case of a Participant who commenced participation under this Schedule D on or after June 1, 2002, the first day of the month following the date on which the Participant attains age 65; or (B) if the Participant has 15 or more Years of Credited Service, the first day of the month following the date on which the Participant attains age 55.

(c) Provided that proper application therefor has been made, payment of benefits under this Schedule D will begin not later than the sixtieth day after the latest of the close of the Plan Year in which:

(1) the date on which the Participant attains age 65, or

(2) the Participant's employment with the Controlled Group terminates.

Provided, however, that payment of benefits shall commence no later than the "required beginning date" specified in accordance with Section 6.14 (Provision Pursuant to Internal Revenue Code Section 401(a)(9)).

5.2 Normal Method of Payment - Unmarried Participant. Retirement benefits payable to an unmarried Participant shall be paid in monthly installments beginning upon the Participant's Retirement Benefit Commencement Date and terminating with the monthly payment coinciding with or next preceding the date of death of the Participant.

5.3 Normal Method of Payment - Married Participant. The normal method of payment for a married Participant shall be in the form of a joint and survivor annuity which has the Actuarial Equivalent value of the normal retirement pension which would be payable to him if he were an unmarried Participant and shall provide that a reduced monthly pension will be payable to the married Participant beginning upon the Participant's Retirement Benefit Commencement Date, with the provision that after his death, monthly pension payments equal to one-half (1/2) of the reduced pension would continue to be paid to, and during the lifetime of, the Spouse of the married Participant.

5.4 Married Participant's Options. A married Participant may elect pursuant to subsections (a) through (d) a different method of payment as hereinafter provided.

(a) A married Participant may elect not to have his benefit paid under the joint and survivor annuity during the election period described in subsection (b) below by filing with the Committee such form as it may prescribe. The consent of the Participant's Spouse shall be required for this election, and the Spouse's consent shall acknowledge the effect of such election and shall be witnessed by a Plan representative or a notary public. Any consent by a Spouse under the preceding sentence shall be effective only with respect to such Spouse.

Any election made by a Participant under this subsection not to have his benefit paid under the joint and survivor annuity may be revoked in writing during the election period. Another such election may be made during the election period after the revocation of a prior election.

If a Participant elects under this subsection not to have his benefit payable under the joint and survivor annuity, the benefit shall be paid in the form prescribed in Section 5.2, unless the Participant elects to receive the Actuarial Equivalent of the benefit under an option set forth in Section 5.5.

The above election/revocation options will also apply to the qualified preretirement survivor annuity as described in Section 5.7 in accordance with the election period described in Section 5.4(b).

-D14-

(b) The election period shall commence on the date on which the Committee furnishes the Participant with the information described in subsection (c)(i) and end on the date on which his benefit payments begin. If the information described in subsection (c)(i) is furnished to the Participant less than 90 days before the commencement of benefits, the election period shall be extended to include a period of 90 days after such information is furnished to the Participant.

If a Participant requests the additional information described in subsection (c)(ii) on or before the last day of the election period, the election period shall be extended to the extent necessary to include the 90 day period immediately following the day the requested additional information is personally delivered or mailed to the Participant.

In the case of an election to waive the qualified preretirement survivor annuity, the election period shall begin on the first day of the Plan Year in which the Participant attains age 35 and ends on the date of the Participant's death.

In the case of a Participant who is separated from service, the applicable election period under the paragraph above with respect to benefits accrued before the date of such separation from service shall not begin later than such date.

(c)(i) The Committee shall furnish the Participant with the following information:

(A) a general description of the joint and survivor annuity, the circumstances under which it will be provided unless the Participant elects not to have his benefit paid in that form as provided in subsection (a), and the availability of such election; and

(B) a general explanation of the relative financial effect on a Participant's benefit of the election set forth in subsection (a).

(c)(ii) Upon the written request of a Participant filed with the Committee during the election period, the Committee shall also furnish the Participant with a written explanation of the terms and conditions of the joint and survivor annuity and a computation of the financial effect on the Participant's benefit of any election under subsection (a). No more than one request may be made by a Participant under this provision.

(d) Anything herein to the contrary notwithstanding, if the election period is extended beyond the date on which benefits are to commence, the commencement of benefit payments to the Participant shall be delayed until the expiration of such election period. At such time, benefits shall be paid retroactively to the date on which they were to commence, but without interest.

5.4A Unmarried Participant's Options. An unmarried Participant may elect pursuant to subsections (a) through (d) a different method of payment as hereinafter provided.

(a) An unmarried Participant may elect not to have his benefit paid under the single life annuity form during the election period described in subsection (b) below by filing with the Committee such form as it may prescribe.

Any election made by a Participant under this subsection not to have his benefit paid under the single life annuity form may be revoked in writing during the election period. Another such election may be made during the election period after the revocation of a prior election.

If a Participant elects under this subsection not to have his benefit payable under the single life annuity form, the benefit shall be paid in the form the Participant elects under an option set forth in Section 5.5.

(b) The election period shall commence on the date on which the Committee furnishes the Participant with the information described in subsection (c)(i) and end on the date on which his benefit payments begin. If the information described in subsection (c)(i) is furnished to the Participant less than 90 days before the commencement of benefits, the election period shall be extended to include a period of 90 days after such information is furnished to the Participant.

If a Participant requests the additional information described in subsection (c)(ii) on or before the last day of the election period, the election period shall be extended to the extent necessary to include the 90 day period immediately following the day the requested additional information is personally delivered or mailed to the Participant.

(c)(i) The Committee shall furnish the Participant with the following information:

(A) a general description of the single life annuity form, the circumstances under which it will be provided unless the Participant elects not to have his benefit paid in that form as provided in subsection (a), and the availability of such election; and

(B) a general explanation of the relative financial effect on a Participant's benefit of the election set forth in subsection (a).

(c)(ii) Upon the written request of a Participant filed with the Committee during the election period, the Committee shall also furnish the Participant with a written explanation of the terms and conditions of the single life annuity form and a computation of the

financial effect on the Participant's benefit of any election under subsection
(a). No more than one request may be made by a Participant under this provision.

(d) Anything herein to the contrary notwithstanding, if the election period is extended beyond the date on which benefits are to commence, the commencement of benefit payments to the Participant shall be delayed until the expiration of such election period. At such time, benefits shall be paid retroactively to the date on which they were to commence, but without interest.

5.5 Optional Forms of Payment. Optional forms of payment that may be elected pursuant to Section 5.4 or Section 5.4A are as follows:

Option A. A Participant may elect to receive a reduced retirement benefit to commence on his Retirement Benefit Commencement Date payable monthly during his lifetime and terminating with the monthly payment coinciding with or next preceding the date of his death with the provision that no less than 120 monthly payments or in the alternative no less than 180 monthly payments shall be made in any event to him and/or such provisional payee as he may have designated, such election shall be made by written notice to the Committee on a form to be furnished by the Committee. The reduced retirement benefit shall be the Actuarial Equivalent of the benefit the Participant would have received at his Retirement Benefit Commencement Date, computed in accordance with Article IV.

If the Participant elects this Option and dies before his Retirement Benefit Commencement Date, no benefit shall be payable to his provisional payee.

If a Participant who continues employment with the Controlled Group after his Normal Retirement Date dies prior to his Retirement Benefit Commencement Date, the first installment of the retirement benefit under this Option payable for 120 months or 180 months as the case may be shall become payable to his provisional payee on the first day of the month coinciding with or next following the date of death of the Participant.

If the provisional payee dies before the Participant's Retirement Benefit Commencement Date, the election of this Option shall become void unless the Participant designates a new provisional payee under this Option A prior to his Retirement Benefit Commencement Date.

In the event of the death of the Participant and his provisional payee after the Participant's Retirement Benefit Commencement Date but before such 120 monthly payments or 180 monthly payments, as the case may be, have been made, the commuted value of the balance shall be paid in a lump sum to the estate of the last survivor of such Participant and provisional payee.

The election of this Option A may be rescinded by the Participant at any time prior to his Retirement Benefit Commencement Date, and the designation of a provisional payee may be changed at any time prior to the Participant's death.

Option B. A Participant may elect to receive a reduced retirement benefit to commence on his Retirement Benefit Commencement Date payable monthly during his lifetime with payments to continue after his death in full or at 66-2/3% or at 50% to a contingent annuitant designated by the Participant. If the contingent annuitant designated by the Participant is a person other than the spouse of the Participant, the election of Option B shall be void and of no effect unless at his Retirement Benefit Commencement Date, it is actuarially anticipated that the Participant will receive more than one-half of the proceeds of his retirement benefits during the period of his life expectancy. Such election shall be made by written notice to the Committee on a form to be furnished by the Committee. The reduced retirement benefit shall be the Actuarial Equivalent of the benefit the Participant would have received at his Retirement Benefit Commencement Date, computed in accordance with Article IV. Benefit payments under this Option B shall terminate with the monthly payment coinciding with or next preceding the date of death of the survivor of the Participant and his contingent annuitant. Notwithstanding any provisions in this Schedule D for the monthly payment of a retirement benefit under this Option B to a Participant or contingent annuitant, if such monthly payment is to be less than \$10 the election shall become void and of no effect.

If the Participant elects this Option and dies before his Retirement Benefit Commencement Date, no benefit shall be payable to the contingent annuitant.

If the contingent annuitant dies before the Participant's Retirement Benefit Commencement Date, the election of this Option shall be void and the Participant's retirement benefit shall be payable as if such election had not been made. Subject to the foregoing limitations of this Option B, such Participant may make a new election under this Option B.

If a Participant, who continues employment with the Controlled Group after his Normal Retirement Date, dies prior to his Retirement Benefit Commencement Date, the retirement benefit payable to his contingent annuitant under this Option B shall commence on the first day of the month coinciding with or next following the date of death of the Participant.

If the contingent annuitant dies after the Participant's Normal Retirement Date and prior to his Retirement Benefit Commencement Date, this election shall become void.

The election of this Option B may be rescinded by the Participant at any time prior to his Retirement Benefit Commencement Date.

5.6 Small Payment Provisions. In the event that any benefit payments under the foregoing paragraphs amount to less than \$10 per month, then such payments may be made on a quarterly, semi-annual, or annual basis as determined by the Committee.

5.7 Qualified Preretirement Survivor Annuity. (a) In the event that a Participant has elected a Joint and Survivor Annuity under the provisions of Option B of Section 5.5 or a married Participant entitled to a Joint and Survivor Annuity under the provisions of Section 5.3 who has not elected a different form of benefit under Section 5.5 dies after becoming entitled to an early retirement pension under the provisions of Section 3.2 but before

his Retirement Benefit Commencement Date, his surviving Spouse shall be entitled to receive a monthly pension in the same amount as if the Participant had retired on the day prior to his death.

(b) Upon the death of a married Participant who is not described in Section 5.7(a) and who has a vested benefit under this Schedule D before his Retirement Benefit Commencement Date, unless an election is made under Section 5.4, the Participant's surviving Spouse shall be entitled to receive a monthly benefit in the form of a "qualified preretirement survivor annuity."

For purposes of this subsection, the term "qualified preretirement survivor annuity" means a survivor annuity for the life of the surviving Spouse of the Participant if the payments to the surviving Spouse under such annuity are not less than the amounts which would be payable as a survivor annuity under the qualified joint and survivor annuity under Section 5.3 if

(i) in the case of a Participant who dies after the date on which the Participant attained the earliest benefit commencement age, such Participant had begun to receive an immediate qualified joint and survivor annuity on the day before the Participant's date of death, or

(ii) in the case of a Participant who dies on or before the date on which the Participant would have attained the earliest benefit commencement age, such Participant had -

(I) separated from service on the date of the death,

(II) survived to the earliest benefit commencement age,

(III) begun to receive an immediate qualified joint and survivor annuity at the earliest benefit commencement age, and

(IV) died on the day after the day on which such Participant would have attained the earliest benefit commencement age.

The earliest period for which the surviving spouse may receive a payment under such annuity is not later than the month in which the Participant would have attained the earliest benefit commencement age.

Notwithstanding the preceding, a qualified preretirement survivor annuity will not be provided unless the Participant and Spouse have been married throughout the one-year period ending on the date of the Participant's death.

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(b) To the extent required by and consistent with Treasury regulations, the Committee shall provide to each Participant a written explanation with respect to the qualified preretirement survivor annuity comparable to that required under Section 5.4(c).

(c) If part of a Participant's pension has commenced, the qualified pre-retirement survivor annuity described in this Section 5.7 shall not apply with respect to that part of the Participant's pension that has commenced.

5.8 TEFRA Distribution Election. Notwithstanding the provisions of Section 6.14 (Provision Pursuant to Internal Revenue Code Section 401(a)(9)), the latest permitted commencement date described in Section 6.14 shall not apply if the Participant who had accrued a benefit as of December 31, 1983 filed a written designation with the Committee of the Pre-2000 Restatement Plan prior to January 1, 1984 electing a later commencement date. Any such election shall specify the date upon which payment shall be made and the method of distribution. Such election may be revoked by the Participant, by filing a written revocation with the Committee. If after December 31, 1983 a qualified joint and survivor annuity is effective which is inconsistent with the elected commencement date or elected distribution method, it will be deemed to be an automatic revocation of such election.

EXHIBIT 10tt

**AMENDMENT NO. 1
TO
BRUSH ENGINEERED MATERIALS INC. PENSION PLAN
(June 1, 2000 Restatement)**

Brush Engineered Materials Inc., an Ohio corporation, hereby amends its pension plan known as the Brush Engineered Materials Inc. Pension Plan, which is currently maintained under a document titled Brush Engineered Materials Inc. Pension Plan (June 1, 2000 Restatement) (hereinafter called the "Plan"), as hereinafter set forth.

SECTION 1

Part (v) of Subsection (1) of Section 6.11 of the Plan is amended to provide as follows:

(v) that if the benefit under the Plan begins before the "social security retirement age" (as defined in Section 216(1) of the Social Security Act), for purposes of determining whether the limitation set forth in clause (a) of this subsection (1) has been satisfied, such limitation shall be adjusted, in accordance with regulations prescribed by the Secretary of the Treasury, so that such limitation is equivalent to such a limitation beginning at the date the benefit commences under the Plan; provided that, for purposes of this part (v) of this subsection (1), any reduction under this part (v) shall be made in such manner as the Secretary of the Treasury may prescribe which is consistent with the reduction for old-age insurance benefits commencing before the social security retirement age under the Social Security Act;

SECTION 2

Part (vi) of Subsection (1) of Section 6.11 of the Plan is amended to provide as follows:

(vi) that if the benefit under the Plan begins after the social security retirement age, for purposes of determining whether the limitation set forth in clause (a) of this subsection (1) has been satisfied, such limitation shall be adjusted, in accordance with regulations prescribed by the Secretary of the Treasury, so that such limitation is equivalent to such a limitation beginning at the date the benefit commences under the Plan; and

SECTION 3

Subsection (4) of Section 6.11 of the Plan to provide as follows:

(4) For the purposes of the adjustments in benefits to be made pursuant to parts (iv), (v) and (vi) of subsection (1) of this Section, the following shall apply: The actuarial assumptions which shall be used in making such adjustments are an interest assumption of 5-1/2% and the "applicable mortality table" (the table prescribed from time to time by the Secretary of Treasury pursuant to Section 417(e)(3) of the Internal Revenue Code) as in effect on the date of distribution, except that (a) with respect to part (iv) the interest assumption used shall be the annual rate of interest for purposes of Section 417(e)(3) of the Internal Revenue Code using the Plan Year as the stability period and the second calendar month preceding the first day of the Plan Year as the lookback month in accordance with Treasury Regulation Section 1.417(e) - 1(d)(4); (b) with respect to part (vi) an interest assumption of 5% shall be used instead of 5-1/2%; and (c) in no event shall any benefit amount determined under this

Section 6.11 be less than the amount of the benefit which would have been payable under the terms of the Plan as in effect on December 7, 1994 in respect of the Participant's benefit and based upon the accrued portion of the Participant's annual benefit determined as of May 31, 2000. If the Participant's benefit under the Plan begins before the Participant's social security retirement age, but on or after age 62, and the Participant's social security retirement age is 65, the limitation set forth in clause (a) of subsection (1) of this Section is reduced by 5/9 of one percent for each month by which benefits commence before the month in which the Participant attains age 65. If the Participant's benefit under the Plan begins before the Participant's social security retirement age, but on or after age 62, and if the Participant's social security retirement age is greater than age 65, the limitation set forth in clause

(a) of subsection (1) of this Section is reduced by 5/9 of one percent for each of the first 36 months and 5/12 of one percent for each of the additional months (up to 24 months) by which benefits commence before the month of the Participant's social security retirement age.

SECTION 4

The changes made to the Plan by Section 1, Section 2 and Section 3 shall be effective as if originally in the June 1, 2000 Restatement of the Plan.

* * *

Executed this _____ day of _____, 200__.

BRUSH ENGINEERED MATERIALS INC.

By: _____
Title:

And: _____
Title:

EXHIBIT 13

2002

**BRUSH ENGINEERED MATERIALS INC. [GRAPHIC]
ANNUAL REPORT**

ABOUT THE COMPANY

Brush Engineered Materials Inc. is a global leader in high performance engineered materials that enable customers to meet superior levels of product strength, reliability, miniaturization and weight savings, thermal dissipation, electrical conductivity and reflectivity.

Around the world, the Companys engineered materials can be found in end-use products within the telecommunications and computer, automotive electronics, industrial components, optical media, aerospace and defense and appliance markets.

The Companys subsidiaries are organized into two reportable segments:
the Metal Systems Group and the Microelectronics Group.

Metal Systems includes Brush Wellman Inc. (Alloy and Beryllium Products) and Technical Materials, Inc. Brush Wellman is the only fully integrated producer of beryllium, beryllium alloys and beryllia ceramic in the world. Technical Materials, Inc. produces engineered material systems including clad metals, plated metal, electron beam welded, solder-coated and reflow materials.

Microelectronics includes Williams Advanced Materials Inc. and Electronic Products, which consists of Brush Ceramic Products Inc. (a wholly owned subsidiary of Brush Wellman Inc.) and Zentrix Technologies Inc. Williams Advanced Materials manufactures precious metal and specialty alloy products. Brush Ceramics produces beryllia ceramic materials and Zentrix Technologies manufactures electronic packaging, circuitry and powder metal products.

The Company has operating, service center and major office locations throughout North America, Europe and Asia. The Company has 1,862 employees worldwide. Brush Engineered Materials Inc. common stock (ticker symbol: BW) is listed on the New York Stock Exchange.

FINANCIAL HIGHLIGHTS

(Dollars in millions except per share amounts)	2002	2001	2000
	----	----	----
Sales	\$ 372.8	\$ 472.6	\$ 563.7
Net income (loss)	(35.6)	(10.3)	14.2
Net income (loss) per share (diluted)	(2.15)	(0.62)	0.86
Dividends per share	--	0.24	0.48
Shareholders equity per share	9.61	12.98	14.11

Revenue by Segment	Revenue by Market	Revenue by Geographic Area
[PIE CHART]	[PIE CHART]	[PIE CHART]
61% Metal Systems Group	30% Telecommunications and Computer	72% Domestic
37% Microelectronics Group International		28%
2% Other	17% Automotive Electronics	
	15% Industrial Components	
	14% Optical Media	
	9% Aerospace and Defense	
	5% Appliance	
	10% Other	

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[PHOTO]

TO OUR SHAREHOLDERS:

Brush Engineered Materials Inc. was faced with another tough year in 2002. Continued weak demand from several of our markets, principally telecommunications and computer, compounded by softness in the global economy, caused revenues to decrease substantially, which adversely affected our results. Firm demand from the automotive, defense, optical media and data storage markets only partially offset the larger revenue drop.

Throughout 2002, Brush Engineered Materials aggressively responded to these challenging and often unpredictable market conditions. Our efforts were aimed at both reducing costs and creating new revenue opportunities. Importantly, we are not waiting for the telecommunications and computer market to rebound. Going forward, we actually see this market accounting for a smaller portion of our sales than the 30% it represented in 2002. As recently as 2000, telecommunications and computer had reached nearly 50% of the Company's sales a major factor in that year's record sales of \$563.7 million. This past year we extended our reach by launching several major initiatives into new markets and applications and through development of new products.

While not yet fully visible in our reportable results, we are making meaningful and sustainable progress to offset these unprecedented market and economic difficulties. In fact, I believe we are well on the way to becoming a leaner, broader-based and consistently profitable enterprise.

SALES BY MAJOR MARKET

(Millions)

[LINE GRAPH]

SELLING, GENERAL AND ADMINISTRATIVE EXPENSES*

(Millions)

[BAR CHART]

*(Including research and development
expenses and Other-net)

[PHOTO]

The threads joining oil and gas drill pipes are subjected to the powerful and sometimes unforgiving forces of stress, uneven weight distribution and steel-to-steel galling. When the pipes fail, it is typically at their connection. With 200 300 pipe lengths in a typical well, reducing failure rates is a key objective of the driller.

Field evaluations point to Brush Wellmans proprietary copper beryllium alloy heat treated and fabricated into an innovative thread spacer as a breakthrough solution. Better friction resistance and coefficients, and load-bearing capabilities, along with recyclability are among the benefits generated in initial trials. Further, the need for traditional thread compounds and their related environmental concerns is eliminated.

[PHOTO]

Copper beryllium strip, formed into a small diameter tube and continuously welded along the seam, is showing promise as a lower cost, technically superior solution for reliably delivering production fluids into deep oil and gas wells. Benefits include corrosion resistance and strength improvements. Also in development: even smaller diameter welded tubes for protection of fiber optics and larger diameter tubes for heat exchange systems.

[PHOTO]

- Optoelectronics is the convergence of microelectronics with laser and light technology. Beyond this presentation projection system, computers, digital cameras, electronic commerce, health care, transportation and the military all rely on the switches, sensors and imaging equipment that utilize this dynamic technology.

Williams Advanced Materials has leveraged its fully integrated design and manufacturing capabilities to serve this growing market with VisiLid, a new optical window assembly product. VisiLid provides customers with a reliable method of hermetically sealing microelectronic packages, while retaining an optical pathway to the device.

- Williams complete solution provides a single source for customers needs including design assistance, anti-reflective coatings, metallization and assembly.

[PHOTO]

- Williams Advanced Materials is a leading supplier of the metallic targets used to form the thin film, reflective layers on todays DVDs. Williams is helping to meet growing DVD market demand with a new proprietary silver-based optical media alloy, Sil-X. This new alloy provides superior reflectivity and anti-jitter characteristics, and offers significant cost savings to metalizing customers over alternative silver-based alloys.

[PHOTO]

- The DVD is one of the hottest consumer entertainment devices in history. With their superior video and sound quality, DVDs have skyrocketed in sales to nearly 700 million units in 2002.

[PHOTO]

As we look at the milestones of the past year, our most notable accomplishments involved the dramatic reduction of our costs and the fundamental improvement in a number of other performance metrics. During 2002:

- Overhead costs have been decreased by \$10 million per quarter compared to the first quarter of 2001, principally through reductions in manufacturing overhead and by driving selling, general and administrative expenses substantially lower.
- With \$40 million in annual costs removed, our breakeven point dropped \$100 million, to \$420 million, based on current mix and metal prices.
- Additional gains were made in our productivity and in adjusting headcount to the lower operating levels. At the end of 2002, total employment throughout Brush Engineered Materials was 1,862, a 4% reduction from the end of 2001 when employment totaled 1,946, and 26% lower than 2000 when there were 2,500 employees at year end.
- We realigned responsibilities in our Electronic Products group and reduced overhead in the process. We anticipate these actions will further reduce overhead expense by approximately \$3.0 million in 2003.

