

## **Thorium Power News Update**

**March 31, 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**

We continue to make good progress in India and the UAE, and we continue to respond to the growing global demand for non-proliferative solutions and safe, clean and responsible nuclear power. The Gulf region continues to attract attention from global nuclear companies and yesterday I participated in a panel session on renewable energy at the MEED Arabian Power & Water Summit in Abu Dhabi. Ernie Kennedy of Thorium Power joined me in presenting a workshop on nuclear energy deployment as part of the conference.

In other news, we recently announced our financial results for the fourth quarter and year ended December 31, 2008. Revenue for the twelve months ended December 31, 2008 was \$22.2 million. Operating loss for the twelve months ended December 31, 2008 was \$3.0 million. Operating loss for the twelve months ended December 31, 2008 included approximately \$6.6 million of non-cash items. Net loss for the twelve months ended December 31, 2008 was \$2.9 million. Excluding the impact of non-cash items, adjusted net income for the twelve months ended December 31, 2008 would have been \$3.7 million. As of December 31, 2008, Thorium Power had approximately \$5.6 million of cash and cash equivalents and \$6.8 million of working capital. Since launching our nuclear advisory services in early 2008, the practice has provided over \$22 million in revenues. Our proprietary, nuclear fuel designs are also progressing. We are moving forward with preparations of preliminary licensing documentation for our VVER fuel assembly design required for regulatory approval of our lead-test assembly testing in a VVER-1000 reactor.

We continue to educate the industry and financial community about our unique mission and capabilities. Ambassador Thomas Graham, Thorium Power's Executive Chairman, maintained his busy speaking schedule and participated in various events including "Iran and the Nuclear Threat" at the U.S. Air Force Academy in Colorado Springs, CO, and "The Nuclear Nonproliferation Treaty; its Place in History" event at the Atomic Heritage Museum in Washington DC. Meanwhile, Ambassador Dennis K. Hays participated in an MIT Energy Conference panel titled "Thorium Power at Right-Sized Reactors" as well as the "Building Human Capacity for Safe and Secure Nuclear Power" event organized by the U.S. Civilian Research & Development Foundation.

#### **Media Coverage – Spotlight**

On the media front, Thorium Power was the subject of a key article in a special ("Energy and Environment") edition of *US News & World Report*. In "Trying to Make Nuclear Power Less Risky", Kent Garber focused considerable attention on the potential benefits

offered by thorium-based fuel and stated the following: “[Thorium-based fuel] is getting a serious second look from some powerful global players. With interest in nuclear power soaring, thorium is being re-examined as a potential solution to—or at least a palliative for—some of the industry's daunting problems, particularly the production of hazardous radioactive waste.” Garber’s assessment took into account the current push towards sustainable energy solutions and advanced nuclear technologies: “With nuclear energy generating new interest in Washington these days, thorium’s backers may find a more receptive audience.”

### **Industry Developments**

Pro-nuclear sentiments continue to rise and there were a number of important surveys throughout March. First, a Gallup survey revealed that support for nuclear energy in the United States is at the highest level ever. In a “telephone survey of 1012 adults, [Gallup found that] some 59% said they somewhat or strongly favored the use of nuclear energy as a means of generating electricity.” Meanwhile Accenture’s “Multinational Nuclear Power Survey” revealed that “88 percent of the more than 10,500 respondents said reducing reliance on fossil-fueled power generation was "important" or "very important" to improve energy security and trim emissions of carbon dioxide, a greenhouse gas blamed for climate change.” Finally, a Nuclear Energy Institute survey (conducted by Bisconti Research and GfK NOP) found that “84% of respondents thought that nuclear energy will be important in meeting the USA's future energy needs.” In other developments, Dr. Steven Chu, the Energy Secretary, restated the Obama administration’s commitment to nuclear power following the Yucca Mountain decision: “Nuclear is going to be part of our energy future. It has to be.”

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**  
**March 31, 2009**

**Media Coverage**

**Company News**

**US News & World Report – Trying to Make Nuclear Power Less Risky (03.25.09) –**

In this extensive analysis, Kent Garber outlines the major benefits of thorium fuel and notes the following: “[Thorium is getting a serious second look from some powerful global players. With interest in nuclear power soaring, thorium is being re-examined as a potential solution to—or at least a palliative for—some of the industry’s daunting problems, particularly the production of hazardous radioactive waste.” Garber’s assessment takes into account the current push towards sustainable energy solutions and advanced nuclear technologies: “With nuclear energy generating new interest in Washington these days, thorium’s backers may find a more receptive audience.”

**Industry News**

**The National (UAE) – Decision Time for the Emirates (03.29.09) –** The National reports on the UAE program and notes the following: “The good news is that the Emirates is slightly ahead of the pack. If tendering goes as planned in the third quarter, construction will start next year for start-up of the first reactor in 2017. That timetable should put it ahead of many other atomic aspirants, making it the first Arab nation to harness the power of nuclear fission.”

