

**Thorium Power News Update**  
**April 30, 2009**

**Letter from the CEO**

Dear Stockholders:

We are pleased to share this latest news update, which includes the latest company news as well as industry-related developments.

**Corporate News and Related Developments**

As noted during our April 16<sup>th</sup> conference call, we are extremely pleased with the significant technological and business progress Thorium Power has made over the past year. In addition to generating significant revenue from our growing advisory practice, we are making good progress in Russia, India and the UAE, and we continue to respond to the key external drivers – growing global demand for non-proliferative solutions and increasing support for safe, clean and responsible nuclear power. We are encouraged by the growing awareness and support for non-proliferative technologies. The Hatch-Reid legislation promises to pave the way for thorium-based reactors in the United States while the UAE program has already been referred to as the “gold standard” and a “powerful and timely model for the world” with which we are proud to be associated. This favorable perception is further evidence that our advanced nuclear blueprint for safe, responsible and economical nuclear power is gaining currency on a global basis.

Meanwhile, the Obama administration has continued to call for “safe nuclear technologies” and enhanced non-proliferation protocols. As evidence of this commitment, President Obama recently nominated Daniel K. Poneman, formerly a member of Thorium Power’s International Advisory Board (recently renamed as the Strategic Advisory Council), as Deputy Secretary at the U.S. Department of Energy. Mr. Poneman, a veteran non-proliferation and nuclear energy expert, has been working for the Scowcroft Group, an international business advisory firm based in Washington, DC. From 1993 through 1996, he served as Special Assistant to the President and Senior Director for Nonproliferation and Export Controls at the National Security Council at the White House. Mr. Poneman joined the NSC staff in 1990 as director of Defense Policy and Arms Control, after serving as a White House Fellow in the Department of Energy. He served on several federal commissions and advisory panels, and has authored books on nuclear energy policy.

As always, we continue to educate the industry and financial community about our unique mission and capabilities. Ambassador Thomas Graham, Jr., Thorium Power’s Executive Chairman, participated in an April 22<sup>nd</sup> Berlin event titled “Dialogue on Disarmament, Non-Proliferation and Arms Control: “Can the International Security Treaty System be Redeemed?”

**Reputation/Brand Building Program and Media Coverage**

We are executing a strategic reputation and brand building program that encompasses the media, policymakers, legislators and key influencers in the industry, business and academia. In addition to current marketing efforts, we are also laying the foundation for

the Lightbridge brand. Our ongoing Media Relations initiative forms just one component of our overall marketing program. There have been articles in leading publications, including the *Financial Times* and *US News & World Report*. We are currently working with a select number of leading business, financial and technological publications on carefully timed stories that complement our business milestones and achievements. It is worth noting that the media interest is not restricted to the U.S. alone. In fact, Thorium Power was recently cited in a major (Spanish-language) article titled “Thorium, the Energy of the Future,” which appeared in *Público*, one of Spain’s leading national newspapers. The author noted that thorium promises to revolutionize the nuclear renaissance due to its abundance, non-proliferative qualities and waste elimination benefits: “Some scientists believe that this energy revolution is not a dream. The miracle exists, hidden in a corner of the periodic table. And it is called thorium.” In addition to *Público*, Thorium Power was featured in several media outlets throughout April, including *Platts NuclearFuel*, *Daily News & Analysis*, *Middle East Economic Digest*, *World Nuclear News*, and *Intelligence Online*.

### **Industry Developments**

April was another eventful month in the global nuclear energy industry. Areva announced plans to almost double its manufacturing capacity for heavy components for nuclear power plants” in order to “keep pace with strong international growth.” Further east, the China Institute of Atomic Energy installed the China Experimental Fast Reactor (CEFR), a fast breed reactor, near Beijing. Meanwhile, here in the U.S., Southern Nuclear gave notice to Westinghouse and Shaw to proceed towards two new pressurized water reactors at Vogtle, Burke County, Georgia. Also, there were a number of pro-nuclear surveys and polls. In Germany, an Accenture survey found that a majority of Germans (56 percent) “favor scrapping early closure of the country’s nuclear power plants.” In the U.S., a Public Agenda survey concluded that “twenty-one percent of those surveyed “strongly favor,” and 34% “somewhat favor,” building more nuclear power plants in the United States.”

Once again, these latest developments support our unique positioning as a source of solutions to address the major industry concerns – how to solve proliferation, reduce waste and improve profitability.

Very Truly Yours,  
Seth Grae  
Chief Executive Officer

**Thorium Power News Update**  
**April 30, 2009**

**Media Coverage**

**THPW Coverage**

**Publico.es – Thorium, the Energy of the Future (03.28.09)** – In a major article about thorium fuel, *Público* writer Manuel Ensede notes that thorium promises to revolutionize the nuclear renaissance due to its abundance, non-proliferative qualities and waste elimination benefits: “Some scientists believe that this energy revolution is not a dream. The miracle exists, hidden in a corner of the periodic table. And it is called thorium.”

**Daily News & Analysis – India votes, US waits (03.20.09)** – DNA comments on the current elections in India, and the prospects for U.S. nuclear firms under a new government. Seth Grae is quoted in the article: “Singh has played a key role in the passage of the deal; we recognise his efforts to implement the 123 Agreement. We will obviously respect the decision of the Indian people and continue working with our partners in the government. Whatever the outcome, India represents one of the most important new nuclear markets in the world.”