We have become a more effective organization by better managing those factors within our grasp. For example, in 2002 our Alloy Products business lowered its operating costs through a wide range of initiatives, including a 43% decline in rework rates at the Elmore, Ohio strip mill, an 18% reduction in manufacturing overhead costs and a 22% improvement in inventory turns. Meanwhile, unplanned maintenance downtime was reduced by 20% and, by year end, on-time shipments to the Companys service centers jumped by 28% along with a sizable 14-day improvement in lead times.

While the downturn forced tough decisions on cost reduction, in many areas we continued or accelerated key programs such as new product development and Lean Six Sigma which challenged our employees to find new and better operating practices. Especially gratifying was the Companys overall safety record improvement of more than 40% in our recordable case rate led by Alloy Products.

FINANCIAL SUMMARY

Sales in 2002 were \$372.8 million, a decline of 21% from 2001 sales of \$472.6 million.

For the year, Brush Engineered Materials reported a net loss of \$35.6 million, or \$2.15 per share. In 2001, the Company had a net loss of \$10.3 million, or \$0.62 per share. The loss in 2002 includes charges totaling \$25.0 million for restructuring costs as well as impairment of certain operating and deferred tax assets. These charges are detailed below. Excluding these charges, the loss for 2002 was \$10.6 million.

The one-time \$25.0 million charge recorded had several components:

First, due to our recent financial performance, accounting regulations required us to record a \$19.9 million deferred tax asset impairment charge. This charge did not affect pre-tax earnings, cash flow or the ability to utilize the deferred assets to offset taxes due on future earnings.

Second, in restructuring the Electronic Products group, we eliminated some non-strategic product lines, consolidated activities, eliminated duplication in manpower and closed other non-performing assets. As a result, we recorded a \$2.0 million restructuring charge for associated severance and asset impairment costs. Further, in our Beryllium Products unit, we wrote down \$3.1 million in production assets which have been idle and are not expected to be used in the future.

Additionally, the Company recorded a pre-tax benefit for 2002 of \$4.0 million following the reversal of previously recorded accruals due to favorable legal settlements and court rulings. Our continuing success on the legal front is detailed later in this report.

MANAGING THE BALANCE SHEET

Throughout this challenging period, the management of our balance sheet has remained a critical priority. Here we can also point to a number of important accomplishments:

- Throughout 2002, our operating cash flow remained positive, while our debt was reduced by \$11.4 million, to \$63.4 million at year end. During 2002, total balance sheet debt, off-balance sheet leases and precious metal lease obligations were reduced by approximately \$35 million, or 18%.

- By implementing aggressive inventory management and improved logistical and receivables practices, working capital requirements have dropped by 13%. Inventories declined by \$15 million in the year, while accounts receivables were reduced by \$7 million.

- Capital spending was reduced without sacrifice to the business needs.

Brush, like many other companies, saw the market value of its pension plan assets decline to below the present value of the benefit obligation. This situation is primarily a result of a weak equity market and low interest/discount rates. As a result, the Company was required under accounting standards to recognize an additional liability. The Company recorded a non-cash charge in the fourth quarter that reduced comprehensive income, a component of shareholders equity, in the amount of \$13.6 million.

ON-TIME SHIPMENTS TO
SERVICE CENTERS
(%)

[BAR CHART]

TOTAL DEBT AND LEASES*
(Millions)

[BAR CHART]

*(Including off-balance
sheet leases and
precious
metal lease obligations)

INVENTORY
(Millions)

[BAR CHART]

- When the worlds leading loudspeaker maker, JBL, needed a sure-fire way to boost the sound quality of its high-end commercial systems, engineers called on Brush Wellmans Electrofusion products. The resulting technology advancement sent clear signals through the entire industry. By using a beryllium foil dome as a speaker diaphragm, sound reproduction and acoustic accuracy were vastly enhanced. Berylliums lower density and higher stiffness are perfect for this new application. Electrofusion is now fine-tuning the technology to leverage additional market growth. Meanwhile, the system is already being used at special events and concert venues around the world.

[PHOTO]

Brush Wellmans AlBeMet(), a beryllium and aluminum metal matrix composite, is designed into 340 parts in the new F/A-22 Raptor. The U.S. Air Force is increasingly calling for the weight savings, thermal management, strength and rigidity properties of AlBeMet()for avionics upgrades in other military aircraft as well.

[PHOTO]

The integrated avionics in the F/A-22 are as much as 100 times faster than earlier fighter jets. The F/A-22 is also unparalleled in maneuverability, stealth features, speed and range.

[PHOTO]

COURTESY: LOCKHEED MARTIN

- Brush Wellman uses sophisticated infrared photography at plastic injection mold operations to demonstrate the superior thermal management properties of its moldMAX(alloys).

At Rubbermaid Commercial Products in Winchester, Virginia, the conversion to moldMAX(HH is generating substantial benefits in the production of a mop holder part. Because of the more efficient heat distribution, Rubbermaid has experienced better cycle times, an overall improvement in part quality due to the uniform cooling provided by the alloy and lower production scrap rates. Rubbermaid reports that the moldMAX(mold performs substantially better than the previous tool steel mold with lower mold maintenance costs. Payback on the investment was achieved in less than three months. Infrared images (below center) show the part cooling uniformly with moldMAX()mold cores vs. uneven cooling in steel molds (right).

[PHOTO]

- Clean and efficient energy from fuel cells has led to the development of a number of commercially viable applications with more on the way.

- Technical Materials, Inc. (TMI) is helping to meet this emerging growth with the development of clad metals systems for several leading fuel cell technologies. Fuel cell designers are evaluating and specifying clad metals from TMI for their outstanding electrical and corrosion resistant properties as replacements for more costly graphite and s polymer/carbon composites. TMI materials provide unique opportunities to optimize fuel cell performance and lower costs. Below:

a compact power plant produced by FuelCell Energy, Inc., a TMI customer, and bi-polar plates made from TMI materials for use in other fuel cell designs.

[PHOTO]

BUSINESS SEGMENT REVIEW

The Company is organized into two major business segments, the Metal Systems Group and the Microelectronics Group.

Metal Systems, comprised of Brush Wellman Inc.'s Alloy Products and Beryllium Products business units and Technical Materials, Inc. (TMI), saw its groupwide revenues fall 23% from 2001, due in large measure to the continued decline in the telecommunications and computer sector. Within the group, significant losses experienced by the Alloy Products business overrode profits earned by Beryllium Products and TMI.

Alloys revenues dropped 30% in 2002. With Alloy representing more than 40% of the Company's revenue, 54% of its inventory and 55% of the total overhead, it is critical that this business turn around and adjust fundamentally to a lower sales level.

In response, every action Alloy Products is taking is aimed at improving its performance and resuming its historical position as an important financial contributor to the Company. Alloy remains, however, our central challenge as it continues to operate at well below its breakeven point and continues to incur significant losses.

TMI, while experiencing a 12% revenue drop in the year, remained profitable. This business continues to show strong resiliency to changing market conditions and a keen ability to improve performance through unrelenting cost reduction, innovative business practices and product development.

Beryllium Products was the strongest performer in the Metal Systems segment, achieving another year of solid sales growth and profitability. With its heavy focus on the military/defense market, Beryllium Products saw sales increase by 14% over 2001. Margins in this group were up substantially, with a solid improvement in working capital utilization.

Microelectronics includes Williams Advanced Materials Inc. (WAM) and Electronic Products. Groupwide revenues decreased 18% from 2001, mainly due to metal mix shifts. Operating profits were down 12% year over year.

Once again, WAM performed extremely well in 2002, delivering solid profits on a business plan that leverages its distinctive product abilities, service and support, fully integrated operations and superior lead times. WAM enjoys a leading position in physical vapor deposition targets for a variety of end-use markets, including digital video disks and data storage.

Electronic Products, by contrast, saw its revenues decline by 12% in 2002. The reorganization actions taken as part of Electronic Products restructuring, and other performance improvements underway within the unit, are geared to returning it to profitability.

LITIGATION

In 2002, we made significant progress in placing most of our litigation and the uncertainty and risk associated with it behind us. This was an important accomplishment, as it was achieved without a material financial impact to the Company. Our successful record in defending against claims that Brush misinformed workers and repeated favorable court rulings provided a powerful incentive for the majority of the remaining plaintiffs to agree to settlements.

In the first half of the year, we reached a settlement agreement involving nearly half of the outstanding claims against the Company related to beryllium and health. At year end, a number of other cases were in the process of being settled. By the end of the first quarter 2003, we anticipate that the outstanding claims against the Company will be reduced to approximately 20 cases. Many of these claims were covered by insurance or accounted for in previously established reserves.

LOOKING TO THE FUTURE

We are poised to emerge from the current downturn as a stronger and leaner, customer-focused company. Our progress is a reflection of our employees incredible perseverance and dedication to succeed and in their unwavering support to our customers. We have already made a quantum leap in our cost structure, and the addition of revenue from new products and markets will pave the way for sustainable earnings in the future.

There remains more to be done, especially in continued improvement in our Alloy operations and in the development of our new markets and applications in each of our businesses. We have set out to achieve an ambitious but reachable target of nearly \$20 million of new revenue in 2003 from new applications, markets and products. Already, each of our businesses has active programs underway with near-term revenue potential. Alloy, due to its size and relative challenges, has the most aggressive program in this area. We expect to capture more of what our current and new customers are spending. Many of these exciting efforts are highlighted throughout this report.

I am convinced that the long-term outlook for Brush and our engineered materials remains very attractive. The requirements for greater strength, fatigue and corrosion resistance, and thermal and electrical conductivity to meet the performance needs of a variety of demanding end-use markets have never diminished. More than ever, our materials help designers meet these needs, especially as they push for higher performance from their products. Accordingly, our new product introductions are all premised on leveraging our core material and customer service capabilities to provide additional value to our customers.

Despite the difficult situation at hand, I believe we are ready to demonstrate our inherent potential. The full impact of our performance improvements has yet to be fully seen and, at the same time, we are positioned to capitalize on an even modest upturn in our markets. This, along with early adoption of our new products and applications in the marketplace, presents Brush Engineered Materials with promising opportunities for a profitable future, accompanied by a welcomed increase in shareholder value.

Thank you for your patience and support throughout a very challenging 2002.

*/s/ GORDON D. HARNETT
Gordon D. Harnett
Chairman, President and
CEO*

Sometimes we have to look pretty deep to uncover an opportunity as significant as our solution for Joy Mining Machinery. The company manufactures huge continuous mining machines for some of the most demanding environments on the planet deep underground in salt and coal mines. Regular maintenance is practically impossible. Corrosion of steel bearings leads to premature wear and failure. Joy switched to bearings machined from Brush Wellmans unique copper-nickel-tin alloy, ToughMet(). The alloys strength and anti-friction qualities have proven to be unmatched for reducing downtime and maintenance costs.

[PHOTO]

Euclid Hitachi Heavy Equipment, Inc. makes some of the worlds largest dump trucks bigger than a house and weighing 180 tons. The trucks are used in open cast mining where conditions are harsh. Front suspension bushings were suffering high wear rates. A Brush Wellman sales engineer suggested changing to ToughMet() alloy for bushings. ToughMet() features the strength of steel and unparalleled lubricity, or friction resistance. Lower wear rates have resulted in increased service intervals and a significant competitive advantage for Euclid Hitachi.

[PHOTO]

MANAGEMENT'S DISCUSSION AND ANALYSIS

RESULTS OF OPERATIONS

Sales in 2002 declined for the second year in a row due to the weak economic conditions of the Company's major end-use markets. The Company continued to reduce costs in order to mitigate the impact of the lower sales volumes and, as a result, the operating loss was only \$8.7 million higher in 2002 than in 2001 on a \$99.8 million drop in sales. A one-time charge to record a valuation allowance against the Company's deferred tax assets increased the tax expense and further increased the net loss by \$1.20 per share in 2002.

2000	2002	2001
-----	-----	-----
(Millions, except for share data)		
Net sales	\$ 372.8	\$ 472.6
563.7		
Operating profit (loss)	(22.8)	(14.1)
23.0		
Diluted E.P.S.	\$ (2.15)	\$ (0.62)
0.86		

Consolidated net sales were \$372.8 million in 2002 compared to \$472.6 million in 2001, a 21% decline, while sales in 2001 declined 16% from the record high of \$563.7 million established in 2000. Sales have not recovered from the precipitous drop in demand that began in the first half of 2001. After growing each quarter of 2000, sales declined each quarter of 2001, with the fourth quarter 2001 sales being 37% lower than the first quarter of that year. Sales in 2002 did not show any sustainable improvement over the fourth quarter 2001 sales level on an annualized basis. The decline in sales that began in 2001 and the lack of improvement in 2002 were due in large part to the soft demand from the telecommunications and computer market. The Company estimates that this market accounted for 49% of its sales in 2000 compared to 42% in 2001 and 30% in 2002 (on a much smaller base). Demand from the automotive market, which had declined in 2001 from 2000 levels, remained firm in 2002. Sales for defense applications grew in both 2002 and 2001 while demand for data storage applications within the optical media market was strong once again in 2002.

The sales order backlog at the start of 2003 was \$57.7 million, compared to \$91.1 million at the start of 2002 and \$171.5 million at the start of 2001. Lead times continued to be very short during 2002 and customers, particularly in the telecommunications and computer market, tend to have limited visibility into their end-use demand and are reluctant to place longer-term or blanket orders. Customers in the telecommunications and computer market have also been unable to forecast when the level of their business will improve. Competitive pressures on selling prices have increased in virtually all of the Company's major markets.

The cost reduction efforts initiated in the second quarter 2001 continued into 2002. Wages and benefits were frozen and/or reduced while spending on services and supplies was also reduced. Work hours, including overtime, were adjusted down in order to align production schedules with the lower sales volume and to reduce inventories. Other manufacturing and cost improvements were made as well. Total headcount was reduced 4% during 2002 following a 22% reduction in 2001. As a result, the variable contribution margin (sales less the cost of materials sold and direct conversion costs including labor and supplies) as a percent of sales was unchanged in 2002 as compared to 2001. In addition, total manufacturing overhead costs, selling, general and administrative and research and development expenses were \$34.7 million lower in 2002 than in 2001. Severance and other one-time costs to implement these initiatives totaled \$0.8 million in 2002 and \$2.6 million in 2001, the majority of which were recorded in selling, general and administrative expense.

Gross margin was \$47.9 million in 2002 (12.8% of sales) compared to \$68.0 million (14.4% of sales) in 2001 and \$118.7 million (21.1% of sales) in 2000. Compared to 2001, the margin contribution lost on the lower sales volume in 2002 totaled \$41.6 million. Offsetting a portion of the impact from the lower volumes was a favorable product mix effect of \$2.7 million and a reduction in manufacturing overhead expenses and inventory valuation adjustments of \$19.4 million.

The lower sales volume in 2001 as compared to 2000 accounted for \$35.3 million of the \$50.7 million decline in gross margin. The translation impact on foreign currency sales was an unfavorable \$4.5 million. The majority of the remaining \$10.9 million difference in margins between 2001 and 2000 was caused by the lower production levels and extended plant shutdowns. While manufacturing overhead expenses were reduced by year end, costs were not reduced as quickly or as much as the associated production volumes. Since the majority of the 2001 cost reductions occurred in the second half of the year, total manufacturing overhead and inventory adjustments were higher in 2001 than in 2000.

Selling, general and administrative expenses (SG&A) were \$61.3 million, or 16.4% of sales, in 2002 compared to \$75.3 million, or 15.9% of sales, in 2001 and \$87.6 million, or 15.5% of sales, in 2000. Cost reduction efforts (net of severance costs) initiated in the second half of 2001 in response to the lower sales volumes served to reduce SG&A expenses in that year and into 2002. Additional manpower and cost reductions were made in 2002. Offsetting a portion of these cost savings was a \$1.7 million increase in management incentive compensation plan expense in 2002 over 2001 as several operating units achieved their objectives under the plan in 2002.

The Company received several favorable rulings on its litigation involving chronic beryllium disease (CBD) in 2002. The Company also negotiated settlements on numerous cases during the year while other cases were dismissed. As a result of a court ruling, the Company anticipates being able to increase the recovery portion on insured legal claims that previously were subjected to apportionment and thereby recorded an increase in the insurance recovery amount. These factors combined to reduce the Company's liability, net of insurance, on asserted claims. The portion of the change in the legal reserve and insurance recoverable that was credited to income (i.e., a reduction of

SG&A expenses) totaled \$4.0 million in 2002, while in 2001 changes in the reserve and recoverable accounts resulted in a \$2.3 million expense. See "Legal Proceedings" for further details.

In addition to the cost reduction initiatives, SG&A expenses in 2001 were lower than in 2000 as a result of a decline in management compensation plan expenses of \$4.4 million due to the Company's lower profitability and a \$1.1 million reduction in corporate expenses associated with CBD, including litigation, medical research and testing and environmental, health and safety.

Research and development expense (R&D) was \$4.3 million in 2002, \$6.3 million in 2001 and \$7.4 million in 2000. R&D expense as a percent of sales was

1.1% in 2002 compared to 1.3% in 2001 and 2000. While R&D efforts on critical projects continued, overall spending was lowered as part of the Company's cost reduction program.

Other-net expense was \$5.2 million in 2002 versus \$0.4 million in 2001 and \$0.7 million in 2000. The 2002 expense includes asset impairment charges of \$4.4 million recorded in accordance with SFAS No. 144 that are described in further detail in the segment disclosures. Other-net includes currency exchange gains of \$1.5 million in 2002, \$2.3 million in 2001 and \$4.0 million in 2000. The precious metal and copper financing fee was \$0.7 million lower in 2002 than in 2001 while the expense in 2001 was \$1.5 million lower than in 2000. The main cause of the declining expense in both years is a reduction in the financed inventories on hand. The financing rates were also lower in 2001 than in 2000. The copper financing arrangement was terminated during December 2002. The Company adopted SFAS No. 142 effective January 1, 2002 and as a result, goodwill was not amortized in 2002. The goodwill amortization expense was \$0.3 million in 2001 and 2000. Other-net also includes bad debt expense, the gain or loss on the sale of capital assets, amortization of other intangible assets and other non-operating items.

The operating loss was \$22.8 million in 2002 compared to \$14.1 million in 2001 and an operating profit of \$23.0 million in 2000. The increase in the operating loss in 2002 resulted primarily from the lower margins due to the significant drop in sales volume, partially offset by overhead cost reductions.

Interest expense was \$3.0 million in 2002 compared to \$3.3 million in 2001 and \$4.7 million in 2000. The lower expense in 2002 resulted primarily from reduced levels of debt. In addition, the average borrowing rate in 2002 declined for the second year in a row. Interest incurred was \$3.1 million in 2002 and \$3.9 million in 2001 as the amount of interest capitalized in association with long-term capital projects declined to \$0.1 million in 2002 from \$0.6 million in 2001 due to the lower level of capital spending.

The loss before income taxes was \$25.9 million in 2002 versus \$17.4 million in 2001. The Company generated income before income taxes of \$18.3 million in 2000.

The income tax expense of \$9.7 million in 2002 consisted of a favorable tax provision of \$10.2 million and a deferred tax valuation expense of \$19.9 million. A tax benefit rate of 39.4% was applied against the loss before income taxes to calculate the favorable tax provision. A tax rate of 40.9% was used in 2001 to calculate a tax benefit of \$7.1 million. The major changes from the statutory rate in both years include the effects of percentage depletion and foreign source income. In 2000, an effective income tax rate of 22.7% was applied against the income before income taxes to calculate a tax provision of \$4.2 million. The effects of percentage depletion and foreign source income were the major causes for the difference between the effective and statutory rates in 2000 as well.

The \$19.9 million deferred tax valuation allowance was calculated in accordance with SFAS No. 109, "Accounting for Income Taxes". The statement requires a company to evaluate the deferred tax assets on its balance sheet in the event of recent operating losses to determine if a valuation allowance is warranted. This evaluation process is not based upon the specific expiration date of the deferrals, but rather the company's ability to demonstrate taxable income that will result in the utilization of its deferred tax assets. As a result of the review, the Company determined that its deferred tax assets were impaired and a valuation allowance was recorded in the fourth quarter 2002 with \$19.9 million charged to expense and \$7.3 million to Other comprehensive income within shareholders' equity. The Company also determined that the \$0.7 million net deferred tax asset remaining on the balance sheet as of December 31, 2002 was not impaired. The charge did not affect cash or the Company's ability to utilize any of its deferred tax assets on future tax returns. See Note I to the Consolidated Financial Statements.

As a result of the above, the net loss was \$2.15 per share in 2002 compared to a loss of \$0.62 per share in 2001. In 2000, the Company earned \$0.86 per share diluted.

SEGMENT DISCLOSURES

The Company aggregates its businesses into two reportable segments - the Metal Systems Group and the Microelectronics Group. Prior to 2001, corporate expenses as well as the operating results from the Company's beryllium mine and extraction mill in Utah were not included in either segment and were shown in the "All Other" column in the segment disclosures.

As a result of the corporate restructuring completed on January 1, 2001, the Company changed how costs flow between its various businesses and the corporate office. Certain costs that previously were recorded at the corporate office, primarily expenses related to beryllium health and safety and chronic beryllium disease, were charged to the responsible businesses beginning with the first quarter 2001. Beginning in 2001, the

"All Other" column in the segment disclosures includes the

MANAGEMENT'S DISCUSSION AND ANALYSIS

operating results of BEM Services, Inc. and Brush Resources Inc., two wholly owned subsidiaries of the Company, as well as the parent company's operating expenses. BEM Services charges a management fee for the services it provides, primarily corporate, administrative and financial oversight, to the other businesses within the Company on a cost-plus basis. Brush Resources sells beryllium hydroxide, produced through its Utah operations, to outside customers and to businesses within the Metal Systems Group. The 2000 segment results presented in Note M to the Consolidated Financial Statements, as well as in this Management's Discussion and Analysis, have been revised to reflect these changes on a pro forma basis. Management believes that these changes more accurately reflect the operating results of its businesses.

METAL SYSTEMS GROUP

2000	2002	2001
-----	-----	-----
(Millions)		
Net sales	\$ 227.9	\$ 295.7
378.2		\$
Operating profit (loss)	(37.7)	(20.1)
10.2		

The Metal Systems Group is the larger of the Company's reportable segments, accounting for over 60% of the Company's sales and assets. The group consists of Alloy Products, Technical Materials, Inc. (TMI), a wholly owned subsidiary of the Company, and Beryllium Products. These units manufacture a variety of engineered materials that provide superior performance in demanding applications and compete against beryllium and non-beryllium-containing alloys. Customers typically use the Company's materials as their raw material input. Customers are also usually one or more tiers removed from the end-use demand generator in a given market. Sales to external customers by business unit within the Metal Systems Group during the 2000 to 2002 time frame were as follows:

2000	2002	2001
-----	-----	-----
(Millions)		
Alloy Products	\$ 151.9	\$ 217.5
269.9		\$
Technical Materials, Inc.	44.4	50.5
83.3		
Beryllium Products	31.6	27.7
25.0		
-----	-----	-----
Total segment sales	\$ 227.9	\$ 295.7
378.2		\$
=====	=====	=====

ALLOY PRODUCTS

Alloy Products is the largest unit within the Metal Systems Group and the most affected by the slowdown in the telecommunications and computer market. Sales of Alloy Products were \$151.9 million in 2002, a 30% decline from the prior year. Sales in 2001 were 19% lower than in 2000, which was a record year for Alloy Products.