**Boston Globe – The Coming Nuclear Renaissance (03.29.09) –** Globe columnist Jeff Jacoby points to the “coming nuclear renaissance” and notes that “30 years after Three Mile Island, the nuclear future looks brighter than it has in a long time.... [right] now, 104 commercial reactors generate 20 percent of America’s electricity. As the war against the atom continues to wind down, expect to see those numbers go up.”

**USA Today – Nuclear power inches back into energy spotlight (03.29.09) –** Paul Davidson comments on the recent activity in the US nuclear industry and the potential therein: “Utilities are poised to build a new generation of nuclear plants 30 years after the Three Mile Island accident... The momentum is being driven by growing public acceptance of relatively clean nuclear energy to combat global warming.”

**World Nuclear News – Money no object for Indian reactor plans (03.25.09) –** WNN reports that “plans to deploy new reactors in India look strong after key officials indicated the funds required were forthcoming. SK Jain, the chair of the Nuclear Power Corporation of India, Ltd., reportedly stated that fifteen international finance institutions have expressed interest in new plant construction projects.

**World Nuclear News – Support for reprocessing and action on waste (03.26.09) –** WNN reports on a recent NEI survey (conducted by Bisconti Research and GfK NOP), which found that “84% of respondents thought that nuclear energy will be important in meeting the USA’s future energy needs. The same percentage of those questioned also supported the relicensing of existing reactors, proving they meet federal safety standards.”

**World Nuclear News – Record support for American nuclear (03.26.09) – WNN** discloses the findings of a recent Gallup survey, which revealed that support for nuclear energy in the USA is at the highest level ever found by the organization. In a “telephone survey of 1012 adults this month, some 59% said they somewhat or strongly favoured the use of nuclear energy as a means of generating electricity.”

**Reuters – Sentiment toward nuclear power improving: study (03.17.09) – Reuters** reports on Accenture’s “Multinational Nuclear Power Survey,” which revealed that “88 percent of the more than 10,500 respondents said reducing reliance on fossil-fueled power generation was “important” or “very important” to improve energy security and trim emissions of carbon dioxide, a greenhouse gas blamed for climate change”. Consumers around the world, “worried about reliable energy supplies and pollution, said their countries should use less oil, natural gas and coal to make electricity and use more nuclear and renewable power.”

**Associated Press - Chu: Nuclear must be part of energy mix (03.11.09) – AP** focuses attention on Steven Chu, the Energy Secretary, following the administration’s rejection of the Yucca Mountain proposal. The article notes that Dr. Chu “sought to assure skeptical senators that the Obama administration supports continued development of nuclear energy, even as it backs away from building a nuclear waste dump in Nevada.” Dr. Chu made the following statement: “Nuclear is going to be part of our energy future. It has to be.”

**Decision time for Emirates nuclear plan**  
**By Tom Ashby**  
**The National (UAE)**  
**March 31, 2009**

Over the next few months, the Emirates will make one of the most important strategic decisions concerning its energy industry this century, and it has nothing to do with oil.

When the government laid out last year a strategy to pursue a peaceful civilian atomic power programme – aiming to set a “gold standard” for non-proliferation, transparency and safety – the response from allied governments was overwhelmingly positive.

Many signed memorandums of understanding to support the plan and a few drew up bilateral nuclear trade treaties that put them at the front of the queue to become strategic partners.

Now comes the task of choosing the team that will design, build and operate a fleet of light water reactors for the Emirates, a decision that will create a strategic energy partnership destined to last a century.

Based on the duration of this partnership alone, the choice is more momentous than the decision by Sheikh Shakhbut, the former Ruler of Abu Dhabi, to sign 75-year oil concessions with foreign prospectors before the Second World War. The fact that the oil concessions are still valid in 2009 has given Abu Dhabi a reputation for contractual stability which also means it is able to drive a hard bargain when it comes to new projects.

Having pre-qualified about two dozen companies for the nuclear programme, the Government will next month shortlist two or three integrated teams that will participate in the tender itself, which is due to take place by September. The French, Japanese, South Koreans and Americans are all in the running for a partnership that could be worth US\$60 billion (Dh220bn) or more. It involves the design, construction and operation of a fleet of nuclear reactors that will provide a baseload of power for the nation’s development for at least six decades.

If you add a possible extension of 20 years for each station, a decade of construction and another decade for decommissioning spent fuel, the true scale of the partnership becomes clear.

Not only will the programme provide much-needed power, but also tens of thousands of skilled jobs and opportunities to develop a “nuclear quality” services sector, supplying top grade materials such as steel and concrete. France is the only country that has signed all of the treaties necessary to engage in nuclear trade with the UAE today, but Japan, South Korea and the US have signed preliminary agreements and are expected to wrap up the formal bilateral paperwork if their companies make the shortlist.