**World Nuclear News – Further nuclear commitments from UAE (03.09.09)** – WNN reports that the United Arab Emirates (UAE) has granted international inspectors extended rights in the country as it develops its nuclear sector. The Additional Protocol of the Nuclear non-Proliferation Treaty, which was signed on 8 April by Ambassador Hamad Ali Kaabi and Mohamed ElBaradei, the director general of the International Atomic Energy Agency (IAEA), “allows IAEA inspectors greater freedom of movement in the country.”

**Middle East Economic Digest (MEED) – Enec prequalifies bidders for nuclear power programme (03.09.09)** – MEED, one of the leading economic journals in the Gulf, comments on the bidding process and notes that Emirates Nuclear Energy Corporation (Enec), the organisation running the nuclear energy implementation programme for the UAE, has begun prequalifying companies for the project.

**Platts NuclearFuel – Thorium Power plans rollout for branding new company name (03.06.09)** – *Platts NuclearFuel*, the leading trade journal, comments on Thorium Power’s business milestones and branding agenda: “[Thorium Power’s] name change signals a continuing shift in the company’s business. For the past decade, it had worked on developing new, thorium-based fuel designs for commercial nuclear power plants and for weapons-grade plutonium disposition. Two years ago it began offering nuclear energy consulting services, marketing its independent expertise, particularly to countries considering establishing nuclear energy programs.”

**Intelligence Online – Americans in Nuclear Energy Drive: Abu Dhabi (03.02.09)** – Intelligence Online notes that the “United Arab Emirate’s nuclear energy program is being put together by American consultants.” The article mentions Thorium Power along with other American companies such as CH2M HILL.

## Industry News

**Platts – GOP senator: US should build 100 new nuclear plants (03.27.09)** – As noted by Platts, Sen. Lamar Alexander of Tennessee recently delivered the GOP response to President Obama’s weekly address and urged the president and the Democratic Party to focus greater attention and investment in nuclear power.

**Platts – White House to nominate nuclear expert to deputy energy secretary (03.15.09)** – Platts notes that the White House “intends to nominate Daniel Poneman, a long-time nuclear weapons and non-proliferation expert, as deputy secretary at the US Department of Energy.” Poneman was a member of Thorium Power’s International Advisory Board (“Strategic Advisory Council”).

**World Nuclear News – Go-ahead to break ground for new US reactors (03.09.09)** – WNN notes that Southern Nuclear has given notice to Westinghouse and Shaw to proceed towards two new reactors at Vogtle, Burke County, GA. Permissions already in place allow some construction of the pressurized water reactors to begin.

**The State – Forum puts spotlight on nuclear energy jobs (03.07.09)** – The local South Carolina newspaper reports on a recent forum focused on nuclear energy jobs: “Even if we never build another nuclear plant, we’re going to need tens of thousands of nuclear workers,” said Dayna Herrick, Duke Energy’s training work force development manager.

**Bloomberg News – Most Germans Favor Longer Nuclear Plant Use, Handelsblatt Says (03.07.09)** – Citing Handelsblatt’s coverage of a recent Accenture survey, Bloomberg notes that a majority of Germans (56 percent) “favor scrapping early closure of the country’s nuclear power plants.”

**World Nuclear News – USA to construct Jordanian storage facility (03.29.09)** – WNN notes that the U.S. “will design and construct a national storage facility in Amman for Jordan’s radioactive waste and nuclear materials under a contract signed in Washington, DC.”

**World Nuclear News – Chinese fast reactor nears commissioning (03.29.09)** – WNN notes that “the installation and adjustment of main equipment for the China Experimental Fast Reactor (CEFR) has been completed.” The sodium-cooled, pool-type fast reactor is being constructed with some Russian assistance at the China Institute of Atomic Energy (CIEA), near Beijing.

**World Nuclear News – Areva boosts heavy component manufacturing (03.03.09)** – The trade journal reports that “Areva has announced plans to almost double its manufacturing capacity for heavy components for nuclear power plants” in order to “keep pace with strong international growth.”

**Platts – New poll shows strong support for nuclear power (03.03.09)** – Platts reports on a recent (Public Survey) agenda, which found that “twenty-one percent of those surveyed “strongly favor,” and 34% “somewhat favor,” building more nuclear power plants in the United States.”

**Thorium, the Energy of the Future**  
**By Manuel Ansedé**  
**Publico.es (Spain)**  
**April 28, 2009**

**The United States rejoins the race for thorium, a nuclear fuel 40 times more powerful than uranium, and three times more abundant**

Mankind needs an energy revolution. According to the International Energy Agency, the worldwide demand for electricity and fuel will grow by 45% between now and 2030, and one-third of that demand will be met with coal, the main culprit of climate change. Oil consumption will also explode to 106 million barrels per day, compared with 85 million today. And in the meantime, the nuclear power plants will continue to be called into question because of the lack of safety stigma and the problem of radioactive wastes. In the absence of a revolution, mankind is moving toward a global warming of six degrees Centigrade by 2100.