Alloy Products consists of two main product families - strip products and bulk products. Strip products include thin gauge precision strip and thin diameter rod and wire products manufactured from copper beryllium and nickel beryllium alloys. These products provide high conductivity, high reliability and formability in a variety of applications including electrical connectors, switches, relays, contacts and shielding. Major markets for strip products include telecommunications and computer, automotive electronics and appliances. Strip products are

manufactured at the Company's facilities in Elmore, Ohio and Reading, Pennsylvania.

Sales of strip products were 27% lower in 2002 than in 2001 while sales in 2001 were 23% lower than 2000. The decline in both years is due to the fall off in demand from the telecommunications and computer market. Sales into the automotive market remained firm throughout the three-year period. Pounds sold of strip products declined 17% in 2002 compared to 2001 and were 29% lower in 2001 than in 2000. The decline in pounds sold was less than the decline in sales due to an unfavorable shift in product mix as the pounds sold of the higher price, higher beryllium-containing alloys decreased while the quantity sold of the lower priced, lower beryllium-containing alloys increased slightly in 2002.

Bulk products consist of copper, nickel and aluminum-based alloys manufactured in rod, bar, tube, plate and other customized forms. The majority of these alloys also contain beryllium. Bulk products are used in applications that may require superior strength, corrosion and wear resistance or thermal conductivity including bushings, bearings, plastic mold tooling, welding rods and housings for telecommunication equipment. The beryllium-containing alloys are manufactured at the Elmore facility while the non-beryllium-containing alloys are produced at the Company's Lorain, Ohio facility.

Sales of bulk products declined 37% in 2002 from 2001 after declining 10% in 2001 from 2000. Pounds sold were 33% lower in 2002 than 2001 and 13% lower in 2001 than 2000. Sales into the undersea telecommunications market, which was the largest market segment for bulk products in 2000, began to decline in the second half of 2001 and were minimal in 2002 due to the severe reduction in the number of new undersea fiber optic line installation projects throughout the world. Demand from the industrial components market softened in 2002 and 2001 while demand from the plastic tooling market improved in the first half of 2002, but then softened due to customer inventory positions.

The Company continued to improve efficiencies, rework percentages and machine utilization rates in 2002 in the Alloy Products' manufacturing operations. The performance of the strip mill equipment that was installed in the Elmore facility in the late 1990's, in particular, has improved. In 2000, when customer demand was higher, yield and performance and reliability issues with this equipment constrained capacity and negatively impacted costs. The improvements implemented in 2002 and 2001 helped offset a portion of the unfavorable product mix effect and will allow the Company to grow more profitably when sales volumes increase.

TECHNICAL MATERIALS, INC.

TMI manufactures engineered material systems for sale into the telecommunications and computer and automotive electronics markets. TMI's engineered materials systems include clad inlay and overlay metals, electron beam welded systems, precious and base metal electroplated systems, contour profiled metal systems and solder-coated metal systems. These systems provide varied thermal, electrical or mechanical properties from a surface area or particular section. Major applications for TMI products include semiconductors, contacts and connectors. TMI products are manufactured at the Company's facility in Lincoln, Rhode Island.

TMI sales were 12% lower in 2002 than 2001 while sales in 2001 were 39% lower than 2000, which was a record sales year for TMI. The decline in sales in both 2002 and 2001 was due to the weak demand from the telecommunications and computer market. The fall off in demand from this market began in the second quarter 2001 and continued throughout 2002. Sales into the automotive market were relatively unchanged in each of the last two years. TMI continues to invest in product development efforts in order to expand its product offerings into other markets, including fuel cell technologies.

As a result of cost reduction initiatives, including reduced work hours, reductions in force and other cost control programs, TMI was profitable in 2002 and 2001 in spite of the significantly lower sales volume.

BERYLLIUM PRODUCTS

Beryllium Products manufactures pure beryllium metal and beryllium aluminum alloys in a variety of forms at operations in Elmore, Ohio and Fremont, California. These materials are typically premium priced and are used in applications that require high stiffness and/or low density. Major markets for beryllium products include defense, electronics, automotive, medical and optical scanning. Sales of Beryllium Products have increased each of the last three years, growing 14% in 2002 over 2001 and 11% in 2001 over 2000. While an improvement in defense-related demand was the main cause for this growth, sales for other commercial applications have increased as well, including automotive sales in 2002 and acoustic components for the electronics market in 2001.

METAL SYSTEMS GROSS MARGIN AND EXPENSES

The gross margin on Metal Systems sales declined \$21.1 million in 2002 from 2001 after declining \$39.3 million in 2001 from 2000. The lower sales volume in 2002 reduced the margin contribution by \$30.7 million as compared to 2001. An unfavorable product mix effect, primarily from Alloy Products, reduced margins by an additional \$5.7 million in 2002. The currency and copper price effect was slightly unfavorable as well. Mitigating the impact of these negative factors on margins was a reduction in manufacturing overhead expenses and inventory valuation adjustments of \$15.9 million. The costs for manpower, services and supplies were reduced at the Elmore, Reading and Lincoln facilities in response to the lower sales volume. The \$15.9 million decrease in manufacturing overhead is net of a \$4.7 million increase in rent expense from the off-balance sheet operating lease that finances a portion of the strip mill equipment in Elmore.

The decline in sales volumes in 2001 from 2000 resulted in a \$31.7 million lower contribution margin. An unfavorable currency translation effect, lower production volumes and an increase in unabsorbed costs caused the remaining difference in gross margins between 2001 and 2000.

SG&A, R&D and Other-net expenses were \$3.5 million lower in 2002 than in 2001 as a result of manpower and other cost reduction initiatives. Offsetting a significant portion of the cost savings was a \$3.1 million asset impairment charge recorded in the fourth quarter 2002. The Company determined that the projected cash flow from various assets used in the production of beryllium was less than the carrying value. The assets were written down to their net realizable values. The equipment has been shut down due to the use of alternate input materials and manufacturing processes.

Expenses declined \$9.0 million in 2001 from 2000 as a result of cost saving initiatives, a reduced incentive compensation accrual and lower sales related expenses, including commissions and travel and entertainment expenses.

The operating loss for Metal Systems was \$37.7 million in 2002 compared to \$20.1 million in 2001. In 2000, Metal Systems earned an operating profit of \$10.2 million.

MICROELECTRONICS GROUP

2000	2002	2001
-----	-----	-----
(Millions)		
Net sales	\$ 139.2	\$ 169.6
179.1		
Operating profit	3.8	4.6
8.4		

The Microelectronics Group (MEG) includes Williams Advanced Materials Inc. (WAM), a wholly owned subsidiary, and Electronic Products. These businesses manufacture a variety of high quality precision parts that are sold to assemblers and other fabricators of electronic components and equipment. After growing at 27% in 2000 over 1999, MEG sales declined in 2001 and 2002. Sales in 2002 were 18% lower than in 2001. Sales to external customers by business unit within the MEG during the 2000 to 2002 time frame were as follows:

2000	2002	2001
-----	-----	-----
(Millions)		
Williams Advanced	\$ 109.1	\$ 135.5
136.4		
Materials Inc.		
Electronic Products	30.1	34.3
42.7		
-----	-----	-----
Total segment sales	\$ 139.2	\$ 169.6
179.1		
=====	=====	=====

MANAGEMENT'S DISCUSSION AND ANALYSIS

WILLIAMS ADVANCED MATERIALS INC.

WAM manufactures precious, non-precious and specialty metal products for sale into the optical media, magnetic head, electron tube and the wireless, semiconductor, photonic and hybrid segments of the microelectronics market. The performance films market is also a significant market for WAM. Major products manufactured by WAM include vapor deposition targets, frame lid assemblies, clad and precious metal pre-forms, high temperature braze materials and ultra fine wire. WAM operates facilities in New York, California, Singapore and the Philippines. WAM's sales of \$109.1 million in 2002 were 19% lower than sales in 2001 while 2001 sales of \$135.3 million were 1% lower than in 2000.

The cost of the precious and non-precious metals sold by WAM is a straight pass-through to the customer; selling prices are adjusted to reflect changes in the cost of the metals sold. WAM generates margin on its fabrication independent of the particular metal used in a given application. Therefore, the cost and mix of metals sold can affect the level of sales but not necessarily the margin on those sales. In 2002, a product mix shift toward lower priced metals caused the majority of the reduction in WAM's sales compared to 2001. WAM's volumes only declined approximately 2% in 2002 compared to 2001.

Sales of vapor deposition targets, WAM's largest product line, declined slightly in 2002 from the 2001 level. While demand for targets by the optical media market for the manufacture of digital video disks remained firm in 2002, demand from the photonic and other segments of the microelectronic market was soft for the second year in a row. Demand from the magnetic head market for WAM's materials used in magnetic resistive (MR) and giant magnetic resistive (GMR) applications was strong in 2002 after growing significantly in 2001 over 2000. Sales of frame lid assemblies increased in 2002 over 2001 as a result of the acquisition of various assets from a competitor who was exiting the business in June 2001. The acquisition resulted in an increase in frame lid assembly sales in 2001 over 2000 as well. Sales of high temperature braze materials declined for the second straight year due to soft market conditions.

ELECTRONIC PRODUCTS

Electronic Products manufactures beryllia ceramics, produced by Brush Ceramic Products Inc., a wholly owned subsidiary, and electronic packages, circuitry and powder metallurgy products, produced by Zentrix Technologies Inc., also a wholly owned subsidiary of the Company. These products are used in the telecommunications and computer, automotive and defense markets. Major applications for Electronic Products include wireless telecommunications equipment and fiber optics. Sales from Electronic Products were 12% lower in 2002 than in 2001 and 20% lower in 2001 than in 2000.

Lower sales of beryllia ceramics accounted for the majority of the total Electronic Products sales decline in each of the last two years due to the slowdown in the telecommunications and computer market. Beryllia ceramics is a mature product line with a limited customer base and limited growth potential. Circuitry sales were lower in 2002 than in 2001 as demand for these products started to slow down in the second half of 2001. The fall-off in demand was mainly from commercial applications, as sales for defense-related applications remained firm throughout 2002. Sales of electronic packages were also lower in 2002 than in 2001 while sales of these products in 2001 were unchanged from the prior year. Sales for automotive applications increased slightly in 2002 compared to 2001 after decreasing in 2001 from 2000.

MEG GROSS MARGIN AND EXPENSES

The gross margin on MEG sales improved \$0.8 million in 2002 over 2001. An \$8.1 million favorable product mix effect, primarily from WAM, and a \$3.1 million reduction in manufacturing overhead expenses and inventory valuation adjustments more than offset the lower contribution margin from the lower sales volume. The manufacturing overhead expense savings resulted from reductions in manpower and supplies within Electronic Products. The gross margin in 2001 was \$3.6 million lower than in 2000 as a result of the lower sales volume. The product mix effect was favorable but this was offset by the impact of lower production levels and inventory valuation adjustments.

SG&A, R&D and Other-net expenses grew \$1.6 million in 2002 over 2001. The \$0.7 million reduction in metal consignment fees in 2002 as compared to 2001 was partially offset by other expense increases within WAM. In the fourth quarter 2002, the Company determined that various assets used by Zentrix were impaired as their projected cash flows were less than the carrying values. A charge of \$1.3 million was recorded against Other-net on the Consolidated Income Statement to reduce the assets' carrying values to the fair market value as determined by an independent appraisal. In order to help realign the cost structure of Electronic Products with revenues, the Company restructured the management of the unit, eliminating various positions and closing the French sales office and the small operating facility in Malaysia. Severance and associated closure costs totaled \$0.6 million and were recorded in SG&A expense in the fourth quarter 2002. Management anticipates that these actions will reduce overhead expenses by approximately \$3.0 million in 2003.

SG&A, R&D and Other-net expenses were \$0.1 million higher in 2001 than in 2000 within the MEG as manpower reductions, primarily in the second half of the year, and a lower metal financing fee helped to keep expenses relatively flat with the prior year.

MEG operating profit was \$3.8 million in 2002 compared to \$4.6 million in 2001 and \$8.4 million in 2000. Operating profit as a percent of

sales was 2.7% in both 2002 and 2001 and 4.7% in 2000.

INTERNATIONAL SALES AND OPERATIONS

2000	2002	2001
(Millions)		
From international operations 98.4	\$ 71.8	\$ 86.8
Exports from U.S. operations 51.2	32.5	47.5
Total international sales 149.6	\$ 104.3	\$ 134.3
Percent of total net sales 27%	28%	28%

The international sales presented in the above table are included in the Metal Systems Group and MEG sales figures previously discussed. The majority of international sales are to the Pacific Rim, Western Europe and Canada. Sales into each of these regions were lower in 2002 than in 2001 with European sales accounting for over 60% of the total fall-off. While international sales were \$30.0 million lower in 2002 than in 2001, international sales as a percent of the Company's total sales were unchanged.

International operations include service centers in Germany, England, Japan and Singapore. These operations focus primarily on the distribution of alloy products while providing additional local support to various other businesses within the Company. WAM has finishing operations in the Philippines, which were acquired in 2001, and in Singapore. The Company established branch offices in Taiwan and the Republic of China during 2002 to increase its sales and marketing efforts in those regions.

Sales from the international operations are typically denominated in the local currency while exports from the U.S. are predominately denominated in dollars. Local competition limits the Company's ability to adjust selling prices to compensate for short-term exchange rate movements. On average over the course of the year, the dollar was slightly stronger in 2002 than in 2001 resulting in a reduced translated value of these sales. The unfavorable translation impact on sales was \$1.1 million in 2002 versus 2001. In 2001, the unfavorable translation impact was \$4.5 million compared to 2000. The dollar weakened in the latter part of 2002; a weaker dollar in 2003 as compared to 2002 would increase the translated value of foreign currency-denominated sales.

The markets served by the international operations are similar to the domestic markets, with telecommunications and computer and automotive electronics being the largest. Defense applications are not as prevalent overseas while the appliance market for Alloy Products is a more significant market in Europe than it is domestically. The Company's market share is smaller in the overseas markets than it is domestically. The Company believes that the international markets present significant long-term growth opportunities. Going forward, as customers relocate operations overseas, particularly to Asia, maintaining a strong international presence will become more critical to sustaining the Company's long-term sales growth.

LEGAL PROCEEDINGS

One of the Company's subsidiaries, Brush Wellman Inc., is a defendant in proceedings in various state and federal courts brought by plaintiffs alleging that they have contracted chronic beryllium disease or other lung conditions as a result of exposure to beryllium. Plaintiffs in beryllium cases seek recovery under theories of intentional tort and various other legal theories and seek compensatory and punitive damages, in many cases of an unspecified sum. Spouses, if any, claim loss of consortium.

The following table summarizes the associated activity with beryllium cases. Settlement payment and dismissal for a single case may not occur in the same period.

	December 31,		
	2002	2001	2000
	-----	-----	-----
Total cases pending	33	76	71
Total plaintiffs (including spouses)	70	193	192
Number of claims (plaintiffs) filed during period ended	2(4)	19(37)	
38(87)			
Number of claims (plaintiffs) settled during period ended	34(107)	2(3)	
2(5)			
Aggregate cost of settlements during period ended (dollars in thousands)	\$ 4,945	\$ 570	\$ 730
Number of claims (plaintiffs) otherwise dismissed	11(20)	12(31)	
2(9)			
Number of claims (plaintiffs) voluntarily withdrawn	0(0)	0(2)	
0(0)			

Additional beryllium claims may arise. Management believes that the Company has substantial defenses in these cases and intends to contest the suits vigorously. Employee cases, in which plaintiffs have a high burden of proof, have historically involved relatively small losses to the Company. Third-party plaintiffs (typically employees of customers or contractors) face a lower burden of proof than do employees or former employees, but these cases are generally covered by varying levels of insurance. A reserve was recorded for beryllium litigation of \$4.2 million at December 31, 2002 and \$13.0 million at December 31, 2001. A receivable was recorded of \$4.9 million at December 31, 2002 and \$6.6 million at December 31, 2001 from the Company's insurance carriers as recoveries for insured claims.

Although it is not possible to predict the outcome of the litigation pending against the Company and its subsidiaries, the Company provides for costs related to these matters when a loss is probable and the amount is reasonably estimable. Litigation is subject to many uncertainties, and it is possible that some of these actions could be decided unfavorably in amounts exceeding the Company's reserves. An unfavorable outcome or settlement of a pending beryllium case or additional adverse media coverage could encourage the commencement of additional similar litigation. The Company is unable to estimate its potential exposure to unasserted claims.

MANAGEMENT'S DISCUSSION AND ANALYSIS

While the Company is unable to predict the outcome of the current or future beryllium proceedings, based upon currently known facts and assuming collectibility of insurance, the Company does not believe that resolution of these proceedings will have a material adverse effect on the financial condition or the cash flow of the Company. However, the Company's results of operations could be materially affected by unfavorable results in one or more of these cases. Currently, one purported class action is pending.

Standards for exposure to beryllium are under review by the United States Occupational Safety and Health Administration, and by private standard-setting organizations. One result of these reviews might be more stringent worker safety standards. More stringent standards may affect buying decisions by the users of beryllium-containing products. If the standards are made more stringent or the Company's customers decide to reduce their use of beryllium-containing products, the Company's operating results, liquidity and capital resources could be materially adversely affected. The extent of the adverse effect would depend on the nature and extent of the changes to the standards, the cost and ability to meet the new standards, the extent of any reduction in customer use and other factors that cannot be estimated.

FINANCIAL POSITION

WORKING CAPITAL

Cash flow from operations was \$15.7 million in 2002 as depreciation, asset impairments and changes in working capital more than offset the net loss of \$35.6 million. Cash balances totaled \$4.4 million at December 31, 2002, a decline of \$2.6 million during the year as the cash generated was used to reduce debt and fund capital expenditures. Cash flow from operations was \$22.5 million in 2001 and cash balances increased \$2.7 million during that year.

The accounts receivable balance was \$47.5 million at December 31, 2002, a decline of \$7.1 million from the end of the prior year. The days sales outstanding, a measure of how quickly receivables are collected, improved five days. The lower receivable balance was also due to the fall off in sales. Accounts written off to bad debts increased \$0.3 million in 2002 over 2001 in part due to the global economic conditions. Accounts receivable declined \$37.7 million in 2001 mainly as a result of the significant decline in sales volume as well as a three-day improvement in the days sales outstanding.

The inventory balance of \$94.3 million at December 31, 2002 was \$14.8 million lower than at December 31, 2001 as the Company reduced its working capital investment due to the lower sales volume. This reduction in inventory is net of a \$6.0 million increase due to the termination of an off-balance sheet copper financing arrangement in the fourth quarter 2002. Total Metal Systems Group inventories were down 21% while MEG inventories were down slightly from the end of 2001. The majority of the decrease in inventory in 2002 was in Alloy Products. Pounds in Alloy inventory declined 18% during 2002. In addition, pounds in Alloy inventories were down 40% from their peak level at the end of the first quarter 2001. Alloy Products also significantly reduced the level of scrap in the inventory stream, both material with value that can be recycled as well as non-valued material that cannot be used, over the last 18 months. Inventory turns during the fourth quarter 2002 were equal to turns in the fourth quarter 2001. Inventories were \$6.5 million lower at the end of 2001 than at the end of 2000. After increasing in the first half of 2001 as a result of various businesses anticipating continued sales growth and due to a temporary build as part of a planned shift in the location of buffer work-in-process inventories, inventories were brought down in the second half of the year. The Metal Systems Group accounted for the majority of the inventory reduction in 2001.

Accounts payable and other liabilities and accrued items decreased \$2.5 million during 2002 after declining \$25.6 million in 2001. The large decline in 2001 was attributable to the reduction in business levels, reduced spending and lower incentive compensation accruals.

Other long-term liabilities of \$17.5 million at December 31, 2002 were \$5.5 million lower than at the end of 2001 due to the reduction in the accrued legal reserve offset in part by an increase in the fair value of an interest rate derivative.

The Company paid \$4.9 million in legal settlements during 2002 and received \$2.3 million from its insurance carriers as a partial reimbursement for the insured portions of the claims paid.

DEPRECIATION, AMORTIZATION AND IMPAIRMENTS

Depreciation, amortization and depletion was \$20.4 million in 2002 compared to \$20.9 million in 2001. The slightly lower expense in 2002 resulted from the reduced level of capital spending. Amortization of deferred mine development was \$0.3 million in 2002 and \$0.7 million in 2001. Mine development costs are amortized based upon the units of production method as ore is extracted from the pits.

The \$19.9 million deferred tax valuation allowance and \$4.4 million asset write-downs, which increased the net loss in 2002, were non-cash charges that reduced the carrying values of various assets. Depreciation expense in subsequent periods will be lower as a result of the \$4.4 million asset charge than had the charge not been recorded.

CAPITAL EXPENDITURES

Capital expenditures for property, plant and equipment and mine development were \$5.4 million in 2002 and \$23.3 million in 2001. The level of capital spending was significantly reduced beginning in the third quarter 2001 and continued through 2002 in order to conserve cash in light of the operating losses. The majority of the capital spending in 2002 was devoted to a series of smaller projects as opposed to several large projects. WAM accounted for approximately 30% of the Company's total capital spending in 2002. Capital spending by the Metal Systems

Group was \$13.0 million in 2001 while MEG capital spending was \$6.8 million. In 2001, the Company also purchased land and mineral rights that were previously leased by its mining operations in Utah that cover approximately 95% of the Company's proven bertrandite ore reserves for \$1.3 million. Management anticipates a slight increase in capital spending in 2003 compared to 2002.

PENSION LIABILITY

SFAS No. 87, "Employers' Accounting for Pensions," requires the recognition of a minimum pension liability if the present value of the accumulated benefit obligation is greater than the market value of the pension assets as of year end. The market value of the Company's pension assets in its domestic defined benefit plan was \$78.1 million while the present value of the accumulated benefit obligation was \$87.7 million as of December 31, 2002. Accordingly, a minimum pension liability of \$9.6 million was recorded in the fourth quarter 2002 and included in retirement and other post-employment benefits on the Company's balance sheet as of December 31, 2002. Concurrent with recording this liability, the carrying value of the pension asset included in other assets on the Company's balance sheet was adjusted and a non-cash, pre-tax charge of \$13.6 million was recorded against Other comprehensive income, a component of shareholders' equity on the Company's balance sheet. As of December 31, 2001, the market value of the Company's pension assets exceeded the accumulated benefit obligation and a minimum pension liability was not required. During 2002, the market value of the assets declined due to investment losses while the present value of the accumulated benefit obligation increased primarily as a result of a lower discount rate.

The Company utilized \$2.5 million of excess pension fund assets in 2001 to fund payments under its retiree medical plan in accordance with IRC Section 420 guidelines. A similar transfer was not made in 2002 because of the change in the pension plan funding status.