Maximum participation is crucial for the Emirates if it is to get good value, as it has done with oil.

There are many pitfalls.

The cost of the programme will be central, but other factors such as the use of tried and tested technology, ability to deliver on time and political support are also indispensable.

France uses nuclear power for about 70 per cent of its energy needs and its leading builder is Areva. But even this experienced company has gone back to school with a project now under construction in Finland.

The Olkiluoto reactor is the first to be built in western Europe in more than a decade, and it shows. Costs for the 1.6 megawatt plant have ballooned by 50 per cent to €4.5 billion (Dh21.82bn) and completion has been delayed by three years.

Things have got so bad that the parties are now in court.

The US has the largest nuclear fleet in the world, but its expertise has suffered from a moratorium on new reactors that dates back to the meltdown at the Three Mile Island plant in 1979.

Florida Power and Light has proposed building a plant, but its budgeted costs have already been increased by about 50 per cent to between \$3,900 and \$5,000 per kilowatt hour because of the huge cost of delays caused by litigation by opponents of nuclear power. These costs are in danger of making nuclear power uncompetitive with fossil fuels in nations where the anti-nuclear lobby holds sway.

In South Korea and Japan, utilities have managed to achieve the lowest building cost worldwide, roughly \$2,500 per kilowatt hour, thanks to decades of continuous construction using proven designs. The Emirates, being new territory for this technology, will not achieve these levels of savings immediately, but experts are hoping to achieve \$3,500 per kilowatt hour over the decade-long building programme, which would equate to about \$5bn for a 1.5 megawatt plant.

The final factor is deliverability. After three decades of moratoriums in much of Europe and America, there are serious questions over the availability of skilled manpower and specialised materials.

The good news is that the Emirates is slightly ahead of the pack. If tendering goes as planned in the third quarter, construction will start next year for start-up of the first reactor in 2017. That timetable should put it ahead of many other atomic aspirants, making it the first Arab nation to harness the power of nuclear fission.

**The Coming Nuclear Renaissance**  
**By Jeff Jacoby**  
**Boston Globe (Editorial)**  
**March 29, 2009**

Thirty years ago this month, an accident at the Three Mile Island plant in Pennsylvania inflamed public opposition to nuclear power. The mishap - a loss of coolant that caused the reactor core to overheat - caused no known deaths or diseases, and it exposed area residents to only a negligible amount of radiation. But it fueled an antinuclear frenzy that soon brought the expansion of the industry to a halt.

Dozens of planned reactors were canceled. In the years since Three Mile Island, not a single nuclear plant has been ordered and built in the United States.

Yet far from being washed up, atomic power seems poised for a renaissance. Consider:

\* According to a new Gallup poll, 59 percent of Americans favor nuclear energy - a new high - and 27 percent say they strongly favor it. The attitude is bipartisan, with majorities of both Republicans and Democrats supporting nuclear power.

\* Other surveys have found even higher levels of support. According to a 2008 Zogby poll, 67 percent of Americans favor the construction of new nuclear facilities, and are much more likely to back a nuclear-powered electric plant over one fueled by natural gas, coal, or oil.

\* In the recent presidential campaign, both candidates expressed support for nuclear power. John McCain made a point of praising the French, who derive nearly 80 percent of their electricity from nuclear plants. Though more measured, Barack Obama agreed that "we should explore nuclear power as part of the mix," as he declared in an early Iowa debate.

\* While Obama has said little about nuclear power since becoming president, his energy secretary has been unequivocal. "The nuclear industry has to be part of our energy mix," physicist Steven Chu said during his confirmation hearings. "It's 20 percent of our [total] electricity production today, but it's 70 percent of the carbon-free electricity we produce."

\* Accenture, the consulting giant, reports growing worldwide support for nuclear energy. In a survey it conducted of more than 10,000 people in 20 nations, 69 percent wanted their countries to begin or expand the use of nuclear power. Pronuclear sentiment was strongest in India (67 percent), China (62 percent), and the United States (57 percent).

\* In recent months, Italy and Sweden have reversed longstanding policies against nuclear power; both are drawing up plans to construct new plants. Meanwhile, dozens of nuclear reactors are already under construction in other countries, including China, Russia, and Finland. "Among those contemplating building their first ones," reports The Economist, "are Turkey, the United Arab Emirates, Indonesia, and Belarus."

\* In the last two years, the US Nuclear Regulatory Commission has received 17 applications for 26 nuclear reactors. Proposals for six additional reactors are pending.