To avoid that prospect, experts dream of a new source of energy, capable of supplying all the planet's needs. But that alone is not enough. It may not emit carbon dioxide. And its raw material must be abundant and found in countries with stable democracies, not in Kazakhstan, Namibia, and Niger, as is the case with uranium. Some scientists believe this energy revolution is not a dream. The miracle exists, hidden in a corner of the periodic table. And it is called thorium.

**40 times more energetic**

The U.S. Congress has just discovered this element, described by the Swedish chemist Jöns Jakob Berzelius in 1828. Last April 21, Congressman Joe Sestak introduced a bill in the Congress calling on the Department of Energy to examine the potential use of thorium as a nuclear fuel in the United States. A few weeks before that, the same congressman had introduced another bill to research the use of thorium as a fuel on Navy ships.

Uranium is not running out – according to the International Atomic Energy Agency, there are enough reserves for 100 years – but the world's governments are already looking for a substitute. And thorium starts with an advantage. As explained by Prof. Manuel Lozano Leyva, the head of the Department of Atomic, Molecular, and Nuclear Physics at the University of Seville, in his book *Nucleares, ¿por qué no? (Why Not Nuclear? How To Face The Energy Challenges Of The Future)* all the thorium extracted from a mine can be used in a reactor, compared to a mere 0.7% of natural uranium.

“If you do an assessment of mass and energy, it turns out that a certain quantity of thorium offers about 40 times the energy as the same quantity of uranium,” notes the physicist. “And, to visualize just how advantageous thorium is, it turns out that it is practically useless for nuclear proliferation and its fission fragments and the transuranic elements produced by its absorption of neutrons are residues far less radioactive than those of uranium,” he adds. As if that were not enough, worldwide thorium reserves are estimated to be triple those of uranium, and more than one-third of them are found in Australia and the United States. Spain's role in this hypothetical energy of the future will be insignificant. According to Enusa, the public company that supplies fuel to the country's nuclear power plants, “there are no data on official thorium reserves in Spain.”

In spite of the new interest in the United States, thorium has been well known to scientists for a long time. In the last 30 years, there have been experiments with the use of this element as nuclear gasoline in Germany, India, Japan, Russia, Britain, and even the United States. But the Chernobyl disaster in 1986 and low oil prices caused many countries to give up research.

***The race for thorium, however, has resulted in strange bedfellows. The U.S. company Thorium Power, created in 1992, has tested a thorium and uranium fuel at an experimental reactor of the Kurchatov Institute of Moscow during the last five years, with public U.S. funding. The results are now being evaluated, and the next step will be to test the fuel in a commercial reactor.***

India, with 12% of the world's thorium reserves, also has active lines of research. At the beginning of this month, Indian ex-president Abdul Kalam, trained as an aeronautical engineer, urged young people to use thorium "to reduce environmental pollution."

#### **The failure of the 'Rubbiatron'**

Physicist Francisco Castejón, leader of the antinuclear campaign Ecologists in Action, believes these tests are destined to fail. And he offers a very familiar example: the mockingly named *Rubbiatron*. The Energy Amplifier Laboratory, a company developed by the Italian scientist Carlo Rubbia, who won the Nobel Prize in Physics in 1984, was created in Zaragoza in March 1997. Its goal was an ambitious one: to build a prototype thorium reactor in Aragón, Spain, to eliminate the radioactive residues generated at the nuclear power plants. In the end, this project cost 20-billion pesetas and was abandoned due to powerful social and political opposition.

For Castejón, who works on nuclear fusion issues at the National Research Center for Energy, Environment, and Technology (Ciemat), which was at one time a partner of the *Rubbiatron* in Aragón, thorium reactors pose too many unknowns. "To get energy out of this element, it is necessary to bombard it with neutrons. How will we generate those neutrons? We would need to bombard a lead plate with protons to generate them, but for the time being there is no fundamental proton accelerator," he asserts.

In addition, Castejón points out, thorium reactor residues are less hazardous than those of reactors that use uranium but they will still continue to be radioactive for thousands of years. In his opinion, thorium is not the ingredient for the energy revolution, but instead, "the nuclear industry's latest attempt to continue engaging in harmful activities."

#### **A project taking 15 years and costing 550 million euros**

"For decades, scientists around the world have recognized thorium's utility as a fuel, but the technology and financing to achieve the transition to thorium did not exist," explained Hector D'Auvergne, founder of DBI, a California aerospace company that has been researching this energy source for 30 years, in 2006. "Today, we are on the verge of developing a reactor in which thorium will not only gradually replace fossil fuels as a worldwide source of energy, but also nuclear energy based on uranium," he predicted.

The new debate on thorium in the U.S. Congress may be the key push for which D'Auvergne called, to launch the use of thorium. For the time being, it is not even mined exclusively at any mine on the planet. "As long as uranium continues to be cheap and there is no long-term prospect for the development of nuclear energy, thorium will go on being researched at a slow pace," predicts physicist Manuel Lozano Leyva. But the atomic renaissance, with 44 power plants currently in construction around the world, promises to drive up uranium prices and encourage the alternative of thorium.

For some scientists, such as physicist Egil Lillestol of the Norwegian University of Bergen, the definitive thorium reactor will arrive in 15 years, but only if all the world's experts work together and someone puts up 550 million euros.