DEBT AND OFF-BALANCE SHEET OBLIGATIONS

Total debt on the balance sheet stood at \$63.4 million at December 31, 2002, a decline of \$11.4 million from the end of 2001. Short-term debt totaled \$27.2 million at year end 2002 and included \$8.3 million of gold-denominated debt and \$12.4 million denominated in foreign currencies. These borrowings are designed as hedges against changes in the values of assets similarly denominated. The remaining \$6.5 million of short-term debt, as well as \$6.7 million of the foreign currency-denominated loans, were borrowed under a \$55.0 million revolving credit agreement. Long-term debt of \$36.2 million at December 31, 2002 consisted of an \$8.3 million variable rate industrial development bond, a \$3.0 million variable rate demand note, a \$0.9 million promissory note and \$24.0 million borrowed under the revolving credit agreement. Borrowings outstanding under the revolving credit agreement totaled \$37.2 million at December 31, 2002.

The revolving credit agreement is an asset-based lending arrangement with the banks having a security interest in a portion of the Company's domestic accounts receivable, inventory and certain fixed assets. The agreement includes various restrictive covenants including minimum consolidated tangible net worth, interest coverage, leverage ratios, capital expenditure levels, dividend declaration and permitted acquisitions. In January 2003, the agreement was amended to waive certain covenants effective December 31, 2002 and to reduce the available borrowing level from \$65.0 million to \$55.0 million. In March 2003, the revolving credit agreement was amended to provide a minimum availability of \$55.0 million with a liquidity reserve of \$5.0 million. The amendment also revised various covenants and increased the Company's borrowing rates. The Company was in compliance with its debt covenants as of December 31, 2002.

In addition to the \$63.4 million of debt on the balance sheet, the Company has an off-balance sheet synthetic operating lease with an initial notional, value of \$59.8 million that finances a portion of the Alloy Products' manufacturing equipment in Elmore. The lease payments were structured to increase over time, as the payments for the first three-year base term, which ended in December 2001, did not include any principal amortization. Payments under this lease in 2002 were \$10.1 million, a \$4.7 million increase over 2001, and are anticipated to be \$10.6 million in 2003. The Company also has an off-balance sheet operating lease with an initial notional value of \$20.3 million that finances a building at the Company's Elmore facility. Payments under this lease are \$2.3 million per year. See Note F to the Consolidated Financial Statements for additional leasing details.

The Company maintains a portion of its precious metal inventories on a consignment basis in order to reduce its price exposure. See the "Market Risk Disclosures" section of this Management's Discussion and Analysis for additional details. The notional value of this inventory was \$15.6 million at December 31, 2002 and \$25.6 million at December 31, 2001. The value of the consigned precious metals declined during 2002 as a result of inventory reduction efforts and reduced requirements due to changes in the sales volumes and mix. The quantity decrease was greater than the decline in value as metal prices were higher at December 31, 2002 than December 31, 2001. Since the consigned precious metal is owned by third parties, its cost is not reflected in the total inventory on the Company's balance sheet. The Company also had an off-balance sheet financing arrangement with a bank for a portion of its copper-based inventories. The Company terminated this arrangement in the fourth quarter 2002 by buying the copper inventory for \$6.0 million from the bank and adding it into its balance sheet inventory as the Company determined it was more cost effective to finance these inventories with traditional balance sheet debt. The notional value of this arrangement was \$6.6 million at December 31, 2001.

MANAGEMENT'S DISCUSSION AND ANALYSIS

A summary of contractual payments under long-term debt agreements, operating leases and material purchase commitments by year is as follows:

	Payments Due In				
	2003	2004	2005	2006	2007
(Millions)					
Long-term debt repayments	\$ -	\$ 24.0	\$ 0.6	\$ 0.6	\$ 0.6
Elmore building lease payments	2.3	2.3	2.3	2.3	2.3
Other operating lease payments	2.8	2.5	1.7	1.1	0.8
	-----	-----	-----	-----	-----
Subtotal non-cancelable leases	5.1	4.8	4.0	3.4	3.1
Elmore equipment lease payments	10.6	10.4	10.3	10.2	10.0
Purchase commitments	10.6	13.7	16.1	18.2	20.5
	-----	-----	-----	-----	-----
Total	\$ 26.3	\$ 52.9	\$ 31.0	\$ 34.2	\$ 34.2
	=====	=====	=====	=====	=====

The \$24.0 million debt repayment in 2004 represents the long-term borrowings under the revolving credit agreement outstanding as of December 31, 2002. While the revolver matures in April 2004, it is the Company's intention to refinance the debt prior to the actual maturity date. Long-term borrowings under the revolver may also increase or decrease prior to maturity depending upon cash availability and other requirements.

The subtotal of the Elmore building lease obligation and the other operating lease payments represents the amounts due under non-cancelable operating leases with initial terms in excess of one year as of December 31, 2002. Beginning with 2002, the Company has the option to renew the synthetic lease annually for seven years. The chart provides the estimated payments under the lease should the Company exercise its option to renew the lease each year. The purchase commitments are for raw materials to be acquired under long-term supply agreements. See Note L to the Consolidated Financial Statements.

OTHER

The Company suspended its regular quarterly dividend payment in the third quarter 2001 in order to improve the Company's cash position in light of the operating losses and as a result no dividends were paid in 2002. The Company paid \$6.0 million in dividends in 2001. Cash received from the exercise of stock options totaled \$1.8 million in 2001. No options were exercised in 2002 as the share price was below the option strike prices.

Funds from operations plus the available borrowing capacity are believed to be adequate to support operating requirements, capital expenditures and remediation projects. The Company's current debt-to-equity ratio and the recent operating losses may limit the ability to raise debt financing in excess of the existing revolving credit agreement and other established lines.

The Company attempts to maintain cash balances at a minimum with any excess cash used to reduce overnight or other short-term borrowings. Cash balances, if any, are invested in high quality, highly liquid investments.

ENVIRONMENTAL

As indicated in Note L to the Consolidated Financial Statements, the Company has an active program of environmental compliance. For environmental remediation projects, estimates of the probable costs are made and reserves are established accordingly. The environmental remediation reserve balance was \$7.7 million at December 31, 2002 and \$7.5 million at December 31, 2001. There were no significant changes in the number of remediation projects or in their estimated costs during 2002.

ORE RESERVES

The Company's reserves of beryllium-bearing bertrandite ore are located in Juab County, Utah. An ongoing drilling program has generally added to proven reserves. Proven reserves are the measured quantities of ore commercially recoverable through the open pit method. Probable reserves are the estimated quantities of ore known to exist, principally at greater depths, but prospects for commercial recovery are

indeterminable. Ore dilution that occurs during mining is approximately seven percent. About 87% of beryllium in ore is recovered in the extraction process. The Company augments its proven reserves of bertrandite ore through the purchase of imported beryl ore (approximately 4% beryllium), which is also processed at the Utah extraction plant.

The Company uses computer models to estimate ore reserves, which are subject to economic and physical evaluation. Development drilling has affected the total ore reserves to some degree, although there was no development drilling activity in 2001 or in 2002. The requirement that reserves pass an economic test causes open pit- mineable ore to be found in both proven and probable geologic settings. Proven reserves decreased while the probable reserves increased in 2002. Reserves declined in 2001 in part due to the termination of a particular lease and option during the year. As of 2001, the Company owns, as opposed to leases, approximately 95% of the proven

reserves. Based upon average production levels in recent years, proven reserves would last 75 years or more. Ore reserves classified as possible are excluded from the following table.

	2002 -----	2001 -----	2000 -----	1999 -----	1998 -----
Proven bertrandite ore reserves at year end (thousands of dry tons)	6,730	7,270	7,690	7,769	7,747
Grade % beryllium	0.267%	0.268%	0.263%	0.265%	0.259%
Probable bertrandite ore reserves at year end (thousands of dry tons)	3,519	3,081	3,166	3,081	3,535
Grade % beryllium	0.232%	0.219%	0.217%	0.215%	0.210%
Bertrandite ore processed (thousands of dry tons, diluted)	40	48	84	93	113
Grade % beryllium diluted	0.217%	0.224%	0.235%	0.240%	0.234%

CRITICAL ACCOUNTING POLICIES

The preparation of financial statements requires the inherent use of estimates and management's judgment in establishing those estimates. The following are the most significant accounting policies used by the Company that rely upon management's judgment.

ACCRUED LIABILITIES. The Company has various accruals on its balance sheet that are based in part upon management's judgment, including accruals for litigation, environmental remediation and workers' compensation costs. The Company establishes accrual balances at the best estimate determined by a review of the available facts and trends by management and independent advisors and specialists as appropriate. Absent a best estimate, the accrual is established at the low end of the estimated reasonable range in accordance with SFAS No. 5, "Accounting for Contingencies". Accruals are only established for identified and/or asserted claims; future claims, therefore, could give rise to increases to the accruals. The accruals are adjusted as the facts and circumstances change. The accruals may also be adjusted for changes in the Company's strategies or regulatory requirements. Since these accruals are estimates, the ultimate resolution may be greater or less than the established accrual balance for a variety of reasons including court decisions, additional discovery work, level of inflation, cost control efforts and resolution of similar cases. Changes to the accruals would then result in an additional charge or credit to income.

The accrued legal liability only includes the estimated indemnity cost, if any, to resolve the claim through a settlement or court verdict. The legal defense costs are not included in the accrual and are expensed in the period incurred, with the level of expense in a given year affected by the number and types of claims the Company is actively defending. Management does not anticipate that the credit to income from adjustments to the accrued legal liability and related insurance recoverable account that occurred in 2002 will repeat in 2003.

PENSIONS. The Company has a defined benefit pension plan that covers a large portion of its current and former domestic employees. The Company accounts for this plan in accordance with SFAS No. 87, "Employers' Accounting for Pensions". Under Statement No. 87, the carrying values of the associated assets and liabilities are determined on an actuarial basis using numerous actuarial and financial assumptions. Differences between the assumptions and current period actual results may be deferred into the net pension asset value and amortized against future income under established guidelines. The deferral process generally reduces the volatility of the recognized net pension asset and current period income or expense. The actuaries adjust their assumptions to reflect changes in demographics and other factors as needed. The Company periodically reviews other key assumptions, including the expected return on plan assets and the discount rate, against actual results, trends and industry standards and makes adjustments accordingly. These adjustments may then lead to a higher or lower expense in a future period.

The Company reduced the expected long-term rate of return on plan assets assumption to 9% as of December 31, 2002 from 10% as of December 31, 2001 as a result of the investment performance in recent years. The Company's long-term experience indicates that a 9% return is reasonable. Should the assets continue to earn a return less than 9%, in all likelihood future pension income would decline. The Company establishes the discount rate used to determine the present value of the projected and accumulated benefit obligation at the end of each year based upon the available market rates for high quality, fixed income investments. An increase to the discount rate would reduce the future pension expense and conversely, a lower discount rate would raise the future pension expense. As of December 31, 2002, the Company elected to use a discount rate of

6.75% compared to a rate of 7.125% as of December 31, 2001. The Company estimates that the changes in the expected rate of return, discount rate and other actuarial assumptions combined with the amortization of prior differences between actual and expected results will result in a \$1.5 million increase in the net expense from its qualified pension plan in 2003 over 2002.

MANAGEMENT'S DISCUSSION AND ANALYSIS

The \$9.6 million additional minimum pension liability recorded as of December 31, 2002 does not by itself indicate that a cash contribution to the plan is required. This liability was recorded according to SFAS No. 87 while cash contributions and funding requirements are governed by ERISA and IRS guidelines. Based upon these guidelines, the Company does not anticipate making a cash contribution to the pension plan until at least 2004. The minimum pension liability under SFAS No. 87 will be recalculated at the measurement date (December 31 of each year) and any adjustments to this account and other comprehensive income will be recorded at that time accordingly. See Note K to the Consolidated Financial Statements for additional details on the Company's pension plan.

LIFO INVENTORY. The prices of certain major raw materials, including copper, nickel, gold, silver and other precious metals purchased by the Company, fluctuate during a given year. Such changes in costs are generally reflected in selling price adjustments. The prices of labor and other factors of production generally increase with inflation. Additions to capacity, while more expensive over time, usually result in greater productivity or improved yields. However, market factors, alternative materials and competitive pricing affect the Company's ability to offset wage and benefit and other cost increases. Therefore, the Company uses the last-in, first-out (LIFO) method for costing the majority of its domestic inventories. Under the LIFO method, inflationary cost increases are charged against the current cost of goods sold in order to more closely match the cost with revenue. The carrying value of the inventory is based upon older costs and as a result, the LIFO cost of the inventory on the balance sheet is typically lower than it would be under most alternative costing methods. The LIFO expense in a given year is dependent upon the inflation rate impact on raw material purchases and manufacturing conversion costs, the level of purchases in a given year and the inventory mix and balance. In 2002, the inflation rate was low and the Company significantly reduced its inventories. As a result, LIFO inventory layers were liquidated that reduced cost of sales by \$2.1 million in 2002.

DEFERRED TAX ASSETS. The Company records deferred tax assets and liabilities in accordance with SFAS No. 109, "Accounting For Income Taxes". The deferrals are determined based upon the temporary difference between the financial reporting and tax bases of assets and liabilities. The Company reviews the expiration date of the deferrals against projected income levels to determine if the deferral will or can be realized. If it is determined that it is not probable the deferral will be realized, a valuation allowance would be established for that item. Certain deferrals, including the alternative minimum tax credit, do not have an expiration date. See Note I to the Consolidated Financial Statements for additional deferred tax details.

In addition to reviewing the deferred tax assets against their expiration date, the Company evaluated its deferred tax assets for impairment due to the recent operating losses as previously described and recorded a valuation allowance of \$27.2 million in the fourth quarter 2002, with \$19.9 million charged to expense and \$7.3 million charged to other comprehensive income. The Company did not have a valuation allowance established against any of its deferred tax assets as of December 31, 2001. Should the Company generate a domestic pre-tax profit in subsequent periods, the valuation allowance will be reversed against the current period domestic federal tax expense resulting in higher net income and net income per share for that period. Once the Company establishes a trend of consistent actual and projected positive earnings, significant portions or all of the remaining valuation allowance may be reversed back to income. Should the Company generate domestic pre-tax losses in subsequent periods, a domestic federal tax benefit will not be recorded and the valuation allowance recorded against the net deferred tax assets will increase. This will result in a larger net loss and net loss per share for that period versus a comparable period when a favorable tax benefit was recorded. The Company will continue to record tax provisions or benefits as appropriate for state and local taxes and various foreign taxes regardless of the status of this valuation allowance.

DERIVATIVES. The Company uses derivative financial instruments to hedge its foreign currency, commodity price and interest rate exposures. The Company applies hedge accounting when an effective hedge relationship can be documented and maintained. If a hedge is deemed effective, changes in its fair value are recorded in other comprehensive income within equity until the underlying hedged item matures. If a hedge does not qualify as effective, changes in its fair value are recorded against income in the current period. The Company secures derivatives with the intention of hedging existing or forecasted transactions only and the Company does not engage in speculative trading or holding derivatives for investment purposes. The Company's annual budget and quarterly forecasts serve as the basis for determining forecasted transactions. The use of derivatives is governed by policies established by the Board of Directors. The level of derivatives outstanding may be limited by the availability of credit from financial institutions. See Note G to the Consolidated Financial Statements and the "Market Risk Disclosures" section in this Management's Discussion and Analysis for more information on the Company's derivatives.

MARKET RISK DISCLOSURES

Consistent with the prior year, the Company is exposed to commodity price, interest rate and foreign exchange rate differences. The Company attempts to minimize the effects of these exposures through a combination of natural hedges and the use of derivatives. The Company's use of derivatives is governed by policies adopted by the Board of Directors.

The Company uses gold and other precious metals in manufacturing various MEG and Metal Systems products. While the mix of the different precious metals may have changed from time to time, the methods used to hedge the exposure have not. To minimize exposure to market price changes, precious metals are maintained on a consigned inventory basis. The metal is purchased out of consignment when it is ready to ship to a customer as a finished product. The Company's purchase price forms the basis for the price charged to the customer for the precious metal content and, therefore, the current cost is matched to the price. The Company does maintain a certain level of gold in its own inventory, but this is typically balanced out by having a loan denominated in gold for the same number of ounces. Any change in the market price of gold, either higher or lower, will result in an equal change in the book value of the asset and liability.

The Company is charged a consignment fee by the financial institutions that actually own the precious metal. This fee, along with the interest charged on the gold-denominated loan, is partially a function of the market price of the metal. Because of market forces and competition, the fee, but not the interest on the loan, can be charged to customers on a case-by-case basis. To further limit price and financing rate exposures, under some circumstances the Company will require customers to furnish their own metal for processing. This practice is used more frequently when the rates are high and/or more volatile. Should the market price of precious metals used by the Company increase by 15% from the prices on December 31, 2002, the additional pre-tax cost to the Company on an annual basis would be approximately \$0.2 million. This calculation assumes no changes in the quantity of inventory or the underlying fee and interest rates and that none of the additional fee is charged to customers.

The Company also uses base metals, primarily copper, in its production processes. Fluctuations in the market price of copper are passed on to customers in the form of price adders or reductions for the majority of the copper sales volumes. However, when the Company cannot pass through the price of copper, margins can be reduced by increases in the market price of copper. To hedge this exposure, the Company enters into copper swaps with financial institutions that exchange a variable price of copper for a fixed price. By so doing, the difference between the Company's purchase price and selling price of copper will be a known, fixed value for the quantities covered by the swaps. Based upon copper swaps outstanding at December 31, 2002, all of which will mature during 2003, management estimates a 10% decrease in the price of copper from the December 31, 2002 level will increase the pre-tax loss on these contracts by approximately \$0.2 million. This calculation excludes the additional profit that the Company anticipates it would make by selling copper at a fixed price that cost 10% less than it did on December 31, 2002.

The Company is exposed to changes in interest rates on its debt and cash. This interest rate exposure is managed by maintaining a combination of short-term and long-term debt and variable and fixed rate instruments. The Company also uses interest rate swaps to fix the interest rate on variable debt obligations, as it deems appropriate. Excess cash, if any, is typically invested in high quality instruments that mature in seven days or less. If interest rates were to increase 200 basis points (2%) from the December 31, 2002 rates and assuming no changes in debt or cash from the December 31, 2002 levels, the additional annual net expense would be approximately \$0.6 million on a pre-tax basis. The calculation excludes any additional expense on fixed rate debt that upon maturity may or may not be extended at the prevailing interest rates.

The Company sells products in foreign currencies, mainly the euro, yen and sterling. The majority of these products' costs are incurred in U.S. dollars. The Company is exposed to currency movements in that if the U.S. dollar strengthens, the translated value of the foreign currency sale and the resulting margin will be reduced. The Company does not change the price of its products for short-term exchange rate movements because of its local competition. To minimize this exposure, the Company purchases foreign currency forward contracts, options and collars. Should the dollar strengthen, the decline in the translated value of the margins should be offset by a gain on the contract. A decrease in the value of the dollar would result in larger margins but potentially a loss on the contract, depending upon the method used to hedge. If the dollar weakened 10% against all currencies from the December 31, 2002 exchange rates, the reduced gain and/or the increased loss (as applicable) on the outstanding contracts as of December 31, 2002 would reduce pre-tax profits by approximately \$2.7 million. This calculation does not take into account the increase in margins as a result of translating foreign currency sales at the more favorable exchange rate, any changes in margins from potential volume fluctuations caused by currency movements or the translation effects on any other foreign currency-denominated income statement or balance sheet item.

MANAGEMENT'S DISCUSSION AND ANALYSIS

The notional value of the outstanding currency contracts was \$26.4 million at December 31, 2002 and \$28.5 million at December 31, 2001. The notional value of the copper swaps was \$1.8 million at December 31, 2002 and \$11.1 million at December 31, 2001. The Company had one interest rate swap outstanding at December 31, 2002 with a notional value of \$50.5 million that hedged a variable rate operating lease. The notional value of this swap was \$54.8 million at December 31, 2001. In addition, a swap that hedged a \$3.0 million debt obligation matured during 2002.

The Company adopted SFAS No. 133, "Accounting for Derivative Instruments and Hedging Activities," and SFAS No. 138, "Accounting for Certain Derivative Instruments and Certain Hedging Activities" as of January 1, 2001. Accordingly, the Company began recording the fair value of all derivative financial instruments on its balance sheet in 2001. The fair value of derivatives is determined by financial institutions and represents the market price for the instrument between two willing parties as of the balance sheet dates. Changes in the fair value of outstanding derivatives are recorded in equity or against income as appropriate under SFAS No. 133 guidelines. The fair value of the outstanding foreign currency contracts was a liability of \$0.9 million at December 31, 2002, indicating that the average hedge rates were unfavorable compared to the actual year-end market exchange rates. The fair value of the outstanding copper swaps as of December 31, 2002 was a gain of \$0.1 million as the current market prices for copper were slightly higher than the average swapped price. The fair value of the interest rate swap was a loss of \$6.7 million as the available interest rates were lower than the rates fixed under the swap contract. This swap will mature over the next six years. The net derivative loss recorded in Other comprehensive income (loss) was \$7.8 million as of December 31, 2002 compared to \$2.1 million at December 31, 2001.

OUTLOOK

The global economic and market conditions in 2002 that contributed to the Company's weak sales and operating losses continued into early 2003. Management believes that the Company's return to profitability is not predicated solely on growth in the end-use markets, but on a combination of factors.

First, direct manufacturing costs, including yields and efficiencies, and other operational performance measures, such as unplanned maintenance downtime, customer response time and inventory levels, must continue to be improved in order to increase margins, particularly on products that face strong competition in the market place. The Company has programs in place, including Lean Manufacturing and Six Sigma, to address and improve costs, manufacturing processes and inventory utilization.

Secondly, overhead costs must be controlled and reduced where possible. The Company significantly reduced its overhead cost structure in 2001 and 2002 and management believes that the majority of those reductions are of a permanent nature. The restructuring of Electronic Products late in the fourth quarter 2002 will also serve to reduce overhead costs going forward, but these savings will be offset in part by the increase in pension expenses. Going forward, cost control will help to more fully leverage increases in sales volumes.

Despite the losses generated in 2002, by reducing overhead costs and maintaining the variable margin percentage, the Company was able to reduce its breakeven point. Going into 2003, the Company's breakeven sales point is approximately \$420 million, assuming no significant change in product mix.

Third, revenue from existing products and traditional markets must increase. Management does not anticipate that the telecommunications and computer and automotive electronics markets will grow significantly during 2003. Therefore, growth in the other markets served plus expanding the Company's market share will be key to increasing revenues in 2003. The Company believes that it has an array of quality products that can offer cost-effective solutions for numerous applications. In addition, the long-term market trends towards higher performance requirements, whether electrical, thermal, strength, corrosion resistance or other mechanical properties, make the Company's products even more attractive. The Company is aggressively pursuing opportunities both domestically and internationally in order to improve its revenue base. By increasing its base now, the Company's revenues will grow even faster when the overall markets start to improve.

Finally, the Company must broaden its base by growing revenues from new products and applications. Each business unit has various new products being developed for specific applications and markets. For example, Alloy Products has a welded tube product for oil and gas applications, a higher strength strip product for the electronics market and a spinodal alloy for bearings, wear plates and other applications. WAM is developing new alloys for its markets while TMI is pursuing applications within the emerging fuel cell market. Management believes that these new products, as well as others, have the potential to increase revenues beginning in 2003.

Significant progress was made on the CBD litigation against the Company during 2002. Favorable rulings and settlements have reduced the outstanding legal exposures while at the same time affirming the Company's position that it acted responsibly by taking the appropriate safety and education measures. Going forward, the Company will continue its investment in worker protection and education and medical research. While it is difficult to predict the outcome of the remaining cases or the likelihood of new cases, the Company is encouraged by the progress and trends during the past two years.

REPORTS OF INDEPENDENT AUDITORS AND MANAGEMENT

REPORT OF INDEPENDENT AUDITORS

Board of Directors and Shareholders
Brush Engineered Materials Inc.

We have audited the accompanying Consolidated Balance Sheets of Brush Engineered Materials Inc. and subsidiaries as of December 31, 2002 and 2001, and the related Consolidated Statements of Income, Shareholders' Equity, and Cash Flows for each of the three years in the period ended December 31, 2002. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Brush Engineered Materials Inc. and subsidiaries at December 31, 2002 and 2001, and the consolidated results of their operations and their cash flows for each of the three years in the period ended December 31, 2002 in conformity with accounting principles generally accepted in the United States.

*/s/ ERNEST & YOUNG
LLP
Cleveland, Ohio
March 11, 2003*

REPORT OF MANAGEMENT

The management of Brush Engineered Materials Inc. is responsible for the contents of the financial statements, which are prepared in conformity with generally accepted accounting principles. The financial statements necessarily include amounts based on judgments and estimates. Financial information elsewhere in the annual report is consistent with that in the financial statements.

The Company maintains a comprehensive accounting system, which includes controls designed to provide reasonable assurance as to the integrity and reliability of the financial records and the protection of assets. However, there are inherent limitations in the effectiveness of any system of internal controls and, therefore, it provides only reasonable assurance with respect to financial statement preparation. An internal audit staff is employed to regularly test and evaluate both internal accounting controls and operating procedures, including compliance with the Company's Statement of Policy regarding ethical and lawful conduct. The role of the independent auditors is to provide an objective review of the financial statements and the underlying transactions in accordance with generally accepted auditing standards.

The Audit Committee of the Board of Directors, comprised solely of Directors who are not members of management, meets regularly with management, the independent auditors, and the internal auditors to ensure that their respective responsibilities are properly discharged. The independent auditors and the internal audit staff have full and free access to the Audit Committee.

*/s/ JOHN D. GRAMPA
John D. Grampa
Vice President Finance and Chief Financial
Officer*

FORWARD-LOOKING STATEMENTS

Portions of the narrative set forth in this document that are not historical in nature are forward-looking statements. The Company's actual future performance may materially differ from that contemplated by the forward-looking statements as a result of a variety of factors. These factors include, in addition to those mentioned elsewhere herein; the condition of the markets which the Company serves whether defined geographically or by segment, with the major market segments being telecommunications and computer, automotive electronics, industrial components, optical media, aerospace and defense, and appliance; changes in product mix and the financial condition of particular customers; the Company's success in implementing its strategic plans and the timely and successful completion of pending capital expansion projects; the availability of adequate lines of credit and the associated interest rates; other financial factors, including tax rates, exchange rates, pension costs, energy costs and the cost and availability of insurance; changes in government regulatory requirements and the enactment of new legislation that impacts the Company's obligations; and, the conclusion of pending litigation matters in accordance with the Company's expectation that there will be no material adverse effects.

CONSOLIDATED STATEMENTS OF INCOME

Brush Engineered Materials Inc. and Subsidiaries, Years ended December 31, 2002, 2001 and 2000
(Dollars in thousands except per share amounts)

	2002	2001	2000
Net sales	\$ 372,829	\$ 472,569	\$ 563,690
Cost of sales	324,932	404,574	444,951
Gross profit	47,897	67,995	118,739
Selling, general and administrative	61,293	75,315	87,577
Research and development expenses	4,265	6,327	7,437
Other - net	5,184	422	739
Operating profit (loss)	(22,845)	(14,069)	22,986
Interest expense	3,010	3,327	4,652
INCOME (LOSS) BEFORE INCOME TAXES	(25,855)	(17,396)	18,334
Income taxes (benefit):			
Currently payable	(8,018)	(755)	1,876
Deferred	17,767	(6,367)	2,293
	9,749	(7,122)	4,169
NET INCOME (LOSS)	\$ (35,604)	\$ (10,274)	\$ 14,165
Net income (loss) per share of common stock - basic	\$ (2.15)	\$ (0.62)	\$ 0.87
Average number of shares of common stock outstanding - basic	16,557,388	16,518,691	16,292,431
Net income (loss) per share of common stock - diluted	\$ (2.15)	\$ (0.62)	\$ 0.86
Average number of shares of common stock outstanding - diluted	16,557,388	16,518,691	16,448,667

See Notes to Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS

Brush Engineered Materials Inc. and Subsidiaries, Years ended December 31, 2002, 2001 and 2000

(Dollars in thousands)

	2002	2001	2000
	-----	-----	-----
Cash flows from operating activities:			
Net income (loss)	\$ (35,604)	\$ (10,274)	\$ 14,165
Adjustments to reconcile net income (loss) to net cash Provided from operating activities:			
Depreciation, depletion and amortization	20,356	20,944	20,878
Amortization of mine development	284	665	1,786
Impairment from asset writedown	4,393	--	--
Deferred tax valuation allowance	19,930	--	--
Decrease (increase) in accounts receivable	9,654	36,589	(15,453)
Decrease (increase) in inventory	16,587	5,283	(6,312)
Decrease (increase) in prepaid and other current assets	(1,387)	360	(1,062)
Increase (decrease) in accounts payable and accrued expenses	(3,914)	(29,534)	16,291
Increase (decrease) in interest and taxes payable	(5,249)	(5,341)	2,125
Increase (decrease) in other long-term liabilities	(7,879)	2,747	608
Other - net	(1,482)	1,036	2,366
	-----	-----	-----
NET CASH PROVIDED FROM OPERATING ACTIVITIES	15,689	22,475	35,392
Cash flows from investing activities:			
Payments for purchase of property, plant and equipment	(5,248)	(23,130)	(21,306)
Payments for mine development	(166)	(154)	(332)
Proceeds from sale of property, plant and equipment	140	16	600
Other investments - net	(57)	--	--
	-----	-----	-----
NET CASH USED IN INVESTING ACTIVITIES	(5,331)	(23,268)	(21,038)
Cash flows from financing activities:			
Proceeds from issuance/(repayment) of short-term debt	(1,941)	3,869	(894)
Proceeds from issuance of long-term debt	12,000	39,446	23,000
Repayment of long-term debt	(23,000)	(35,500)	(27,800)
Issuance of Common Stock under stock option plans	--	1,760	3,725
Payments of dividends	--	(5,967)	(7,867)
	-----	-----	-----
NET CASH PROVIDED FROM (USED IN) FINANCING ACTIVITIES	(12,941)	3,608	(9,836)
Effects of exchange rate changes on cash and cash equivalents	(74)	(115)	(303)
	-----	-----	-----
NET CHANGE IN CASH AND CASH EQUIVALENTS	(2,657)	2,700	4,215
CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR	7,014	4,314	99
	-----	-----	-----
CASH AND CASH EQUIVALENTS AT END OF YEAR	\$ 4,357	\$ 7,014	\$ 4,314
	=====	=====	=====

See Notes to Consolidated Financial Statements.

CONSOLIDATED BALANCE SHEETS

Brush Engineered Materials Inc. and Subsidiaries, Years ended December 31, 2002 and 2001
(Dollars in thousands)

	2002	2001
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	\$ 4,357	\$ 7,014
Accounts receivable (less allowance of \$1,317 for 2002, and \$1,514 for 2001)	47,543	54,616
Inventories	94,324	109,110
Prepaid expenses	9,766	9,910
Deferred income taxes	244	9,823
TOTAL CURRENT ASSETS	156,234	190,473
OTHER ASSETS	25,629	33,224
LONG-TERM DEFERRED INCOME TAXES	472	8,660
PROPERTY, PLANT, AND EQUIPMENT		
Land	6,972	6,737
Buildings	97,184	95,645
Machinery and equipment	328,722	324,037
Software	19,983	19,949
Construction in progress	4,222	4,260
Allowances for depreciation	(309,742)	(284,659)
Mineral resources	147,341	165,969
Mine development	5,029	5,029
Allowances for amortization and depletion	14,171	14,006
	(13,997)	(13,708)
PROPERTY, PLANT, AND EQUIPMENT-NET	5,203	5,327
	152,544	171,296
	\$ 334,879	\$ 403,653
LIABILITIES AND SHAREHOLDERS' EQUITY		
CURRENT LIABILITIES		
Short-term debt	\$ 27,235	\$ 27,582
Accounts payable	15,129	13,869
Salaries and wages	12,043	10,051
Taxes other than income taxes	2,883	2,961
Other liabilities and accrued items	15,513	21,199
Income taxes	786	3,917
TOTAL CURRENT LIABILITIES	73,589	79,579
OTHER LONG-TERM LIABILITIES	17,459	22,921
RETIREMENT AND POST-EMPLOYMENT BENEFITS	48,518	39,552
LONG-TERM DEBT	36,219	47,251
SHAREHOLDERS' EQUITY		
Serial preferred stock, no par value; 5,000,000 shares authorized, none issued	--	--
Common stock, no par value		
Authorized 60,000,000 shares; 22,917,618 issued shares (22,884,518 for 2001)	93,311	92,861
Retained income	194,382	229,986
Common stock in treasury, 6,281,355 shares in 2002 (6,275,363 in 2001)	287,693	322,847
Other comprehensive income (loss)	(105,245)	(105,041)
Other equity transactions	(22,859)	(4,350)
	(495)	894
TOTAL SHAREHOLDERS' EQUITY	159,094	214,350
	\$ 334,879	\$ 403,653

See Notes to Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

Brush Engineered Materials Inc. and Subsidiaries, Years ended December 31, 2002, 2001 and 2000

(Dollars in thousands)

	Common Stock	Additional Paid-in- Capital	Retained Income	Common Stock in Treasury	Other Comprehensive Income(Loss)	Other	Total
BALANCES AT JANUARY 1, 2000	22,517	63,901	\$ 237,893	\$ (104,565)	\$ (8)	\$ 900	\$ 220,638
Net income	--	--	14,165	--	--	--	14,165
Foreign currency translation adjustment ..	--	--	--	--	(1,197)	--	(1,197)
Comprehensive income							12,968
Transfer additional paid-in capital to common stock	63,901	(63,901)	--	--	--	--	--
Declared dividends \$ 0.48 per share	--	--	(7,837)	--	--	--	(7,837)
Proceeds from sale of 218,380 shares under option plans	3,255	--	--	--	--	--	3,255
Income tax benefit from employees' stock options	470	--	--	--	--	--	470
Other equity transactions	600	--	--	36	--	(147)	489
Forfeiture of restricted stock	--	--	--	(358)	--	282	(76)
BALANCES AT DECEMBER 31, 2000	90,743	--	244,221	(104,887)	(1,205)	1,035	229,907
Net loss	--	--	(10,274)	--	--	--	(10,274)
Foreign currency translation adjustment ..	--	--	--	--	(1,084)	--	(1,084)
Change in fair value of derivative financial instruments	--	--	--	--	(2,061)	--	(2,061)
Comprehensive loss							(13,419)
Declared dividends \$0.24 per share	--	--	(3,961)	--	--	--	(3,961)
Proceeds from sale of 95,230 shares under option plans	1,530	--	--	--	--	--	1,530
Income tax benefit from employees' stock options	230	--	--	--	--	--	230
Other equity transactions	358	--	--	277	--	(273)	362
Forfeiture of restricted stock	--	--	--	(431)	--	132	(299)
BALANCES AT DECEMBER 31, 2001	92,861	--	229,986	(105,041)	(4,350)	894	214,350
Net loss	--	--	(35,604)	--	--	--	(35,604)
Foreign currency translation adjustment ..	--	--	--	--	832	--	832
Change in fair value of derivative financial instruments	--	--	--	--	(5,778)	--	(5,778)
Minimum pension liability	--	--	--	--	(13,563)	--	(13,563)
Comprehensive loss							(54,113)
Other equity transactions	450	--	--	(75)	--	(1,392)	(1,017)
Forfeiture of restricted stock	--	--	--	(129)	--	3	(126)
BALANCES AT DECEMBER 31, 2002	93,311	\$ --	\$ 194,382	\$ (105,245)	\$ (22,859)	\$ (495)	\$ 159,094

See Notes to Consolidated Financial Statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Brush Engineered Materials Inc. and Subsidiaries, December 31, 2002

NOTE A - SIGNIFICANT ACCOUNTING POLICIES

ORGANIZATION: The Company is a holding company with subsidiaries that have operations in the United States, Western Europe and Asia. These operations manufacture engineered materials used in a variety of markets, including telecommunications and computer, automotive electronics, industrial components, optical media data storage, decorative and performance film, aerospace/defense and appliance. The Company's operations are aggregated into two business segments -- the Metal Systems Group and the Microelectronics Group - based upon the commonalities of their products, manufacturing processes, customers and other factors. The Metal Systems Group produces strip and bulk alloys (primarily copper beryllium), beryllium metal products and engineered material systems while the Microelectronics Group manufactures precious and non-precious vapor deposition targets, frame lid assemblies, other precious and non-precious metal products, ceramics, electronic packages and thick film circuits. The Company is vertically integrated and distributes its products through a combination of Company-owned facilities and independent distributors and agents.

USE OF ESTIMATES: The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results may differ from those estimates.

CONSOLIDATION: The Consolidated Financial Statements include the accounts of Brush Engineered Materials Inc. and its subsidiaries, all of which are wholly owned. Intercompany accounts and transactions are eliminated in consolidation.

CASH EQUIVALENTS: All highly liquid investments with a put option or maturity of three months or less when purchased are considered to be cash equivalents.

ACCOUNTS RECEIVABLE: An allowance for doubtful accounts is maintained for the estimated losses resulting from the inability of customers to pay the amounts due.

INVENTORIES: Inventories are stated at the lower of cost or market. The cost of domestic inventories except ore and supplies is principally determined using the last-in, first-out (LIFO) method. The remaining inventories are stated principally at average cost.

PROPERTY, PLANT AND EQUIPMENT: Property, plant and equipment is stated on the basis of cost. Depreciation is computed principally by the straight-line method, except certain facilities for which depreciation is computed by the sum-of-the-years digits or units-of-production method. Depreciable lives that are used in computing the annual provision for depreciation by class of asset are as follows:

Years

Land improvements	5 to 25
Buildings	10 to 40
Leasehold improvements	Life of lease
Machinery and equipment	3 to 15
Furniture and fixtures	4 to 15
Automobiles and trucks	2 to 8
Research equipment	6 to 12
Computer hardware	3 to 10
Computer software	3 to 10

Depreciation expense was \$19.8 million in 2002, \$19.9 million in 2001 and \$19.5 million in 2000. Repair and maintenance costs are expensed as incurred.

MINERAL RESOURCES AND MINE DEVELOPMENT: Property acquisition costs and mining costs associated with waste rock removal are recorded at cost and are depleted or amortized by the units-of-production method based on recoverable proven beryllium reserves. Exploration and pre-production mine development expenses are charged to operations in the period in which they are incurred.

INTANGIBLE ASSETS: The Company adopted Statement No. 142, "Goodwill and Other Intangible Assets," as of January 1, 2002. Under this statement, goodwill and other indefinite-lived intangible assets will no longer be amortized, but instead reviewed annually, or more frequently under certain circumstances, for impairment. The Company determined that a goodwill impairment charge was not required upon adoption of the statement or during the balance of 2002. The Company had goodwill of \$7.9 million on its Consolidated Balance Sheet as of December 31, 2002. Goodwill amortization expense was \$0.3 million in 2001 and in 2000, all of which was recorded by the Microelectronics Group. Intangible assets with finite lives will continue to be amortized. The cost of intangible assets is amortized using the straight-line method over the periods estimated to be benefited, which is generally 20 years or less.

ASSET IMPAIRMENT: In the event that facts and circumstances indicate that the carrying value of long-lived and intangible assets may be impaired, an evaluation of recoverability would be performed. If an evaluation is required, the estimated future undiscounted cash flow associated with the asset would be compared to the asset's carrying amount to determine if a write-down may be required. In August 2001, the FASB issued Statement No. 144, "Accounting for the Impairment or Disposal of Long-lived Assets". The statement amends prior pronouncements and proscribes a uniform approach to accounting for long-lived assets to be held and used, long-lived assets to be disposed of by other than a sale and long-lived assets to be disposed of by sale. The Company adopted this standard effective January 1, 2002 as proscribed.

DERIVATIVES: The Company adopted Statement No. 133, "Accounting for Derivative Instruments and Hedging Activities," as of January 1, 2001 as further described in Note G to the Consolidated Financial Statements. The statement requires the Company to recognize all derivatives on the balance sheet at their fair value. If the derivative is

a hedge, depending upon the nature of the hedge, changes in the fair value of the derivative are either offset against the change in fair value of the hedged asset, liability or firm commitment through earnings or recognized in Other comprehensive income (loss) until the hedged item is recognized in earnings. The ineffective portion of a derivative's change in fair value, if any, is recognized in earnings immediately. If a derivative is not a hedge, changes in its fair value are adjusted through income.

Prior to adoption of Statement No. 133, forward foreign exchange currency contracts did not qualify for hedge accounting treatment and were marked-to-market using the applicable rates with any unrealized gains and losses taken to income. The foreign currency options and the commodity and interest rate derivatives outstanding as of December 31, 2000 qualified for hedge accounting treatment. Realized gains and losses on all derivatives were taken to income when the financial instrument matured. Gains and losses on foreign currency derivative contracts were recorded in Other-net while gains and losses on commodity derivative contracts were recorded in Cost of sales. Gains and losses on interest rate derivatives were recorded in Cost of sales or Interest expense depending upon the nature of the underlying hedged transaction.

ASSET REMOVAL OBLIGATION: The Company adopted Statement No. 143, "Accounting for Asset Retirement Obligations" in the fourth quarter 2002. Under this statement, a liability must be recorded to recognize the legal obligation to remove an asset at the time the asset is acquired or when the legal liability arises. The liability is recorded for the present value of the ultimate obligation by discounting the estimated future cash flows using a credit-adjusted, risk-free interest rate. The liability is accreted over time, with the accretion charged to expense. An asset equal to the fair value of the liability is recorded concurrent with the liability. The asset is then depreciated over the life of the asset. Adoption of this statement did not have a material effect on the Company's Consolidated Statements of Income or financial position.

REVENUE RECOGNITION: The Company recognizes revenue when the title to the goods passes to the customer.

SHIPPING AND HANDLING COSTS: The Company records shipping and handling costs for products sold to customers in Cost of sales on the Consolidated Statements of Income.

ADVERTISING COSTS: The Company expenses all advertising costs as incurred. Advertising costs were immaterial for the years presented in the Consolidated Financial Statements.

INCOME TAXES: The Company uses the liability method in measuring the provision for income taxes and recognizing deferred tax assets and liabilities on the balance sheet. The Company records a valuation allowance to reduce the deferred tax assets to the amount that is more likely than not to be realized.

RECLASSIFICATION: Certain amounts in prior years have been reclassified to conform to the 2002 consolidated financial statement presentation.

NET INCOME PER SHARE: Basic earnings per share (E.P.S.) is computed by dividing income available to common stockholders by the weighted - average number of common shares outstanding for the period. Diluted E.P.S. reflects the assumed conversion of all dilutive common stock equivalents as appropriate under the treasury stock method.

STOCK OPTIONS: The Company provides a stock incentive plan for eligible employees. See Note H to the Consolidated Financial Statements for further details. The Company has adopted the disclosure-only provisions of SFAS No. 123, "Accounting for Stock-Based Compensation" and applies the intrinsic value method in accordance with APB Opinion No. 25, "Accounting for Stock Issued to Employees" and related Interpretations in accounting for its stock incentive plan. If the Company had elected to recognize compensation expense for its stock incentive plan awards based on the estimated fair value of the awards on the grant dates, consistent with the method proscribed by SFAS No. 123 by amortizing the expense over the options' vesting periods, the pro forma net income (loss) and earnings (loss) per share (E.P.S.) would have been as noted below:

2000		2002	2001	
-----		-----	-----	
(Dollars in thousands except for share data)				
Net income (loss)	As reported	\$ (35,604)	\$ (10,274)	\$
14,165				
	Pro forma	(36,630)	(11,626)	
13,068				
Basic E.P.S.	As reported	(2.15)	(0.62)	
0.87				
	Pro forma	(2.21)	(0.70)	
0.80				
Diluted E.P.S.	As reported	(2.15)	(0.62)	
0.86				
	Pro forma	(2.21)	(0.70)	
0.79				

Note: The pro forma disclosures shown are not representative of the effects on net income and earnings per share in future years.

The weighted-average fair value of the Company's stock options used to compute the pro forma net income and earnings per share disclosures is \$6.40, \$9.10 and \$5.34 for 2002, 2001 and 2000, respectively. The fair value is the estimated present value at grant date using the Black-Scholes option-pricing model with the following weighted-average assumptions for the various grants in 2002, 2001 and 2000:

2000	2002	2001	
-----	-----	-----	
Risk-free interest rate	4.52%	5.09%	
6.70%			
Dividend yield	0%	1.40%	
2.63%			
Volatility of stock	39.60%	36.50%	
32.30%			
Expected life of option	8 years	7 years	6
years			

The dividend yield is a function of dividends declared and the annual average stock price.

In December 2002, the FASB issued Statement No. 148, "Accounting for Stock-Based Compensation - Transition and Disclosure," which amended SFAS No.

123. SFAS No. 148 provides alternative methods for transitioning under a voluntary change from the intrinsic to fair value method of accounting for stock-based compensation. The statement

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Brush Engineered Materials Inc. and Subsidiaries, December 31, 2002

also amends the disclosure requirements of SFAS No. 123 to include more prominent and frequent disclosures in the financial statements. The Company adopted SFAS No. 148 for the year ended December 31, 2002 and has made the appropriate disclosures.

NEW PRONOUNCEMENTS: In April 2002, the FASB issued SFAS No. 145, "Rescission of FASB Statements No. 4, 44, and 64, Amendment of FASB Statement No. 13, and Technical Corrections." In most cases, SFAS No. 145 will require gains and losses on extinguishments of debt to be classified as income or loss from continuing operations rather than as extraordinary items as previously required under SFAS No. 4. Extraordinary treatment will be required for certain extinguishments as provided in APB Opinion No. 30. Upon adoption, any gain or loss on extinguishment of debt previously classified as an extraordinary item in prior periods presented that does not meet the criteria of APB Opinion No. 30 for such classification should be reclassified to conform to the provisions of SFAS No. 145. The statement also amends SFAS No. 13 to require certain modifications to capital leases be treated as a sale-leaseback and modifies the accounting for sub-leases when the original lessee remains a secondary obligor (or guarantor). The Company adopted the standard in the second quarter 2002, the effect of which had no impact on the Company's Consolidated Statements of Income or financial position.