**Further nuclear commitments from UAE**  
**World Nuclear News**  
**April 9, 2009**

The United Arab Emirates (UAE) has granted international inspectors extended rights in the country as it develops its nuclear sector.

The Additional Protocol (AP) of the Nuclear non-Proliferation Treaty was signed on 8 April by Ambassador Hamad Ali Kaabi and the director general of the International Atomic Energy Agency (IAEA), Mohamed ElBaradei.

This latest step in the UAE's rapid progress towards employing nuclear energy will allow IAEA inspectors greater freedom of movement in the country, including the option to make short-notice inspections of nuclear facilities. The text of the UAE's AP was approved by the IAEA board during its meetings last month.

Although it must be noted that UAE does not yet have any nuclear power or fuel-cycle facilities to inspect, Kaabi said the signing was a 'further indication' of his country's 'obligation to the full principles of transparency in the operation of nuclear facilities... and to achieve the highest standards of nuclear non-proliferation.'

The UAE will now take the obligations of the AP into account while it draws up the necessary legislation to facilitate nuclear power. This process is being guided by C2HM Hill as managing agent for the Emirates Nuclear Energy Corporation, set up after advice to the country from Thorium Power. France's Atomic Energy Commission is also cooperating in the process.

The UAE launched a nuclear energy policy in 2008 to help meet an energy demand forecast to double by 2020, by which time it hopes to have several nuclear power plants running. It is a member of the Gulf Cooperation Council, has signed cooperation agreements and memoranda of understanding with a number of countries and companies including France, the UK and the USA.

The agreement with America contains special terms under which the UAE has renounced plans to enrich and reprocess uranium or other fuel and will instead obtain nuclear fuel from reliable international suppliers. The USA will have the right to cancel the agreement if the UAE reneges on its commitment not to engage in enrichment or reprocessing activities.

## **EneC prequalifies bidders for nuclear power programme**

**By Karin Maree**

**Middle East Economic Digest**

**April 9, 2009**

*Contract to build UAE's first nuclear power plant to be awarded in fourth quarter*

Emirates Nuclear Energy Corporation (Enec), the organisation running the nuclear energy implementation programme for the UAE, has begun prequalifying companies for the project.

According to sources close to the scheme, Enec held a conference in early February to invite companies to prequalify for the construction of the country's first nuclear power facility.

Potential prequalifiers include a French team of Areva, GdF Suez and Total; the US' Westinghouse and Shaw Group; the US' GE; Japan's Toshiba Corporation; and Korea Electric Power Corporation (Kepco).

Other companies that could join one of these consortiums include the US' Bechtel Corporation and Japan's Mitsubishi Heavy Industries and Hitachi. All of the consortium leaders – Areva, Westinghouse, GE, Toshiba and Kepco – are nuclear reactor suppliers.

The deadline for the submission of prequalification documents is late April, according to the sources. Enec will award a contract to build a nuclear power plant in the fourth quarter of this year.

The French consortium submitted a proposal to build two 1,600MW reactors in Abu Dhabi to the government in January 2008, but did not reach an agreement with the government.

The winner will build the 5,000MW plant in three phases, with the first 1,650MW to come on line in 2017, followed by the other phases in 2018 and 2019. It will be located at Al-Bayyaa, near the border with Saudi Arabia.

Speaking at MEED's Arabian Power & Water Summit in Abu Dhabi on 31 March, Pradeep Aggarwal, programme manager for water resources at the International Atomic Energy Agency (IAEA), estimated that the cost of building 1,000MW of nuclear capacity could be as high as \$8bn.

In a white paper published in April 2008, the Foreign Ministry set out the UAE's policy on the evaluation and potential development of peaceful nuclear energy.

The ministry projected that annual peak demand for electricity would rise to more than 40,000MW by 2020, an increase of 9 per cent a year.

According to the government's studies, the volume of natural gas available for power generation is insufficient to keep pace with growing demand.

It would provide only enough fuel for 20,000- 25,000MW of power generation by 2020.

In light of this, the government has decided that nuclear power generation is a proven and commercially competitive option.

The UAE government has made EneC responsible for the development of the human, technical and security infrastructure that a safe nuclear power sector needs.

The US' CH2M Hill and Thorium Power are advising EneC on the development of the country's nuclear programme.

There are 439 nuclear reactors operating in 30 countries today.

The IAEA predicts that at least 70 new plants will be built over the next 15 years, taking global nuclear power generation capacity from 470,000MW to 750,000MW.

[www.meed.com/power](http://www.meed.com/power)

Transport Saudi Arabia

## **Thorium Power plans rollout for branding new company name**

**By Jenny Weil, Washington**

**April 6, 2009**

**Nuclear Fuel**

Thorium Power Ltd. has changed its name to Lightbridge Corp. and will work on new corporate branding this year.

The name change signals a continuing shift in the company's business. For the past decade, it had worked on developing new, thorium-based fuel designs for commercial nuclear power plants and for weapons-grade plutonium disposition. Two years ago it began offering nuclear energy consulting services, marketing its independent expertise, particularly to countries considering establishing nuclear energy programs.