In June 2002, the FASB issued Statement No. 146, "Accounting for Costs Associated with Exit or Disposal Activities". Under this statement, the liability for a cost associated with an exit or disposal activity is only recognized when the liability is incurred; since the entity's commitment to an exit plan by itself does not create an obligation to others it can no longer serve as a basis for recognition of a liability. The statement also establishes that fair value is the objective for measurement of the liability. The statement is effective for exit and disposal activities initiated after December 31, 2002. The Company adopted the standard as proscribed, the effect of which had no impact on the Company's Consolidated Statements of Income or financial position.

NOTE B - INVENTORIES

Inventories in the Consolidated Balance Sheets are summarized as follows:

(Dollars in thousands) 2001	December 31, 2002

Principally average cost:	
Raw materials and supplies	\$ 22,572
17,510	
In process	65,809
75,458	
Finished goods	29,522
41,789	

Gross inventories	117,903
134,757	
Excess of average cost over LIFO	
Inventory value	23,579
25,647	

Net inventories	\$ 94,324
109,110	
=====	

Average cost approximates current cost. Gross inventories accounted for using the LIFO method total \$88,994,000 at December 31, 2002 and \$98,213,000 at December 31, 2001. The liquidation of LIFO inventory layers in 2002 reduced Cost of sales by \$2,128,000.

NOTE C - IMPAIRMENT CHARGE

The Company recorded asset impairment charges of \$4.4 million in the fourth quarter 2002 in accordance with SFAS No. 144, "Accounting for

the Impairment or Disposal of Long-lived Assets". The impairment charges resulted from the assets' undiscounted projected cash flows being less than their carrying values. The Metal Systems Group wrote-off \$3.1 million of equipment and related facilities formerly used in the production of beryllium. The equipment has been shut down due to the use of alternate input materials and manufacturing processes. Management does not believe these assets are salable. The Microelectronics Group wrote down equipment and a building \$1.3 million from its net book value of \$1.9 million to its estimated fair market value of \$0.6 million. The fair market value was determined by an appraisal by an independent firm. In addition, management anticipates that this equipment will be shut down in 2003. The impairment charges were recorded in Other-net on the Company's 2002 Consolidated Statements of Income.

NOTE D - INTEREST

Interest expense associated with active construction and mine development projects is capitalized and amortized over the future useful lives of the related assets. The following chart summarizes the accrued interest and the amount capitalized, interest paid as well as the amortization of capitalized interest for 2002, 2001 and 2000.

	2002	2001	2000
	-----	-----	

(Dollars in thousands)			
Interest incurred	\$ 3,095	\$ 3,918	\$
4,865			
Less capitalized interest	85	591	
213			
	-----	-----	
Total expense	\$ 3,010	\$ 3,327	\$
4,652			
	=====	=====	
Interest paid.	\$ 3,162	\$ 4,092	\$
4,984			
	=====	=====	
Amortization, included			
principally in Cost of sales .	\$ 716	\$ 742	\$
822			
	=====	=====	
	=====		

In 1986, the Company purchased company-owned life insurance policies insuring the lives of certain United States employees. The contracts are recorded at cash surrender value, net of policy loans, in Other Assets. The net contract (income) expense, including interest expense recorded in Selling, general and administrative expenses, was (\$515,000), (\$261,000) and \$321,000 in 2002, 2001 and 2000, respectively. The related interest expense was \$1,455,000, \$1,379,000 and \$1,707,000, respectively.

NOTE E - DEBT

A summary of long-term debt follows:

(Dollars in thousands)	December 31,	
	2002	2001
Variable rate demand bonds payable in installments beginning in 2005	\$ 3,000	\$ 3,000
Variable rate promissory note -- Utah land purchase payable in 20 annual installments through 2021	946	965
Variable rate industrial development revenue bonds payable in 2016	8,305	8,305
Revolving credit agreement	24,000	35,000
	-----	-----
	36,251	47,270
Current portion of long-term debt	(32)	
(19)		
	-----	-----
Total	\$ 36,219	\$ 47,251
	=====	=====

Maturities on long-term debt instruments as of December 31, 2002 are as follows:

2003	\$
32	
2004	
24,033	
2005	
635	
2006	
637	
2007	
637	
Thereafter	
10,277	

Total	\$
36,251	
=====	

As of the end of 2002, the Company had a revolving credit agreement with six banks which provided a maximum availability of \$65.0 million with a liquidity reserve of \$10.0 million. At December 31, 2002, there was \$24.0 million in long-term borrowings outstanding against this agreement at an average rate of 4.92% that is fixed at several maturities through February, 2003 at which time it will be reset according to the terms and options available to the Company under the agreement. The agreement allows the Company to borrow money at a premium over LIBOR or prime rate and at varying maturities.

The following table summarizes the Company's short-term lines of credit. Amounts shown as outstanding are included in short-term debt on the Consolidated Balance Sheets.

December 31, 2002

	Total	Outstanding	Available
(Dollars in thousands)			
Domestic	\$ 16,669	\$ 13,239	\$ 3,430
Foreign	14,713	5,707	9,006
Precious metal	8,257	8,257	--

Total	\$ 39,639	\$ 27,203	\$ 12,436
=====			

December 31, 2001

	Total	Outstanding	Available
(Dollars in thousands)			
Domestic	\$ 16,065	\$ 12,796	\$ 3,269
Foreign	14,006	8,168	5,838
Precious metal	6,599	6,599	--

Total	\$ 36,670	\$ 27,563	\$ 9,107
=====			

The domestic line is committed and included in the \$55.0 million maximum borrowing under the revolving credit agreement mentioned above. The foreign lines are uncommitted, unsecured and renewed annually. The precious metal facility (primarily gold) is secured and renewed annually. The average interest rate on short-term debt was 4.50% and 3.88% as of December 31, 2002 and 2001, respectively.

In November 1996, the Company entered into an agreement with the Lorain Port Authority, Ohio to issue \$8.3 million in variable rate industrial revenue bonds, maturing in 2016. The variable rate ranged from 1.28% to 2.12% in 2002 and 1.37% to 4.77% during 2001.

In 1994, the Company refunded its \$3.0 million industrial development revenue bonds. The 7.25% bonds were refunded into variable rate demand bonds. The variable rate ranged from 1.15% to 1.95% during 2002 and from 1.30% to 4.55% during 2001. In December 1995, the Company entered into an interest rate swap agreement to manage its interest rate exposure on the bond. The Company converted the variable rate to a fixed rate of 4.75% under the interest rate swap agreement. This swap matured in 2002.

The revolving credit agreement, through December 2002, as amended, includes certain restrictive covenants including minimum consolidated tangible net worth, interest coverage, fixed charges, leverage tests, certain rent expenses, capital expenditure levels, dividend declarations and permitted acquisitions. A portion of the Company's domestic receivables and inventory up to the maximum of \$55.0 million secures the agreement. In January 2003, this agreement was amended to waive certain covenants effective December 31, 2002. In March 2003, the agreement was amended to provide a maximum availability of \$55.0 million with a liquidity reserve of \$5.0 million. In addition, certain

covenants were revised and the maturity was extended until April 2004. The covenant regarding the maintenance of consolidated tangible net worth was redefined due to the significant reduction in shareholders' equity as a result of recording the deferred tax valuation allowance (see Note I to the Consolidated Financial Statements) and the charge to Other comprehensive income for the minimum pension liability (see Note K to the Consolidated Financial Statements) in 2002.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Brush Engineered Materials Inc. and Subsidiaries, December 31, 2002

NOTE F - LEASING ARRANGEMENTS

The Company leases warehouse and manufacturing space, and manufacturing and computer equipment under operating leases with terms ranging up to 25 years. Rent expense amounted to \$17.3 million, \$13.1 million and \$12.4 million during 2002, 2001 and 2000, respectively. The future estimated minimum lease payments under non-cancelable operating leases with initial lease terms in excess of one year at December 31, 2002, are as follows: 2003 - \$5.1 million; 2004 - \$4.8 million; 2005 - \$4.0 million; 2006 - \$3.4 million; 2007 - \$3.1 million and thereafter - \$12.9 million.

The Company has operating leases for a production facility and certain equipment located in that facility. The facility and related equipment are owned by third parties and cost approximately \$80.0 million. Start-up of this facility began in the fourth quarter of 1997. Lease payments for the facility continue through 2011 with options for renewal. The estimated minimum payments under this lease are included in the preceding paragraph. Lease payments for the related equipment began in 1999 and continued through the initial lease term expiring in 2001. The Company has options to renew the lease of the equipment for seven one-year periods or to purchase the equipment for its estimated fair value at the end of each term. The Company renewed the lease for 2002 and 2003. Payments under this lease are estimated to be \$10.6 million in 2003. The lease provides for a substantial residual value guarantee by the Company at the termination of the lease. The equipment lease is structured to be a synthetic lease, which means it is an operating lease for financial reporting purposes and a capital lease for federal income tax purposes.

The lease agreements include restrictive covenants covering certain liquidity ratios, maintenance of consolidated tangible net worth (as defined) and maximum rental expenses. In 2002, as well as in each of the three preceding years, the Company amended certain provisions of its master lease agreement, including covenants regarding interest coverage, fixed charges, leverage tests, certain rent expenses, capital expenditure levels, dividend declarations and permitted acquisitions. In January 2003, the Company amended the master lease agreement to provide additional collateral on the leased assets and to waive and amend certain covenants. The agreement was amended in March 2003 to revise certain covenants. The covenant regarding the maintenance of tangible net worth was redefined due to the significant reduction in shareholders' equity as a result of recording the deferred tax valuation allowance (see Note I to the Consolidated Financial Statements) and the charge to Other comprehensive income for the minimum pension liability (see Note K to the Consolidated Financial Statements) in 2002.

NOTE G - DERIVATIVE FINANCIAL INSTRUMENTS AND FAIR VALUE INFORMATION

The Company is exposed to commodity price, interest rate and foreign currency exchange rate differences and attempts to minimize the effects of these exposures through a combination of natural hedges and the use of derivative financial instruments. The Company has policies approved by the Board of Directors that establish the parameters for the allowable types of derivative instruments to be used, the maximum allowable contract periods, aggregate dollar limitations and other hedging guidelines. The Company will only secure a derivative if there is an identifiable underlying exposure that is not otherwise covered by a natural hedge. In general, derivatives will be held until maturity. The following table summarizes the fair value of the Company's outstanding derivatives and debt as of December 31, 2002 and December 31, 2001.

Asset/(liability) (Dollars in thousands)	DECEMBER 31, 2002			December 31, 2001		
	Notional Amount	Carrying Amount	Fair Value	Notional Amount	Carrying Amount	Fair Value
FOREIGN CURRENCY CONTRACTS						
Forward contracts						
Yen	\$ 4,344	\$ 276	\$ 276	\$ 1,874	\$ 449	\$ 449
Sterling	2,928	(98)	(98)	2,892	37	37
Total	\$ 7,272	\$ 178	\$ 178	\$ 4,766	\$ 486	\$ 486
Options						
Yen	\$ 2,420	\$ (38)	\$ (38)	\$ 17,641	\$ 2,324	\$ 2,324
Euro	16,750	(1,025)	(1,025)	6,100	59	59
Total	\$ 19,170	\$ (1,063)	\$ (1,063)	\$ 23,741	\$ 2,383	\$ 2,383
COMMODITY PRICE CONTRACTS						
FLOATING TO FIXED	1,813	69	69	11,135	(1,301)	(1,301)
INTEREST RATE EXCHANGE CONTRACTS						
FLOATING TO FIXED	50,477	(6,665)	(6,665)	57,818	(3,401)	(3,401)
SHORT AND LONG-TERM DEBT	--	(63,454)	(63,454)	--	(74,833)	(74,833)

SFAS No. 107 defines fair value as the amount at which an instrument could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale. The fair value of the foreign currency forward contracts and options and the commodity and interest rate contracts was calculated by third parties on behalf of the Company using the applicable market rates at December 31, 2002 and December 31, 2001. The fair value of the Company's debt was estimated using a discounted cash flow analysis based on the Company's current incremental borrowing rates for similar types of borrowing arrangements.

The Company adopted SFAS No. 133, "Accounting for Derivative Instruments and Hedging Activities" and SFAS No. 138, "Accounting for Certain Derivative Instruments and Certain Hedging Activities," which amended SFAS No. 133, as of January 1, 2001. The initial adjustment for adopting these statements did not have a material impact on earnings and resulted in a \$0.4 million charge recorded against Other comprehensive income (loss) on the balance sheet. All of the Company's commodity swaps, interest rate swaps and foreign currency derivative contracts have been designated as cash flow hedges as defined under these statements. SFAS No. 133 requires the fair value of outstanding derivative instruments to be recorded on the balance sheet. Accordingly, derivative fair values were included in the balance sheet line items as follows:

	December 31,	
	2002	2001
	-----	-----
Debit/(credit) balance (Dollars in thousands)		
Prepaid expenses	\$ 306	\$ 2,438
Other assets	-	449
Other liabilities and accrued expenses (1,791)	(2,147)	
Other long-term liabilities	(5,640)	
(2,929)		
Net fair value	\$ (7,481)	\$
(1,833)		
	=====	=====

The balance sheet classification of the fair values is dependent upon the Company's rights and obligations under each derivative and the remaining term to maturity. Changes in fair values of derivatives are recorded in income or Other comprehensive income (loss) as appropriate under SFAS No. 133 guidelines. A reconciliation of the changes in fair values and other derivative activity recorded in Other comprehensive income (loss) for 2002 and 2001 is as follows:

(Dollars in thousands)	2002	2001
Balance in Other comprehensive income (loss) at January 1	\$ (2,061)	\$ (373)
Changes in fair values and other current period activity	(6,569)	
(3,441)		
Matured derivatives - charged to expense	797	1,222
Derivative ineffectiveness - (credited)/charged to expense	(6)	531
	-----	-----
Balance in Other comprehensive income (loss) at December 31	\$ (7,839)	\$
(2,061)		
	=====	=====

The majority of the \$6.6 million change in fair value and other current period hedging activity in 2002 was caused by a further decline in fair value (an increase to the loss) on an interest rate swap as a result of a decline in interest rates. Hedge ineffectiveness was included in Other-net expense on the Company's Consolidated Statements of Income. The Company estimates that approximately \$2.2 million of the \$7.8 million in Other comprehensive income (loss) at December 31, 2002 will be charged to income during 2003 as a result of maturing derivatives.

The Company hedges a portion of its net investment in its Japanese subsidiary using yen-denominated debt. A net loss of \$29,000 associated with translating this debt into dollars was recorded in the cumulative translation adjustment as of December 31, 2002 compared to a net gain of \$0.4 million as of December 31, 2001.

FOREIGN EXCHANGE HEDGE CONTRACTS

The Company uses forward and option contracts to hedge anticipated foreign currency transactions, primarily foreign sales. The purpose of the program is to protect against the reduction in value of the foreign currency transactions from adverse exchange rate movements. Should the dollar strengthen significantly, the decrease in the translated value of the foreign currency transactions should be partially offset by gains on the hedge contracts. Depending upon the method used, the contract may limit the benefits from a weakening of the dollar. The Company's policy limits contracts to maturities of two years or less from the date of issuance. All of the contracts outstanding as of December 31, 2002 are scheduled to mature during 2003. Realized gains and losses on foreign exchange contracts are recorded in Other-net on the Consolidated Statements of Income. The total exchange gain/(loss), which includes realized and unrealized losses, was \$1.5 million in 2002, \$2.3 million in 2001 and \$4.0 million in 2000.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
BRUSH ENGINEERED MATERIAL INC. AND SUBSIDIARIES, DECEMBER 31, 2002

COMMODITY PRICE CONTRACTS

The Company purchases and manufactures products containing copper. Purchases are exposed to price fluctuations in the copper market. However, for the majority of its copper-based products, the Company will adjust its selling prices to customers to reflect the change in its copper purchase price. This program is designed to be profit neutral; i.e., any changes in copper prices, either up or down, will be directly passed on to the customer.

The Company uses commodity price contracts (i.e., swaps) to hedge the copper purchase price for those volumes where price fluctuations cannot be passed on to the customer. Under these swaps, which are purchased from financial institutions, the Company makes or receives payments based on a difference between a fixed price (as specified in each individual contract) and the market price of copper. These payments will offset the change in prices of the underlying purchases and effectively fix the price of copper at the swap rate for the contracted volume. The Company's policy limits commodity hedge contracts to maturities of 27 months or less from the original date of issuance. All commodity hedges outstanding as of December 31, 2002 mature within 12 months. While various copper swaps that matured during 2002 were deemed to be effective as defined by SFAS No. 133, all of the swaps outstanding as of December 31, 2002 were deemed to be ineffective. Realized gains and losses on copper swap contracts are recorded in Cost of sales on the Consolidated Statements of Income.

INTEREST RATE HEDGE CONTRACTS

The Company attempts to minimize its exposure to interest rate variations by using combinations of fixed and variable rate instruments with varying lengths of maturities. Depending upon the interest rate yield curve, credit spreads, projected borrowing requirements and rates, cash flow considerations and other factors, the Company may elect to secure interest rate swaps, caps, collars, options or other related derivative instruments. Both fixed-to-variable and variable-to-fixed interest rate swaps may be used.

In December, 1996, the Company entered into an interest rate swap agreement to hedge the variable rate payments to be made during the initial term of an equipment lease (see Note F to the Consolidated Financial Statements). In February 1998, the Company entered into an interest rate swap agreement to hedge the variable rate payments on the equipment for the remaining terms of the lease. The Company has accounted for these swaps as hedges effectively fixing the estimated lease payments throughout the life of the lease. The first swap matured in the fourth quarter 2001. The notional amount covered by the remaining swap was \$50.5 million as of December 31, 2002. Gains and losses on the two swaps hedging the equipment leases are recorded in Cost of sales on the Consolidated Statements of Income.

In December 1995, the Company entered into an interest rate swap, converting to a fixed rate from a variable rate on a \$3.0 million industrial revenue development bond. Gains and losses on this swap were recorded in Interest expense on the Consolidated Statements of Income. This swap matured during 2002.

NOTE H - CAPITAL STOCK

On May 2, 2000, the Company's shareholders approved the reorganization of the Company's corporate structure. Through a merger, Brush Wellman Inc. became a wholly owned subsidiary of a holding company, Brush Engineered Materials Inc. According to the merger agreement, each share of Brush Wellman Inc. Common Stock was exchanged for one share of Brush Engineered Materials Inc. Common Stock. The merger was effective May 16, 2000.

Shares of Brush Engineered Materials Inc. Common Stock do not have a stated par value while Brush Wellman Inc.'s shares had a \$1 par value. The balance in Additional paid-in capital at the time of the merger was combined with the existing par value common stock balance accordingly, with the change reflected in the Consolidated Balance Sheets and the Consolidated Statements of Shareholders' Equity for the year ended December 31, 2000.

The Company has five million shares of Serial Preferred Stock authorized (no par value), none of which has been issued. Certain terms of the Serial Preferred Stock, including dividends, redemption and conversion, will be determined by the Board of Directors prior to issuance.

On January 27, 1998, the Company's Board of Directors adopted a new share purchase rights plan and declared a dividend distribution of one right for each share of Common Stock outstanding as of the close of business on February 9, 1998. The plan allows for new shares issued after February 9, 1998 to receive one right subject to certain limitations and exceptions. Each right entitles the shareholder to buy one one-hundredth of a share of Serial Preferred Stock, Series A, at an initial exercise price of \$110. A total of 450,000 unissued shares of Serial Preferred Stock will be designated as Series A Preferred Stock. Each share of Series A Preferred Stock will be entitled to participate in dividends on an equivalent basis with one hundred shares of Common Stock. Each share of Series A Preferred Stock will be entitled to one vote. The rights will not be exercisable and will not be evidenced by separate right certificates until a specified time after any person or group acquires beneficial ownership of 20% or more (or announces a tender offer for 20% or more) of Common Stock. The rights expire on January 27, 2008, and can be redeemed for 1 cent per right under certain circumstances.

The amended 1995 Stock Incentive Plan authorizes the granting of five categories of incentive awards: option rights, performance restricted shares, performance shares, performance units and restricted shares. As of December 31, 2002, no performance units have been granted.

Option rights entitle the optionee to purchase common shares at a price equal to or greater than market value on the date of grant. Option rights outstanding under the amended 1995 Stock Incentive Plan and previous plans generally become exercisable over a four-year period and expire 10 years from the date of the grant. In 1995, the Company's right to grant options on a total of 228,565 shares (under the Company's 1979, 1984 and 1989 stock option plans) was terminated upon shareholder approval of the amended 1995 Stock Incentive Plan. No further stock awards will be made under the Company's 1979, 1984 and 1989 stock option plans except to the extent that shares become available for grant under these plans by reason of termination of options previously granted.

The 1990 Stock Option Plan for Non-employee Directors (the "1990 Plan") was terminated effective May 7, 1998. The 1997 Stock Incentive Plan for Non-employee Directors replaced the 1990 Plan and provides for a one-time grant of 5,000 options to up to six new non-employee directors who have not yet received options under the 1990 Plan at an option price equal to the fair market value of the shares at the date of the grant. Options are non-qualified and become exercisable six months after the date of grant. The options generally expire 10 years after the date they were granted. The 1997 Stock Incentive Plan for Non-employee Directors was amended on May 1, 2001. The amendment added an additional 100,000 shares to the Plan and established a grant of up to 2,000 options to each Director annually.

Stock option, performance restricted share award, performance share award, and restricted share award activities are summarized in the following table:

	2002		2001		2000	
	Shares	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price
STOCK OPTIONS:						
Outstanding at beginning of year.....	1,346,568	\$18.83	1,214,488	\$ 17.75	1,323,908	\$ 17.60
Granted.....	256,750	12.17	277,650	22.31	254,600	16.10
Exercised.....	-	-	(95,230)	15.11	(223,580)	14.96
Cancelled.....	(208,630)	17.42	(50,340)	17.35	(140,440)	17.77
Outstanding at end of year.....	1,394,688	17.82	1,346,568	18.83	1,214,488	17.75
Exercisable at end of year.....	1,166,908	18.18	1,108,763	18.63	943,453	17.78
PERFORMANCE RESTRICTED AWARDS						
Allocated and restricted at beginning of year..	-	-	-	-	55,062	-
Forfeited.....	-	-	-	-	(55,062)	-
Awarded and restricted at end of year.....	-	-	-	-	-	-
PERFORMANCE AWARDS:						
Allocated at beginning of year.....	-	-	78,000	-	105,531	-
Forfeited.....	-	-	(78,000)	-	(27,531)	-
Allocated at end of year.....	-	-	-	-	78,000	-
RESTRICTED AWARDS:						
Awarded and restricted at beginning of year....	60,745	-	88,183	-	68,438	-
Awarded during the year.....	33,100	-	20,000	-	28,545	-
Vested.....	(15,700)	-	(37,160)	-	(5,600)	-
Forfeited.....	(300)	-	(10,278)	-	(3,200)	-
Awarded and restricted at end of year.....	77,845	-	60,745	-	88,183	-

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The market value of the performance restricted shares and the performance shares adjusted for management's expectation of reaching the management objectives as outlined in the plan agreement, and the related dividends on the performance restricted shares have been recorded as deferred compensation-restricted stock and are a component of Other equity transactions of shareholders' equity. Deferred compensation is amortized over the vesting period. Amounts recorded against Selling, general and administrative expenses totaled \$431,000 in 2002, \$380,000 in 2001 and \$432,000 in 2000.

The following table provides additional information about stock options outstanding as of December 31, 2002:

Weighted- Exercise Option Prices	Options Outstanding			Options Exercisable	
	Range of Option Prices	Number Outstanding	Weighted- average Remaining Contract Life	Weighted- average Exercise Price	Number Exercisable
\$11.81 - \$15.97	716,750	6.46	\$ 14.23	554,100	\$ 14.50
\$16.06 - \$18.63	273,713	3.63	17.97	273,713	17.97
\$20.64 - \$26.72	404,225	6.94	24.06	339,095	24.38
	1,394,688	6.04	\$ 17.82	1,166,908	\$ 18.18

The weighted-average remaining contractual life of options outstanding at December 31, 2001 and 2000 is 6.22 years and 6.38 years, respectively. The number of shares available for future grants as of December 31, 2002, 2001 and 2000 is 550,986 shares, 631,906 shares and 757,918 shares, respectively.

NOTE I - INCOME TAXES

In accordance with the provisions of SFAS No. 109, "Accounting for Income Taxes," the Company recorded a \$19,930,000 charge as part of income tax expense in 2002 to establish a valuation allowance for substantially all of its net deferred tax assets in recognition of uncertainty regarding full realization. In addition, the Company recorded a \$7,277,000 valuation allowance as a charge to Other comprehensive income (loss) in shareholders' equity for deferred tax assets associated with the charge to equity for an accrued pension liability and the accrued liability for derivative and hedging activities. No valuation allowance was required on \$716,000 of net deferred tax assets associated with certain foreign subsidiaries.

The Company intends to maintain a valuation allowance on the net deferred tax assets until a realization event occurs to support reversal of all or a portion of the reserve.

Income (loss) before Income taxes and Income taxes (benefit) are comprised of the following components, respectively:

	2002	2001	2000

(Dollars in thousands) Income			
(loss) before income taxes:			
Domestic	\$(24,996)	\$(18,035)	\$17,046
Foreign	(859)	639	1,288

Total before income taxes	\$(25,855)	\$(17,396)	18,334
=====			
Income taxes (benefit):			
Current income taxes:			
Domestic	\$ (8,311)	\$ (1,588)	\$ 1,460
Foreign	293	833	416

Total current	(8,018)	(755)	1,876
Deferred income taxes:			
Domestic	(1,068)	(5,785)	2,988
Foreign	(1,095)	(582)	
(345)			
Valuation allowance	19,930	-	
(350)			

Total deferred	17,767	(6,367)	2,293

Total income taxes (benefit)	\$ 9,749	\$ (7,122)	\$ 4,169
=====			

The reconciliation of the federal statutory and effective income tax rates follows:

	2002	2001	2000

Federal statutory rate (credit)	(34.0)%	(34.0)%	34.0%
State and local income taxes, net of federal tax effect	0.5	1.0	1.5
Effect of excess of percentage depletion over cost depletion	(2.2)	(3.4)	(6.5)
Company-owned life insurance	(0.6)	(0.4)	0.7
Research and experimentation tax credit .	-	-	(1.1)
Taxes on foreign source income	(4.1)	(5.6)	(5.2)
Valuation allowance	77.1	-	(1.9)
Other items	1.0	1.5	1.2

Effective tax rate	37.7%	(40.9)%	22.7%
=====			

Absent the valuation allowance, the effective tax rate would have been (39.4)% in 2002.

Included in current domestic income taxes, as shown in the Consolidated Statements of Income, are \$186,000, \$253,000 and \$406,000 of state and local income taxes in 2002, 2001 and 2000, respectively.

The Company had domestic and foreign income tax payments (refunds) of \$(1,063,000), \$640,000 and \$1,134,000 in 2002, 2001 and 2000, respectively. The Company recorded a \$3,825,000 receivable for a federal income tax refund to be generated from a 2002 alternative minimum tax loss carryback to 1997.

Under SFAS No. 109, "Accounting for Income Taxes," deferred tax assets and liabilities are determined based on temporary differences between the financial reporting bases and the tax bases of assets and liabilities. Deferred tax assets and (liabilities) recorded in the Consolidated Balance Sheets consist of the following at December 31:

	2002	2001
	-----	-----
(Dollars in thousands)		
Post-retirement benefits other than pensions.....	\$ 10,549	\$ 10,624
Alternative minimum tax credit.....	10,629	14,048
Other reserves.....	3,018	8,998
Environmental reserves.....	2,604	2,238
Pensions.....	1,958	-
Derivative instruments and hedging activities.....	2,592	-
Inventory.....	1,741	5,133
Tax credit carryforward	1,851	1,663
Net operating loss carryforward.....	27,892	13,138
Miscellaneous.....	339	338
	-----	-----
	63,173	56,180
Valuation allowance.....	(27,207)	-
	-----	-----
Total deferred tax assets.....	35,966	56,180
	-----	-----
Depreciation.....	(31,545)	
(30,401)		
Pensions.....	-	
(2,864)		
Derivative instruments and hedging activities.....	-	
(310)		
Mine development.....	(2,566)	
(1,626)		
Capitalized interest expense.....	(1,139)	
(2,496)		
	-----	-----
Total deferred tax liabilities.....	(35,250)	
(37,697)		
	-----	-----
Net deferred tax asset.....	\$ 716	\$ 18,483
	=====	=====

At December 31, 2002, for income tax purposes, the Company had domestic net operating loss carryforwards of \$75,349,000, which are scheduled to expire in calendar years 2019 through 2022. The Company also had foreign net operating loss carryforwards for income tax purposes totaling \$5,335,000, comprised of \$4,740,000 that do not expire, and \$595,000 which are scheduled to expire in calendar year 2007.

At December 31, 2002, the Company had research and experimentation tax credit carryforwards of \$1,851,000 that are scheduled to expire in calendar years 2008 through 2020.

NOTE J - EARNINGS PER SHARE

The following table sets forth the computation of basic and diluted earnings (loss) per share (E.P.S.):

	2002	2001	2000
	-----	-----	-----
(Dollars in thousands, except for share data)			
Numerator for basic and diluted E.P.S.:			
Net income (loss).....	\$ (35,604)	\$ (10,274)	\$ 14,165
Denominator:			
Denominator for basic E.P.S.:			
Weighted-average shares outstanding.....	16,557,388	16,518,691	16,292,431
Effect of dilutive securities:			
Employee stock options.....	-	-	91,952
Special restricted stock.....	-	-	64,284
	-----	-----	-----
Diluted potential common shares	-	-	156,236
Denominator for diluted E.P.S.:			
Adjusted weighted-average shares outstanding.....	16,557,388	16,518,691	16,448,667
	=====	=====	=====
Basic E.P.S.....	\$ (2.15)	\$ (0.62)	\$ 0.87
	=====	=====	=====
Diluted E.P.S.....	\$ (2.15)	\$ (0.62)	\$ 0.86
	=====	=====	=====

Under SFAS No. 128, "Earnings per Share," no potential common shares shall be included in the computation of any diluted per-share amount when a loss from continuing operations exists. Accordingly, dilutive securities have been excluded from the diluted E.P.S. calculation of 51,337 for 2002 and 131,896 for 2001.

Options to purchase Common Stock with exercise prices in excess of the average share price totaling 1,394,688 at December 31, 2002, 749,488 at December 31, 2001 and 239,925 at December 31, 2000 were excluded from the diluted E.P.S. calculations as their effect would have been anti-dilutive.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
BRUSH ENGINEERED MATERIAL INC. AND SUBSIDIARIES, DECEMBER 31, 2002

NOTE K - PENSIONS AND OTHER POST-RETIREMENT BENEFITS

	Pension Benefits		Other Benefits	
	2002	2001	2002	2001
(Dollars in thousands)				
CHANGE IN BENEFIT OBLIGATION				
Benefit obligation at end of prior year.....	\$ 92,878	\$ 79,733	\$ 40,220	\$ 33,910
Service cost.....	4,217	3,622	298	303
Interest cost.....	6,425	6,244	2,757	2,596
Amendments.....	347	95	-	-
Actuarial (gain) loss.....	3,920	13,242	3,447	6,468
Benefit payments.....	(6,174)	(7,620)	(3,269)	(3,057)
Curtailment.....	-	(2,438)	-	-
Settlements.....	(792)	-	-	-
	100,821	92,878	43,453	40,220
CHANGE IN PLAN ASSETS				
Fair value of plan assets at end of prior year.....	94,713	108,517	-	-
Actual return on plan assets.....	(10,517)	(3,749)	-	-
Employer contributions.....	64	(2,435)	3,269	3,057
Benefit payments.....	(6,174)	(7,620)	(3,269)	(3,057)
	78,086	94,713	-	-
Funded status.....	(22,735)	1,835	(43,453)	(40,220)
Unrecognized net actuarial loss.....	26,179	831	8,821	5,480
Unrecognized initial net (asset) obligation.....	(362)	(774)	-	-
	\$ 9,248	\$ 8,337	\$ (35,652)	\$ (35,872)
	=====	=====	=====	=====
AMOUNTS RECOGNIZED IN THE CONSOLIDATED BALANCE SHEETS CONSIST OF:				
Prepaid benefit cost.....	\$ -	\$ 12,464	\$ -	\$ -
Accrued benefit liability.....	(10,416)	(4,127)	(35,652)	(35,872)
Intangible asset.....	6,101	-	-	-
Accumulated other comprehensive income.....	13,563	-	-	-
	\$ 9,248	\$ 8,337	\$ (35,652)	\$ (35,872)
	=====	=====	=====	=====
WEIGHTED-AVERAGE ASSUMPTIONS USED TO CALCULATE AMOUNTS RECOGNIZED IN THE CONSOLIDATED BALANCE SHEETS				
Discount rate.....	6.750%	7.125%	6.750%	7.125%
Rate of compensation increase.....	2.000%	5.000%	2.000%	5.000%

The rate of compensation increase assumption has been changed to use a graded assumption beginning at 2% for the 2003 fiscal year and increasing

0.75% per year until it reaches 5% for the 2007 fiscal year and later.

For measurement purposes, a 9% annual rate of increase in the per capita cost of covered health care benefits was assumed for 2003 decreasing gradually to 6% in 2006 and remaining at that level thereafter for pre-65 benefits, a 7.5% annual rate of increase per capita cost of covered health care benefits was assumed for 2003 decreasing gradually to 6% in 2006 and remaining at that level thereafter for post-65 benefits and a 13.5% annual rate of increase in the per capita cost of prescription drugs was assumed for 2003 decreasing gradually to 6% in 2008 and remaining at that level thereafter.

The Company transferred \$2.5 million in 2001 of excess pension assets out of the plan to fund a portion of the payments made under the Company's retiree medical plan. The transfer was made pursuant to IRC Section 420 guidelines. This type of transfer may only be made if certain criteria are met, including the actuarial value of the plan assets must be at least 125% of the current liability as of the plan valuation date. The transfer out is included on the employer contribution line in the above chart reconciling the change in pension plan assets in 2001.

	Pension Benefits			Other Benefits		
	2002	2001	2000	2002	2001	2000
(Dollars in thousands)						
COMPONENTS OF NET PERIODIC BENEFIT COST						
Service cost.....	\$ 4,217	\$ 3,622	\$ 3,315	\$ 298	\$ 303	\$ 298
Interest cost.....	6,425	6,244	6,038	2,757	2,596	2,398
Expected return on plan assets.....	(10,597)	(10,455)	(10,074)	-	-	-
Amortization of prior service cost.....	626	672	613	(112)	(112)	(112)
Amortization of initial net (asset) obligation.....	(412)	(412)	(707)	-	-	-
Recognized net actuarial (gain) loss.....	(113)	(958)	(805)	105	-	(53)
Settlement (gain) loss.....	(993)	-	-	-	-	-
Curtailement (gain) loss.....	-	570	-	-	-	-
Net periodic (benefit) cost.....	\$ (847)	\$ (717)	\$ (1,620)	3,048	2,787	2,531

WEIGHTED-AVERAGE ASSUMPTIONS USED TO CALCULATE COMPONENTS OF NET PERIODIC BENEFIT COST

Discount rate.....	7.125%	8.00%	8.00%	7.125%	8.00%	8.00%
Expected return on plan assets.....	10.000%	10.00%	10.00%	N/A	N/A	N/A
Rate of compensation increase.....	5.000%	5.00%	5.00%	5.000%	5.00%	5.00%

The active, vested employees in the unfunded supplemental retirement plan voluntarily terminated their benefits under the plan in the first quarter 2002 resulting in a settlement gain for the Company of \$993,000. The Company granted special awards to the employees in consideration for foregoing their benefits. The employees had the option to use the award to purchase life insurance contracts or select a cash payout. The total cost of the awards was \$791,000.

The Company recorded a plan curtailment in the fourth quarter 2001 in accordance with SFAS No. 88, "Employers' Accounting for Settlements and Curtailments of Defined Benefit Pension Plans and for Termination Benefits". The curtailment was required because of the significant reduction in the number of plan participants. The curtailment increased the pension expense in 2001 by \$570,000 and reduced the benefit obligation by \$2,438,000 at December 31, 2001.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
BRUSH ENGINEERED MATERIAL INC. AND SUBSIDIARIES, DECEMBER 31, 2002

In 2003, the Company revised the expected rate of return on asset assumption used in calculating the annual expense for its domestic pension plan in accordance with SFAS No. 87, "Employers' Accounting for Pensions". The assumed expected rate of return was decreased to 9.0% from 10.0% with the impact being accounted for as a change in estimate. The Company believes that this change is a more accurate representation of the expected performance of the plan's assets.

The projected benefit obligation (PBO), accumulated benefit obligation (ABO), and fair value of plan assets for the pension plans with accumulated benefit obligations in excess of plan assets were \$100,821,000, \$88,280,000 and \$78,090,000, respectively, as of December 31, 2002, and \$1,563,000, \$1,458,000 and \$0, respectively, as of December 31, 2001. The 2002 figures include the Company's defined benefit plan and the supplemental retirement plan, while the 2001 figures are for the supplemental retirement plan only. As a result of the defined benefit plan's ABO exceeding the fair value of the plan assets at December 31, 2002, the Company recorded a minimum pension liability of \$9,576,000 in the fourth quarter 2002. This also resulted in recording a charge to Other comprehensive income within shareholders' equity of \$13,563,000 and an adjustment to the carrying value of the pension asset.

Assumed health care cost trend rates have a significant effect on the amounts reported for the health care plans. A one-percentage-point change in assumed health care cost trend rates would have the following effects:

	1-Percentage- point Increase	1-Percentage- point Decrease

(Dollars in thousands)		
Effect on total of service and interest cost components.....	\$ 149	\$ (131)
Effect on post-retirement benefit obligation.....	2,297	(2,029)

The Company also has accrued unfunded retirement arrangements for certain directors. The projected benefit obligation was \$158,000 at December 31, 2002 and \$178,000 at December 31, 2001. A corresponding accumulated benefit obligation of \$158,000 at December 31, 2002 and \$178,000 at December 31, 2001 has been recognized as a liability in the Consolidated Balance Sheet and is included in Retirement and post-employment benefits. Certain foreign subsidiaries have funded and accrued unfunded retirement arrangements that are not material to the Consolidated Financial Statements.

The Company also sponsors a defined contribution plan available to substantially all U.S. employees. Company contributions to the plan are based on matching a percentage of employee savings up to a specified savings level. The Company's contributions were \$1,022,000 in 2002, \$2,455,000 in 2001 and \$2,850,000 in 2000. The Company reduced its matching percentage by 50% beginning in the fourth quarter 2001.

NOTE L - CONTINGENCIES AND COMMITMENTS CBD CLAIMS

The Company is a defendant in proceedings in various state and federal courts by plaintiffs alleging that they have contracted chronic beryllium disease ("CBD") or related ailments as a result of exposure to beryllium. Plaintiffs in CBD cases seek recovery under theories of intentional tort and various other legal theories and seek compensatory and punitive damages, in many cases of an unspecified sum. Spouses, if any, claim loss of consortium. Additional CBD claims may arise.

Management believes the Company has substantial defenses in these cases and intends to contest the suits vigorously. Employee cases, in which plaintiffs have a high burden of proof, have historically involved relatively small losses to the Company. Third-party plaintiffs (typically employees of our customers) face a lower burden of proof than do our employees, but these cases are generally covered by varying levels of insurance.

Although it is not possible to predict the outcome of the litigation pending against the Company and its subsidiaries, the Company provides for costs related to these matters when a loss is probable and the amount is reasonably estimable. Litigation is subject to many uncertainties, and it is possible that some of the actions could be decided unfavorably in amounts exceeding the Company's reserves. An unfavorable outcome or settlement of a pending CBD case or additional adverse media coverage could encourage the commencement of additional similar litigation. The Company is unable to estimate its potential exposure to unasserted claims. The Company recorded a reserve for CBD litigation of \$4.2 million on its balance sheet at December 31, 2002 and \$13.0 million at December 31, 2001. The reserve was reduced in 2002 for settlement

payments as well as for changes in estimates for the outstanding claims as a result of favorable rulings. An asset of \$4.9 million was recorded at December 31, 2002 and \$6.6 million at December 31, 2001 for recoveries from insurance carriers for insured claims. The reserve is included in Other long-term liabilities and the recovery is included in Other assets on the Consolidated Balance Sheets.

While the Company is unable to predict the outcome of the current or future CBD proceedings based upon currently known facts and assuming collectibility of insurance, the Company does not believe that resolution of these proceedings will have a material adverse effect on the financial condition or cash flow of the Company. However, the Company's results of operations could be materially affected by unfavorable results in one or more of these cases.

ENVIRONMENTAL PROCEEDINGS

The Company has an active program for environmental compliance that includes the identification of environmental projects and estimating their impact on the Company's financial performance and available resources. Environmental expenditures that relate to current operations, such as wastewater treatment and control of airborne emissions, are either expensed or capitalized as appropriate. The Company records reserves for the probable costs for environmental remediation projects. The Company's environmental engineers perform routine on-going analyses of the remediation sites. Accruals are based upon their analyses and are established at either the best estimate or at the low end of the estimated range of costs. The accruals are revised for the results of on-going studies and for differences between actual and projected costs. The accruals are also affected by rulings and negotiations with regulatory agencies. The timing of payments often lags the accrual, as environmental projects typically require a number of years to complete. The Company established undiscounted reserves for environmental remediation projects of \$7.7 million at December 31, 2002 and \$7.5 million at December 31, 2001. The current portion of the reserve totaled \$1.2 million at December 31, 2002 and is included in the Consolidated Balance Sheet as Other liabilities and accrued items while the remaining \$6.5 million of the reserve at December 31, 2002 is considered long term and is included under Other long-term liabilities. These reserves cover existing or currently foreseen projects. It is possible that additional environmental losses may occur beyond the current reserve, the extent of which cannot be estimated.

The environmental expense was \$0.6 million in 2002 with the majority of expense for various remediation projects at the Elmore site. The environmental reserve was reduced by \$1.0 million during 2001 as result of a revised cost estimate for an established Voluntary Action Plan and the completion of another project for less than the previously estimated cost. The reserve was increased by \$0.7 million in 2001 for RCRA projects, SWMU closure and other projects at the Elmore site. The items combined for a net credit of \$0.3 million to income in 2001. The environmental expense was \$0.2 million in 2000 with the majority of the expense associated with the Elmore remediation projects.

LONG-TERM OBLIGATION

The Company has a long-term supply arrangement with Ulba/ Kazatomprom of the Republic of Kazakhstan and their marketing representative, Nukem, Inc. of New York. The agreement was signed in 2000 and amended in 2001. Under the agreement, the Company will purchase from Nukem a stated quantity of copper beryllium master alloy that is sourced from Ulba/Kazatomprom each year from 2002 to 2010. The annual base purchase commitments total \$6.9 million in 2003, \$8.6 million in 2004, \$10.3 million in 2005, \$12.0 million in 2006 and \$13.7 million per year thereafter. The contract allows for the Company to purchase up to 15% fewer pounds in 2003 with an annual variation of plus or minus 15 to 25% of the base quantity to be purchased thereafter, depending upon the year. Nukem will also maintain stated minimum quantities of copper beryllium master in consignment at the Company's Elmore, Ohio facility in excess of the Company's annual base purchase commitments. Both parties may terminate the agreement at any time with written notice for various causes of action. Purchases of beryllium-containing material from Nukem totaled \$0.2 million in 2002 and \$3.3 million in 2001. The Company has entered into negotiations with Nukem during 2003 to amend the quantity schedule in the supply agreement.

The Company has agreements to purchase stated quantities of beryl ore, beryllium metal and copper beryllium master alloy from the Defense Logistics Agency of the U.S. Government. The agreements will expire in 2007. Annual purchase commitments total \$3.7 million in 2003, \$5.1 million in 2004, \$5.8 million in 2005, \$6.2 million in 2006 and \$6.8 million in 2007. The beryllium component of the contract price in a given year will be adjusted from these stated totals based upon fluctuations in the non-seasonally adjusted consumer price index in the prior year. The Company may elect to take delivery of the materials in advance of the commitment dates. Purchases under these agreements totaled approximately \$3.9 million in 2002, \$6.4 million in 2001 and \$13.7 million in 2000. The purchased material will serve as raw material input for operations within Brush Wellman Inc. and Brush Resources Inc.

OTHER

The Company has outstanding letters of credit totaling \$5.6 million related to workers' compensation, environmental remediation issues and consigned precious metals guarantees. The letters expire in 2003.

The Company is subject to various other legal or other proceedings that relate to the ordinary course of its business. The Company believes that the resolution of these other legal or other proceedings, individually or in the aggregate, will not have a material adverse impact upon the Company's Consolidated Financial Statements.