In a March 26 financial report filed with the US Securities and Exchange Commission, Thorium Power said it only has "one significant client" for its nuclear consulting business. But its client has generated more than \$20 million in consulting revenues, the company said.

It said it believes its "independence, experience, expertise, reputation and segment focus" gives it competitive footing in the market, even against larger companies.

It was hired to provide strategic advice on the development of civilian nuclear power plants in the United Arab Emirates. It said it signed a contract in November 2007 and was paid \$3.8 million by the Executive Affairs Authority, or EAA, a government agency of Abu Dhabi, to provide a "roadmap" as the first phase of a feasibility study. Thorium Power said it made recommendations in that report on timelines, organizational structure and priorities for the next steps.

It then completed additional consulting work under a follow-on agreement with the UAE. It was paid \$4.3 million for that work, the company said.

In August 2008, the company entered into five-year consulting contracts with the Emirates Nuclear Energy Corp., or ENEC, an entity of the government of the Emirate of Abu Dhabi that is responsible for developing the nuclear energy infrastructure, and with the Federal Authority for Nuclear Regulation, or FANR, the independent nuclear regulatory agency in the UAE. Work under those agreements was expected to total \$14.1 million, it said in the SEC filing.

Thorium Power separately signed a separate, multimillion-dollar agreement with the EAA for consulting services and detailed work plans for EAA, ENEC and FANR.

In a presentation that the company gave at a conference in February, it called 2008 a "transformative year" and noted that it received its "first revenues as a company." It said it also secured the global rights to technical data for fuel technology last year and signed new agreements with the Kurchatov Institute in Moscow for intermediate testing of fuel.

The company's stock is traded on the Over-the-Counter Bulletin Board, a trading service for smaller companies that are not listed as part of the Nasdaq Exchange. It said it has never paid dividends and that there were 223 stockholders as of mid-March.

The company is developing thorium-based fuels as an alternative to the existing uranium oxide fuel. It plans to license the technology to fuel fabricators but does not plan to fabricate the fuel itself. One of its strategies is to form an international consortium — possibly partnering with governments or private sector companies — to build new fuel fabrication facilities. The plan involves licensing its intellectual property rights to the thorium/uranium fuel to the consortium, which would own and/or operate the fuel fabrication facilities.

But its main strategy is to form an alliance with existing fuel fabricators — Areva, Westinghouse Electric Co., General Electric and Russian fuel fabricator TVEL. It does not now have formal agreements with any of those companies for potentially licensing its fuel technology.

"The primary barrier to industry adoption of our fuel design is that the entire industry infrastructure is based on uranium fuel with enrichments of 3%-5%," it said in its filing. "Our designs require plutonium or more highly enriched uranium (up to 20%)."

But the advantages of its fuel is that no weapons-usable materials are produced, the volume and weight of spent fuel are considerably reduced, and there is an "abundant" supply of available thorium, it said.

**Americans in Nuclear Energy Drive - Abu Dhabi**  
**Intelligence Online**  
**April 2, 2009**

The United Arab Emirate's nuclear energy program is being put together by American consultants. That can only profit the U.S. power station builder Westinghouse.

Representatives of the Emirates Nuclear Energy Corp. (ENEC) were in France last week. The delegation visited the re-processing plant at La Hague and was received by the Secretariat General de la Defense Nationale. To the displeasure of his French hosts, ENEC's director, Mohammad al Hammadi, kept his American adviser, Lisa Gordon-Hagerty, firmly at his side at every moment.

A specialist in nuclear security, she was in charge of protection against weapons of mass destruction at the National Security Council between 1998-2003. She subsequently chaired the U.S. Enrichment Corporation (USEC), a private company in charge of the process of enriching uranium in the United States, for two years. Since 2005, Gordon-Hagerty has run her own consultancy, LEG Inc.

Gordon-Hagerty is also very close to George W. Bush's former anti-terrorism adviser, Richard Clarke. At present, Clark's own company, Good Harbor Consulting, equally advises Abu Dhabi on industrial security matters, and particularly nuclear security. Good Harbor has a highly active bureau in the UAE. (IOL 590).

Other American consultants, among them CH2M Hill, Thorium Power and Rizzo and Associates, also work for ENEC. (IOL 584). Their presence is likely to give the American-Japanese Westinghouse group a head start in the competition to build a first power plant in Abu Dhabi. Westinghouse's leading rival for the contract is France's Areva in conjunction with the Total oil group. Luc Oursel, chairman of Areva NP, the branch of the group that builds nuclear plants, is very close to Philippe Boisseau. The latter heads Total's gas and electricity branch and was previously in charge of exploration and production in the Middle East.

**India votes, US waits**  
**Uttara Choudhury**  
**DNA (Daily News & Analysis)**  
**April 20, 2009**

New York: India's elections are offering enough drama to intrigue even the most casual American news junkie -- a mix of power, corruption and India's shoe-gate has US television anchors barely suppressing their smiles. But beyond the visual echo of the shoe that former US president Bush ducked in Iraq, the Indian elections are being keenly watched here as they promise to have a profound impact on US bilateral trade and geopolitical stakes in Asia.

**Fear over N-fallout**

The stakes could hardly be higher for US industry, which has many eggs in the Indian basket. US firms hope that young consumers from rapidly growing India and China will fill the void left by weakness in American consumers.