NOTE M - SEGMENT REPORTING AND GEOGRAPHIC INFORMATION

As a result of the corporate restructuring completed on January 1, 2001, the Company changed how costs flowed between businesses. Certain costs that previously were included in the All Other column in the segment disclosures were charged to Metal Systems and Microelectronics beginning January 1, 2001. Beginning in 2001, the All Other column includes the operating results of BEM Services, Inc. and Brush Resources Inc., two wholly owned subsidiaries of the Company, as well as the parent company's operating expenses. BEM Services charges a management fee for the services provided to the other businesses within the Company on a cost-plus basis. Brush Resources sells beryllium hydroxide, produced from its mine and extraction mill in Utah, to external customers and to businesses within the Metal Systems Group. Segment results from 2000 have been adjusted to reflect these changes on a pro forma basis.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
BRUSH ENGINEERED MATERIAL INC. AND SUBSIDIARIES, DECEMBER 31, 2002

Selected financial data by business segment as proscribed by SFAS No. 131, "Disclosures about Segments of an Enterprise and Related Information," for 2002, 2001 and 2000 are as follows:

(Dollars in thousands)	Metal Systems	Micro- electronics	Total Segments	All Other	Total
	-----	-----	-----	-----	-----
2002					

Revenues from external customers.....	\$ 227,884	\$ 139,180	\$ 367,064	\$ 5,765	\$ 372,829
Intersegment revenues.....	3,118	1,566	4,684	12,171	16,855
Depreciation, depletion and amortization.....	12,060	3,930	15,990	4,650	20,640
Profit (loss) before interest and taxes.....	(37,557)	3,845	(33,712)	10,867	(22,845)
Assets	223,986	71,832	295,818	39,061	334,879
Expenditures for long-lived assets.....	1,930	2,370	4,300	1,114	5,414
2001					

Revenues from external customers.....	\$ 295,690	\$ 169,598	\$ 465,288	\$ 7,281	\$ 472,569
Intersegment revenues.....	2,596	2,066	4,662	12,036	16,698
Depreciation, depletion and amortization.....	12,560	3,780	16,340	5,269	21,609
Profit (loss) before interest and taxes.....	(20,117)	4,568	(15,549)	1,480	(14,069)
Assets	265,371	68,401	333,772	69,881	403,653
Expenditures for long-lived assets.....	13,031	6,841	19,872	3,412	23,284
2000					

Revenues from external customers.....	\$ 378,178	\$ 179,111	\$ 557,289	\$ 6,401	\$ 563,690
Intersegment revenues.....	311	1,376	1,687	-	1,687
Depreciation, depletion and amortization.....	13,048	2,859	15,907	6,757	22,664
Profit (loss) before interest and taxes.....	10,230	8,364	18,594	4,392	22,986
Assets	300,490	70,995	371,485	81,021	452,506
Expenditures for long-lived assets.....	12,802	5,917	18,719	2,919	21,638

Segments are evaluated using earnings before interest and taxes. Assets shown in All Other include cash, computer hardware and software, deferred taxes, capitalized interest and the operating assets for Brush Resources Inc. Inventories for Metal Systems and Microelectronics are shown at their FIFO values with the LIFO reserve included under the All Other column. Intersegment revenues are eliminated in consolidation. The revenues from external customer totals are presented net of the intersegment revenues. The improvement in profit in 2002 over 2001 in the All Other column was caused primarily by a reduction in legal expenses.

The Company's sales from U.S. operations to external customers, including exports, were \$301,063,000 in 2002, \$385,780,000 in 2001 and \$463,728,000 in 2000. Revenues attributed to countries based upon the location of customers and long-lived assets deployed by the Company by country are as follows:

(Dollars in thousands)	2002	2001	2000
	-----	-----	-----
REVENUES			
United States.....	\$ 268,548	\$ 338,233	\$ 414,090
All other.....	104,281	134,336	149,600
	-----	-----	-----
Total.....	\$ 372,829	\$ 472,569	\$ 563,690
	=====	=====	=====
LONG-LIVED ASSETS			
United States.....	\$ 147,263	\$ 166,126	\$ 164,808
All other.....	5,281	5,170	5,652
	-----	-----	-----
Total.....	\$ 152,544	\$ 171,296	\$ 170,460
	=====	=====	=====

No individual country, other than the United States, or customer accounted for 10% or more of the Company's revenues for the years presented. Revenues from outside the U.S. are primarily from Europe and Asia.

NOTE N - RELATED PARTY TRANSACTIONS

The Company entered into life insurance agreements with seven employees, including two executive officers, in the first quarter 2002. Pursuant to the agreements, the Company loaned an aggregate of \$0.4 million to the seven employees. The portion of the premium paid by the Company is treated as a loan from the Company to the employee. The loans are secured by the insurance policies, which are owned by the employees, and the agreements require the employee to maintain the insurance policy's cash surrender value in an amount at least equal to the outstanding loan balance. The loan is payable from the insurance proceeds upon the employee's death or at an earlier date due to the occurrence of specified events. The loans bear an interest rate equal to the applicable federal rate.

NOTE O - OTHER COMPREHENSIVE INCOME

The following table summarizes the net gain/(loss) by component within Other comprehensive income as of December 31, 2002, 2001 and 2000.

	2002	December 31, 2001	2000
	-----	-----	-----
(Dollars in thousands)			
Foreign currency translation adjustment	\$ (1,457)	\$(2,289)	
Change in the fair value of derivative financial instruments	(7,839)	(2,061)	-
Minimum pension liability	(13,563)	-	-
	-----	-----	-----
Total	\$(22,859)	\$(4,350)	
	=====	=====	=====

NOTE P - QUARTERLY DATA (UNAUDITED)**Years ended December 31, 2002 and 2001.**

	2002				
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
	-----	-----	-----	-----	-----
(Dollars in thousands except per share data)					
Net sales	\$ 89,582	\$ 100,749	\$ 93,481	\$ 89,017	\$ 372,829
Gross profit	10,254	15,070	12,015	10,558	47,897
Percent of sales	11.4%	15.0%	12.9%	11.9%	12.8%
Net income (loss)	(3,834)	(2,049)	(2,906)	(26,815)	(35,604)
Earnings (loss) per share of common stock:					
Basic	(0.23)	(0.12)	(0.18)	(1.62)	(2.15)
Diluted	(0.23)	(0.12)	(0.18)	(1.62)	(2.15)
Dividends per share of common stock	-	-	-	-	-
Stock price range					
High	14.00	13.24	12.20	8.00	
Low	10.25	11.15	6.98	4.50	

2001

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
Net sales	\$ 145,524	\$ 128,456	\$ 106,194	\$ 92,395	\$ 472,569
Gross profit	34,034	23,576	7,253	3,132	67,995
Percent of sales	23.4%	18.4%	6.8%	3.4%	14.4%
Net income (loss)	6,206	1,275	(7,767)	(9,988)	(10,274)
Earnings (loss) per share of common stock:					
Basic	0.37	0.08	(0.47)	(0.60)	(0.62)
Diluted	0.37	0.08	(0.47)	(0.60)	(0.62)
Dividends per share of common stock	0.12	0.12	-	-	0.24
Stock price range					
High	24.19	23.05	17.60	14.24	
Low	17.80	16.00	12.37	9.45	

SELECTED FINANCIAL DATA

Brush Engineered Materials Inc. and Subsidiaries,

(Dollars in thousands except for share data)

	2002	2001	2000	1999	1998
	-----	-----	-----	-----	-----
FOR THE YEAR					
Net sales	\$ 372,829	\$ 472,569	\$ 563,690	\$ 455,707	\$ 409,892
Cost of sales	324,932	404,574	444,951	363,773	325,173
Gross profit	47,897	67,995	118,739	91,934	84,719
Operating profit (loss)	(22,845)	(14,069)	22,986	10,558	(10,313)
Interest expense	3,010	3,327	4,652	4,173	1,249
Income (loss) from continuing operations					
Before income taxes	(25,855)	(17,396)	18,334	6,385	(11,562)
Income taxes (benefit)	9,749	(7,122)	4,169	(54)	(4,430)
Net income (loss)	(35,604)	(10,274)	14,165	6,439	(7,132)
Earnings per share of common stock:					
Basic net income (loss)	(2.15)	(0.62)	0.87	0.40	(0.44)
Diluted net income (loss)	(2.15)	(0.62)	0.86	0.40	(0.44)
Dividends per share of common stock	-	0.24	0.48	0.48	0.48
Depreciation and amortization	20,640	21,609	22,664	27,037	24,589
Capital expenditures	5,248	23,130	21,306	16,758	36,732
Mine development expenditures	166	154	332	288	433
YEAR-END POSITION					
Working capital	82,645	110,894	143,387	124,831	100,992
Ratio of current assets to current liabilities	2.1 to 1	2.4 to 1	2.3 to 1	2.3 to 1	2.1 to 1
Property and equipment:					
At cost	476,283	469,663	449,697	440,234	421,467
Cost less depreciation and impairment	152,544	171,296	170,460	170,939	164,469
Total assets	334,879	403,653	452,506	428,406	403,690
Other long-term liabilities	65,977	62,473	55,454	53,837	49,955
Long-term debt	36,219	47,251	43,305	42,305	32,105
Shareholders' equity	159,094	214,350	229,907	220,638	221,811
Book value per share:					
Basic	9.61	12.98	14.11	13.62	13.63
Diluted	9.58	12.87	13.98	13.55	13.50
Average number of shares of stock outstanding:					
Basic	16,557,388	16,518,691	16,292,431	16,198,885	16,267,804
Diluted	16,608,725	16,650,587	16,448,667	16,279,591	16,424,747
Shareholders of record	1,864	1,981	2,101	2,330	2,313
Number of employees	1,862	1,946	2,500	2,257	2,167

A deferred tax valuation allowance increased income tax expense by \$19.9 million in 2002.

A special charge reduced net income by \$16.5 million in 1998. See Notes to Consolidated Financial Statements.

1997	1996	1995	1994	1993	1992
\$ 433,801	\$ 376,279	\$ 369,618	\$ 345,878	\$ 295,478	\$ 265,034
324,463	271,149	268,732	253,938	227,686	192,944
109,338	105,130	100,886	91,940	67,792	72,090
36,024	34,305	29,086	25,098	10,658	16,949
553	1,128	1,653	2,071	2,952	3,206
35,471	33,177	27,433	23,027	7,706	13,743
9,874	8,686	6,744	4,477	1,248	3,243
25,597	24,491	20,689	18,550	6,458	10,500
1.58	1.55	1.28	1.15	0.40	0.65
1.56	1.53	1.27	1.15	0.40	0.65
0.46	0.42	0.36	0.26	0.20	0.26
19,329	22,954	20,911	19,619	21,720	20,180
53,155	26,825	24,244	17,214	11,901	13,604
9,526	3,663	787	543	814	848
100,599	128,172	125,156	116,708	105,272	88,616
2.3 to 1	2.9 to 1	2.9 to 1	2.8 to 1	3.1 to 1	2.5 to 1
463,689	404,127	374,367	350,811	337,342	332,971
173,622	130,220	121,194	116,763	118,926	127,991
383,852	355,779	331,853	317,133	293,372	310,039
48,025	47,271	45,445	43,354	40,663	40,332
17,905	18,860	16,996	18,527	24,000	33,808
236,813	219,257	200,302	186,940	172,075	168,824
14.60	13.84	12.40	11.61	10.70	10.50
14.41	13.72	12.30	11.57	10.69	10.48
16,214,718	15,846,358	16,159,508	16,102,350	16,087,250	16,080,554
16,429,468	15,980,481	16,289,795	16,156,159	16,093,696	16,111,090
2,329	2,407	2,351	2,521	2,566	2,762
2,160	1,926	1,856	1,833	1,803	1,831

CORPORATE DATA

ENVIRONMENTAL, HEALTH AND SAFETY POLICY

VALUES

The protection of people and the environment are our highest priorities.

Work is to be performed safely in a manner that encourages the health and well-being of people and the environment.

POLICY

It is the policy of Brush Engineered Materials to design, manufacture and distribute products and to manage, recycle and dispose of materials in a safe, environmentally responsible manner.

PRINCIPLES

In support of our Environmental, Health and Safety Policy, the following principles have been developed to provide additional direction on specific issues and accountabilities.

- We believe that incidents, injuries and illnesses are preventable. We utilize a thorough and disciplined Health and Safety Management System for maximizing worker protection.
- Line management is responsible for integrating these environmental, health and safety principles into daily work activities and for diligently responding to employee concerns.
- We share accountability, but are individually responsible. To be successful, we promote the acceptance of individual responsibility for environmental, health and safety issues. Each employee is responsible for maintaining an awareness of safe work practices and preventing conditions that may result in an unsafe situation or harm the environment. No operation or task will be performed in an unsafe manner. It is the responsibility of each employee to promptly notify management of any adverse situation.
- We are committed to utilizing our resources and technical capabilities to protect the health and safety of our employees and visitors, our customers and vendors, the general public and the environment. - We utilize measurements and accountabilities for managing our environmental, health and safety programs and support them by assessing performance within our management system framework.
- We promote the safe and environmentally responsible use and handling of our products and materials. We work to meet or exceed all regulatory requirements through proactive education, distribution of literature and issuance of hazard communications to our customers, vendors, distributors and contractors.

This policy applies to all Brush Engineered Materials Inc. business units worldwide.

ANNUAL MEETING

The Annual Meeting of Shareholders will be held on May 6, 2003 at 11:00 a.m. at The Forum, One Cleveland Center, 1375 East Ninth Street, Cleveland, Ohio.

INVESTOR INFORMATION

Brush Engineered Materials Inc. maintains an active program of communication with shareholders, securities analysts, and other members of the investment community. Management makes regular presentations in major financial centers around the world. To obtain:

- additional copies of the annual report - SEC Form 10K/10Q

Please contact:

Michael C. Hasychak
Vice President, Treasurer and Secretary

WEB SITE

Brush Engineered Materials Inc.'s web site on the Internet offers financial and investor information, news and facts about the Company, its businesses, markets and products.

Visit the site at: <http://www.beminc.com>

AUDITORS

Ernst & Young LLP
925 Euclid Avenue, Suite 1300, Cleveland, Ohio 44115

TRANSFER AGENT AND REGISTRAR

National City Bank
Corporate Trust Operations
P.O. Box 92301, Cleveland, OH 44193-0900 For shareholder inquiries, call: (800) 622-6757

STOCK LISTING

New York Stock Exchange/Symbol: BW

CORPORATE HEADQUARTERS

Brush Engineered Materials Inc.
17876 St. Clair Ave., Cleveland, Ohio 44110
(216) 486-4200 - Facsimile: (216) 383-4091

BRUSH ENGINEERED MATERIALS INC. DIRECTORS, OFFICERS, FACILITIES AND SUBSIDIARIES

**BOARD OF DIRECTORS AND
COMMITTEES OF THE BOARD**

ALBERT C. BERSTICKER(2, 3, 4)

Retired Chairman
Ferro Corporation

CHARLES F. BRUSH, III(1, 4)

Personal Investments

GORDON D. HARNETT(2)

Chairman, President and CEO
Brush Engineered Materials Inc.

DAVID H. HOAG(2, 3, 4, 5)

Retired Chairman
The LTV Corp.

JOSEPH P. KEITHLEY(2, 3, 4, 5)

Chairman, President and CEO
Keithley Instruments, Inc.

WILLIAM P. MADAR(2, 3, 4)

Chairman
Nordson Corporation

N. MOHAN REDDY(1, 4)

Professor
The Weatherhead School of Management
Case Western Reserve University

WILLIAM R. ROBERTSON(1, 4, 5)

Managing Partner
Kirtland Capital Partners

JOHN SHERWIN, JR.(1, 2, 4, 5)

President
Mid-Continent Ventures, Inc.

1 Audit Committee 2 Executive Committee 3 Governance Committee 4 Organization and Compensation Committee 5 Retirement Plan Review Committee

**CORPORATE AND
EXECUTIVE OFFICERS**

GORDON D. HARNETT(1, 2)

Chairman, President and CEO

JOHN D. GRAMPA(1, 2)

Vice President Finance
and Chief Financial Officer

DANIEL A. SKOCH(1, 2)

Senior Vice President
Administration

MICHAEL C. HASYCHAK(1)

Vice President, Treasurer and Secretary

JAMES P. MARROTTE(1)
Vice President, Controller

JOHN J. PALLAM(1)
Vice President, General Counsel

GARY W. SCHIAVONI(1)
Assistant Treasurer and Assistant Secretary

1 Corporate Officers 2 Executive Officers

OPERATING GROUPS

Alloy Products

RICHARD J. HIPPLE, PRESIDENT

Beryllium Products

MICHAEL D. ANDERSON, VICE PRESIDENT

Brush International, Inc.

STEPHEN FREEMAN, PRESIDENT

Brush Resources Inc.

ALEX C. BOULTON, PRESIDENT

Technical Materials, Inc.

ALFONSO T. LUBRANO, PRESIDENT

Williams Advanced Materials Inc.

JOHN J. PASCHALL, CHAIRMAN AND CEO

RICHARD W. SAGER, PRESIDENT

Zentrix Technologies Inc.

JOHN J. PASCHALL, PRESIDENT

OFFICES AND FACILITIES

MANUFACTURING FACILITIES

Brewster, New York

Buffalo, New York

Delta, Utah

Elmore, Ohio

Fremont, California

Lincoln, Rhode Island

Lorain, Ohio

Newburyport, Massachusetts

Oceanside, California

Reading, Pennsylvania

Santa Clara, California

Singapore

Subic Bay, Philippines

Tucson, Arizona

Wheatfield, New York

CORPORATE OFFICES

Cleveland, Ohio

SERVICE CENTERS

Elmhurst, Illinois
Fairfield, New Jersey
Singapore
Stuttgart, Germany
Theale, England
Tokyo/Fukaya, Japan
Warren, Michigan

SUBSIDIARIES

BEM Services, Inc.
Cleveland, Ohio
Brush Wellman Inc.
Cleveland, Ohio
Brush Ceramic Products Inc.
Tucson, Arizona
Brush International, Inc.
Cleveland, Ohio
Brush Resources Inc.
Delta, Utah
Brush Wellman GmbH
Stuttgart, Germany
Brush Wellman (Japan), Ltd.
Tokyo, Japan
Brush Wellman Limited
Theale, England
Brush Wellman (Singapore) Pte Ltd
Singapore
Circuits Processing Technology, Inc.
Oceanside, California
Technical Materials, Inc.
Lincoln, Rhode Island
Williams Advanced Materials Inc.
Buffalo, New York
Williams Advanced Materials
Far East Pte Ltd.
Singapore
Zentrix Technologies Inc.
Tucson, Arizona

[GRAPHIC]

17876 ST. CLAIR AVENUE - CLEVELAND, OHIO 44110 - 216.486.4200

EXHIBIT 21

Subsidiaries of Registrant

The Company has the following subsidiaries, all of which are wholly owned and included in the consolidated financial statements.

Country Name of Subsidiary Incorporation ----- -----	State or of
BEM Services, Inc.	Ohio
Brush Wellman Inc.	Ohio
Brush International, Inc.	Ohio
Brush Resources Inc.	Utah
Brush Wellman GmbH	Germany
Brush Wellman (Japan), Ltd.	Japan
Brush Wellman Limited	England
Brush Wellman (Singapore) Pte Ltd.	Singapore
Technical Materials, Inc.	Ohio
Williams Advanced Materials Inc.	New York
Williams Advanced Materials Pte Ltd.	Singapore
Zentrix Technologies Inc.	Arizona

Exhibit 23

Consent of Independent Auditors

We consent to the incorporation by reference in this Annual Report (Form 10-K) of Brush Engineered Materials Inc. of our report dated March 11, 2003, included in the 2002 Annual Report to the Shareholders of Brush Engineered Materials Inc.

Our audits also included the financial statements schedule of Brush Engineered Materials Inc. listed in Item 14(a). This schedule is the responsibility of the Company's management. Our responsibility is to express an opinion based on our audits. In our opinion, the financial statement schedule referred to above, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects, the information set forth therein.

We also consent to the incorporation by reference in the following Registration Statements and Post-Effective Amendments of our report dated March 11, 2003, with respect to the consolidated financial statements incorporated herein by reference, and our report included in the preceding paragraph with respect to the financial statement schedule included in this Annual Report (Form 10-K) of Brush Engineered Materials Inc. for the year ended December 31, 2002:

Registration Statement Number 333-88994 on Form S-8 dated May 24, 2002;

Post-Effective Amendment Number 1 to Registration Statement Number 333-74296 on Form S-8 dated November 30, 2001;

Post-Effective Amendment Number 5 to Registration Statement Number 2-64080 on Form S-8 dated May 17, 2000;

Post-Effective Amendment Number 1 to Registration Statement Number 333-63355 on Form S-8 dated May 17, 2000;

Post-Effective Amendment Number 1 to Registration Statement Number 33-28605 on Form S-8 dated May 17, 2000;

Post-Effective Amendment Number 1 to Registration Statement Number 333-63353 on Form S-8 dated May 17, 2000;

Post-Effective Amendment Number 1 to Registration Statement Number 333-63357 on Form S-8 dated May 17, 2000;

Post-Effective Amendment Number 1 to Registration Statement Number 333-52141 on Form S-8 dated May 17, 2000;

Post-Effective Amendment Number 1 to Registration Statement Number 2-90724 on Form S-8 dated May 17, 2000;

Registration Statement Number 333-63353 on Form S-8 dated September 14, 1998;

Registration Statement Number 333-63355 on Form S-8 dated September 14, 1998;

Registration Statement Number 333-63357 on Form S-8 dated September 14, 1998;

Registration Statement Number 333-52141 on Form S-8 dated May 5, 1998;

Registration Statement Number 33-28605 on Form S-8 dated May 5, 1989;

Registration Statement Number 2-90724 on Form S-8 dated April 27, 1984;

Post-Effective Amendment Number 3 to Registration Statement Number 2-64080 on Form S-8 dated April 22, 1983.

Cleveland, Ohio
March 31, 2003

EXHIBIT 24

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each of the undersigned directors and officers of BRUSH ENGINEERED MATERIALS INC., an Ohio corporation (the "Corporation"), hereby constitutes and appoints Gordon D. Harnett, John D. Grampa, Michael C. Hasychak and David P. Porter, and each of them, their true and lawful attorney or attorneys-in-fact, with full power of substitution and revocation, for them and in their names, place and stead, to sign on their behalf as a director or officer, or both, as the case may be, of the Corporation, an Annual Report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 on Form 10-K for the fiscal year ended December 31, 2002, and to sign any and all amendments to such Annual Report, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission granting unto said attorney or attorneys-in-fact, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as they might or could do in person, hereby ratifying and confirming all that said attorney or attorneys-in-fact or any of them or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned have hereunto set their hands as of the 4th day of March, 2003.

/s/ Gordon D. Harnett

/s/ Joseph P. Keithley

*Gordon D. Harnett, Chairman,
Chief Executive Officer, President and
Director (Principal Executive Officer)*

Joseph P. Keithley, Director

/s/ Albert C. Bersticker

/s/ William P. Madar

Albert C. Bersticker, Director

William P. Madar, Director

/s/ Charles F. Brush, III

/s/ N. Mohan Reddy

Charles F. Brush, III, Director

N. Mohan Reddy, Director

/s/ David H. Hoag

/s/ William R. Robertson

David H. Hoag, Director

William R. Robertson, Director

/s/ John D. Grampa

/s/ John Sherwin

*John D. Grampa, Vice President Finance,
Chief Financial Officer
(Principal Accounting Officer)*

John Sherwin, Director

Exhibit 99.1

Certification Pursuant to
18 U.S.C. Section 1350,
As Adopted Pursuant to

Section 906 of the Sarbanes-Oxley Act of 2002

I, Gordon D. Harnett, Chairman of the Board, President and Chief Executive Officer of Brush Engineered Materials Inc. (the "Company"), do hereby certify in accordance with 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge,

1. The Annual Report on Form 10-K of the Company for the period ending December 31, 2002 (the "Periodic Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C 78m or 78o(d)), and
2. The information contained in the Periodic Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: March 31, 2003

/s/ Gordon D. Harnett

*Gordon D. Harnett
Chairman of the Board, President and
Chief
Executive Officer*

Exhibit 99.2

Certification Pursuant to
18 U.S.C. Section 1350,
As Adopted Pursuant to

Section 906 of the Sarbanes-Oxley Act of 2002

I, John D. Grampa, Vice President Finance and Chief Financial Officer of Brush Engineered Materials Inc. (the "Company"), do hereby certify in accordance with 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge,

1. The Annual Report of Form 10-K of the Company for the period ending December 31, 2002 (the "Periodic Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)), and
2. The information contained in the Periodic Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: March 31, 2003

/s/ John D. Grampa

John D. Grampa
Vice President Finance and Chief Financial
Officer

End of Filing