"India has been growing at 20-30% a year for all of us. So, we actually like doing business in India and all the CEOs I talk to, feel exactly the same way," said Indra Nooyi, chairman and CEO of PepsiCo, when she took charge of the US-India Business Council.

If you were to ask American CEOs basking in the afterglow of the nuclear deal who they would like to see in New Delhi's hot seat, most would go with Manmohan Singh at the head of the UPA. LK Advani who leads the BJP (and NDA) is their firm second choice.

The US is wary about the prospect of Mayawati, who has an egoistical penchant for commissioning super-sized statues of herself, becoming prime minister if she takes her BSP into an alliance with a patchwork of Left parties in a third front. US execs won't breathe a word publicly: but they are spooked by the CPI(M), which wants a review of India's nuclear deal with the US and a rethink of military relations between the countries.

"If the hard-left political parties were to participate in the government it would be horrible for US business," a US trade official, who did not want to be named, told DNA. "We don't fear there will be a U-turn in reforms if the BJP comes to power. The BJP has also said it will not unwind the nuclear deal," he said.

The US is worried the Left could exert considerable influence if it achieves enough votes to hold a balance of power. The US concern stems from the reality that the new government will have to enact a nuclear liability law. US companies can't do business till New Delhi signs the Convention on Supplementary Compensation (CCSC) treaty. "We believe that signing the CCSC would be a way for India to maintain the spirit of the US-India nuclear pact," said Seth Grae, president and CEO of Thorium Power, a pioneer in developing non-proliferative nuclear fuel based on thorium.

"Singh has played a key role in the passage of the deal; we recognise his efforts to implement the 123 Agreement. We will obviously respect the decision of the Indian people and continue working with our partners in the government. Whatever the outcome, India represents one of the most important new nuclear markets in the world," said Grae.

With Singh and Harvard-educated free-market liberals like Chidambaram at the helm,

99% of high-tech trade between India and the US is unhindered by export licenses. Singh was negotiating a bilateral investment treaty, which could be scuttled if he doesn't get re-elected. The US is India's second largest trading partner and trade in 2007 grew to \$41.6 billion. There is a mutual desire to hike it to \$60 billion.

**GOP Senator – US Should Build 100 New Reactors  
Platts  
April 27, 2009**

The US should build 100 new nuclear power plants, Republican Senator Lamar Alexander of Tennessee said April 25. Alexander delivered the GOP's response to President Barack Obama's weekly address, which did not touch on energy issues. "You'd think that if Democrats want to talk about energy and climate change and clean air, they'd put American-made nuclear power front and center," Alexander said. "Instead, their answer is billions in subsidies for renewable energy" from solar, wind and geothermal, he said.

But these sources provide only about 1.5% of US electricity supply, so even doubling or tripling their generation wouldn't contribute very much, Alexander said. "When Republicans say, build 100 new nuclear power plants during the next twenty years, Democrats say, no place to put the used nuclear fuel. We say, recycle the fuel -- the way France does. They say, no we can't," he said. A transcript of Alexander's remarks is online at <http://www.gop.com/News/NewsRead.aspx?Guid=92504368-37ec-4d4e-94bb-9edc4fc332>  
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**White House to nominate nuclear expert to deputy energy secretary  
Platts  
April 15, 2009**

The White House said Tuesday it intends to nominate Daniel Poneman, a long-time nuclear weapons and non-proliferation expert, as deputy secretary at the US Department of Energy.

Poneman comes from The Scowcroft Group, an international business advisory firm. He was the National Security Council's senior director for nonproliferation and export controls from 1993 to 1996, during the Clinton administration. Prior to that, Poneman was NSC's director of defense policy and arms control. He also has written extensively about nuclear energy and nuclear weapons policy.

Poneman's experience could complement Energy Secretary Steven Chu, a Nobel Prize-winning physicist and former director of Lawrence Berkeley National Laboratory. After Chu was named energy secretary, some voiced concern about his lack of experience with nuclear weapons, as a large portion of DOE's annual budget goes toward the National Nuclear Security Administration, which oversees the US nuclear weapons complex.

The White House's decision to name Poneman also comes after it ordered DOE and the Department of Defense to review the benefits and hazards of moving NNSA from DOE to DOD jurisdiction.

**Go-ahead to break ground for new US reactors**  
**World Nuclear News**  
**April 9, 2009**

Southern Nuclear has given notice to its main contractors to proceed towards two new reactors at Vogtle. Permissions already in place allow some construction work to begin.

The reactors in question are two Westinghouse AP1000 units which Southern's subsidiary Georgia Power contracted Westinghouse and Shaw to build in April exactly one year ago. That contract was submitted to the Georgia Public Service Commission and gained approval in mid March - including permission for Georgia Power to begin recovering the cost of the new reactors from ratepayers bills.

The engineering procurement and construction (EPC) contract with Westinghouse and Shaw will see the companies supply and construct the entire facility with the exception of 'certain items' provided by the plant's co-owners, although exact contract terms, conditions and value have not yet been released.

"We are poised to break ground on one of the first new US nuclear construction projects in more than 30 years." -- J M Bernhard, Chairman, president and CEO of Shaw.

Southern's application to the US Nuclear Regulatory Commission(NRC) reached a certain point in February at which limited construction work would be permitted at the site when the NRC released the final safety evaluation related to Southern's application for an Early Site Permit. The full result of the ESP application should be known by the end of this year.

Full construction, however, can only start once a combined construction and operating license is issued for the project, expected in mid-2011.

Two reactors already operate at Vogtle, starting up in May 1987 and May 1989. Each of the Westinghouse pressurized water reactors (PWRs) is capable of generating 1215 MWe. The two new units will each produce 1105 MWe.

**Forum puts spotlight on nuclear energy jobs**  
**By Noelle Phillips**  
**The State (South Carolina)**  
**April 7, 2009**

ORANGEBURG — There are two things future workers need to know about the nuclear industry:

It is expanding in South Carolina, and the current work force is aging.

Those two points add up to a bright future for student engineers and others learning skills that would fit into the industry, speakers said Monday during a forum on nuclear energy jobs.

If power companies have their way, at least four new nuclear reactors could be built during the next decade in South Carolina.

“Even if we never build another nuclear plant, we’re going to need tens of thousands of nuclear workers,” said Dayna Herrick, Duke Energy’s training work force development manager.

The forum featured former New Jersey Gov. Christine Todd Whitman, co-chairman of the national CASEnergy Coalition, which promotes nuclear power.

“With four reactors under consideration here in South Carolina, that means jobs,” Whitman said. “You are in a position to provide the jobs of the future.”

The forum was held at S.C. State University, which has South Carolina’s only accredited nuclear engineering program. The forum was designed to introduce students to job opportunities in the nuclear field.

The industry will add about 3,000 engineering jobs to the state during the next five years, said Mark Fecteau, who works for Westinghouse Electric Co. in Columbia and is a member of Carolinas Nuclear Cluster, a group supporting nuclear development.

The industry needs hundreds of mechanical engineers, as well as electrical and industrial engineers, he said.

Columbia-based SCE&G and Duke Energy also will need thousands of people to help build the plants. Those jobs include welders, pipe fitters and industrial electricians.

Building one reactor can require as many as 2,400 workers during peak construction, Whitman said.

Once a reactor is built, up to 700 people are needed to work at the facility, she said.

And the jobs pay well, according to CASEnergy:

- Senior reactor operator — \$85,425
- Reactor operator — \$77,782

- Electrical technician — \$67,517
- Mechanical technician — \$66,581

The state's university's and technical colleges are in position to train those workers, said Jeff Archie, vice president of operations at SCE&G's V.C. Summer Nuclear Station.

Archie said his career in the nuclear field has been rewarding.

"There are opportunities for young people today to take the same path," he said.

**Chinese fast reactor nears commissioning**  
**World Nuclear News**  
**April 7, 2009**

**The installation and adjustment of main equipment for the China Experimental Fast Reactor (CEFR) has been completed.**

The sodium-cooled, pool-type fast reactor is being constructed with some Russian assistance at the China Institute of Atomic Energy (CIAE), near Beijing, which undertakes fundamental research on nuclear science and technology. The main equipment including reactor safety systems, heat exchangers, reloaders and control devices was installed by Russia's Afrikantov OKBM, which announced the construction milestone.

The air-tightness of CEFR has already been tested. The reactor is set to be filled with sodium in May: it will have 260 tonnes of sodium in the primary loop. Fuel produced by Russia's TVEL will be loaded into the reactor July/August and it is scheduled to be commissioned by the end of 2009. The thermal power of the CEFR is 65 MW, matched with a 25 MWe turbine generator. A 600 MWe prototype fast reactor is envisaged by 2020 and there are outline plans for a 1500 MWe version by 2030. In October 2008, the Russian-Chinese Nuclear Cooperation Commission called for construction of an 800 MWe demonstration fast reactor similar to Beloyarsk 4, currently the world's only commercial fast breeder reactor.

Unlike most of the reactors used today for nuclear power generation, fast neutron reactors (FNRs) make maximum use of uranium resources by generating a certain amount more fuel than they consume. They do this by using fast neutrons to 'burn up' uranium and plutonium mixed oxide (MOX) fuel, which can be surrounded a uranium 'blanket' in which slightly more plutonium is created than is used. The MOX fuel uses the plutonium recovered when spent fuel, including that from conventional light water reactors, is reprocessed.

**Most Germans Favor Longer Nuclear Plant Use, Handelsblatt Says**  
**Bloomberg News**  
**By Nicholas Comfort**  
**April 7, 2009**

April 7 (Bloomberg) -- A majority of Germans favor scrapping early closure of the country's nuclear power plants, Handelsblatt reported, citing a survey by Accenture Ltd. Some 56 percent of the 500 people polled favored an extension and 50 percent were open to building new reactors, the newspaper said, citing the survey. Germany's previous government sought to phase out nuclear power by cutting the lifespan of plants by 50 percent to 32 years, meaning the country's 17 active plants will be shut down by about 2021.

**Areva boosts heavy component manufacturing**  
**World Nuclear News**  
**April 3, 2009**

Areva has announced plans to almost double its manufacturing capacity for heavy components for nuclear power plants at its plant in Chalon/Saint Marcel in eastern France.

The company said that it will increase annual production capacity at the plant to an average equivalent of 2.7 EPRs, up from current capacity of around 1.7. The Chalon facility produces about 12 large components per year. The gradual ramp-up in capacity will create 200 new jobs, Areva said, mainly in production activities, which will bring employee numbers to 1300.

Investment has already been made to extend the plant's facilities and support the constant adaptation of its production equipment and efforts in the fields of R&D and safety, the company said.

Areva said that the manufacturing capacity increase was needed in order to "keep pace with strong international growth."

Areva CEO Anne Lauvergeon commented, "Back in 2002, we decided to look outside our domestic market and concentrate Chalon/Saint-Marcel on producing components for the wider global market."

She added, "Today the plant is a major platform running at full steam, and Areva is spearheading the booming nuclear energy market. And we have been recruiting to keep pace with our success; last year, the group brought in more than 15,000 new hires, and our recruitment drive is set to continue."

The Chalon plant has manufactured more than 600 heavy components since it was first opened in 1973. This includes 292 steam generators, 76 reactor pressure vessels and vessel heads, and 63 replacement reactor vessel heads. More than 500 of the components are installed in French nuclear power plants and 100 in Europe, Asia, South Africa and the USA. Since opening, the Chalon plant has manufactured all the heavy components for French pressurised water reactors (PWRs).

These heavy components form the primary coolant loop of a pressurized water reactor and must withstand high temperatures, high pressures and radiation exposure with high integrity for the 60-year design life of a new power plant.

The plant also produces auxiliary components such as accumulators, auxiliary heat exchangers and supporting elements.

In October 2008, Areva announced plans to mirror its Chalon facility in Newport News, Virginia, USA in partnership with Northrop Grumman. Construction is expected start in the first half of 2009, with the facility scheduled to start up in 2011. It will not forge the largest nuclear plant components, such as reactor pressure vessels, but will take the subcomponents once forged and produce the finished items ready for installation.

## **USA to construct Jordanian storage facility**

**March 9, 2009**

### **World Nuclear News**

The USA is to design and construct a national storage facility in Amman for Jordan's radioactive waste and nuclear materials under a contract signed in Washington, DC.

The agreement between the Jordan Atomic Energy Commission (JAEC) and the US Department of Energy's (DoE's) Pacific Northwest National Laboratory (PNNL) was signed by Ned Xoubi, nuclear fuel cycle commissioner at JAEC, and Daniel Rutherford, contract manager at PNNL.

According to a statement from Jordan's embassy in Washington, under the contract, the DoE will provide JAEC with \$370,000 for the construction of the central storage facility. The project - expected to be completed later this year - will comprise some 4000 square feet of storage space that will "host Jordan's radioactive waste and nuclear sources in a safe and secure environment for the next five decades."

The statement added, "All radioactive waste will be managed, stored and monitored in strict accordance with the best international standards and the International Atomic Energy Agency (IAEA) guidelines."

Prince Zeid Ra'ad, Jordan's Ambassador to the USA, said that identifying, consolidating, and securing radioactive sources in a "safe, secure environment is in the best interest of both Jordan and the United States." He added, "We look forward to further cooperation between our two countries to continue to bring more equipment, training, and upgrades to the storage facility in Amman."

In September 2007, the USA and Jordan signed a memorandum of understanding (MoU) on cooperating on the peaceful use of nuclear energy. US secretary of energy Sam Bodman and Jordanian minister for scientific research Khaled Touqan signed the MoU on the margins of the Global Nuclear Energy Partnership (GNEP) ministerial meeting in Vienna, Austria.

Under that agreement, "the two countries will work together to develop requirements for appropriate power reactors, fuel service arrangements, civilian training, nuclear safety, energy technology and other related areas," the US Embassy in Amman said in a statement. The agreement specified that all cooperative activities will be consistent with GNEP.

The Jordanian energy minister has said that the country, which has virtually no oil or gas resources, expects to have a nuclear power plant operating by 2015, for electricity and desalination. Jordan's Committee for Nuclear Strategy has set out a program for nuclear power to provide 30% of electricity by 2030 or 2040, and to provide for exports.

In addition to its nuclear cooperation agreement with the USA, Jordan has signed similar agreements with Canada, France and UK, in respect to both power and desalination, and is seeking help from the IAEA. It has also signed a nuclear cooperation agreement with China, covering uranium mining in Jordan and nuclear power, and another with South Korea related to infrastructure including nuclear power and desalination. Jordan has also signed a preliminary cooperation agreement with Russia.

## **New poll shows strong support for nuclear power**

**Platts**

**April 3, 2009**

More than half of US adults favor new nuclear power plants, according to a survey by Public Agenda, a non-profit group that conducts public opinion research. Twenty-one percent of those surveyed "strongly favor," and 34% "somewhat favor," building more nuclear power plants in the United States, Public Agenda said in a report released April 3. The survey also revealed "significant gaps" in basic energy knowledge, the group said; 39% of respondents could not name a single fossil fuel and 56% said that "nuclear energy contributes to global warming." Interviews were conducted January 15-30 with a national random sample of 1,001 US adults, and the margin of error is plus or minus 4%. The report is available online at <http://www.publicagenda.org/pages/energy-learning-curve>.