There is no small irony in this turnabout. Nuclear power used to be the environmentalist's ultimate pariah, thanks mostly to overblown claims about the dangers of reactor meltdowns and nuclear waste. But now the green movement has a new pariah - fossil fuels and their carbon dioxide emissions. To many environmentalists alarmed about global warming, nuclear power has an irresistible appeal: It releases no greenhouse gases. Indeed - another irony - nuclear power plants don't even release as much radiation as coal-fired plants, since coal ash is more radioactive than nuclear waste.

As a result, some of the world's most ardent Greens have come around to embracing nuclear power.

"Only nuclear power can now halt global warming," wrote James Lovelock, the father of the celebrated Gaia theory, which regards the Earth and life on the planet as one complex, interacting "organism," in 2004. In *Wired* magazine the following year, a much-discussed article - "Nuclear Now!" - made the case that only "clean, green atomic energy can stop global warming."

The problems with nuclear energy have not vanished. To build a nuclear plant is an expensive undertaking, the disposal of spent fuel rods remains politically contentious, and at least some environmental activists will continue to do what they can to exacerbate fear of nuclear power's dangers.

But 30 years after Three Mile Island, the nuclear future looks brighter than it has in a long time. Right now, 104 commercial reactors generate 20 percent of America's electricity. As the war against the atom continues to wind down, expect to see those numbers go up.



## **Nuclear power inches back into energy spotlight**

**By Paul Davidson**

**USA Today**

**March 29, 2009**

*The nation's nuclear power industry — stuck in a decades-long deep freeze — is thawing.*

Utilities are poised to build a new generation of nuclear plants 30 years after the Three Mile Island accident, whose anniversary was Saturday, halted new reactor applications. The momentum is being driven by growing public acceptance of relatively clean nuclear energy to combat global warming.

Several companies have taken significant steps that will likely lead to completion of four reactors by 2015 to 2018 and up to eight by 2020. All would be built next to existing nuclear plants.

Southern Co. (SO) says it will begin digging an 86-foot-deep crater this June in Vogtle, Ga., to make way for two reactors after recently winning state approval, though it won't pour concrete until it gets a federal license, likely in 2011. At least five power companies have signed contracts with equipment vendors. And Florida and South Carolina residents this year began paying new utility fees to finance planned reactors.

The steps signal that a nuclear renaissance anticipated for several years is finally taking shape. Seventeen companies have sought U.S. federal approval for 26 reactors since late 2007. All have enhanced safety features.

"The resurgence of nuclear energy is underway," says Steve Kerekes of the Nuclear Energy Institute, an industry trade group.

Whether it will yield a flood of new reactors or a trickle will largely depend on the success — or failure — of the initial wave.

Nuclear a 'better option' now?

The industry believes it can avoid the billions in cost overruns and years of delays that marred nuclear construction in the 1970s and 1980s. Licensing has been streamlined. Utilities are seeking firmer costs and schedules. And designs are more detailed.

Still, some hurdles are emerging. Some companies are submitting incomplete applications or seeking design changes at the Nuclear Regulatory Commission (NRC), possibly delaying approval. At least two utilities recently said they're switching to different reactor models because they couldn't receive assurances on costs and the timetable. And since several models are new, problems could emerge as they're built in the USA for the first time. The type of reactor planned for Maryland is being built in Finland, where it's three years behind schedule and \$2 billion over budget.

"We're talking about a new generation of technology," says John Reed, CEO of Concentric Energy Advisors. "You have to demonstrate to (lenders) that you can make money with these."

Nuclear plants are hugely expensive, and the credit crisis has all but sealed lenders' wallets. The success of the resurgence also hinges on companies' ability to obtain financing.

Nuclear officials are taking comfort in some encouraging signals from the Obama administration. During his campaign, then-candidate Barack Obama seemed cool to nuclear energy, saying waste storage concerns must be solved before the nation builds new plants. Although the new administration has said Yucca Mountain northwest of Las Vegas is no longer a storage option for the waste, Energy Secretary Steven Chu told Congress this month that nuclear "has to be" part of "our energy future." Waste, he said, can be stored at reactor sites "for decades."

Unlike power plants fueled by coal and even cleaner natural gas, nuclear reactors emit none of the heat-trapping gases blamed for global warming. Obama strongly favors capping global-warming emissions from fossil fuel plants, which would boost nuclear's prospects. Renewable energy is popular but intermittent.

Today, 104 reactors supply 20% of the nation's electricity. Just to hold that share, all 26 proposed reactors would have to be completed by 2030. And to meet global-warming goals, 42 reactors should be built the next two decades, according to the Electric Power Research Institute. Reed says that's possible if the first wave goes well. A new Gallup Poll shows a record 59% of Americans favor nuclear energy.

Here's the rub: Nuclear reactor costs have doubled in the past three years to as much as about \$8 billion, Moody's Investors Service says. They're twice as expensive as coal-fired plants and triple the cost of natural-gas plants. Reactors also are far more complex, taking up to 10 years to license and build vs. a couple of years for gas-fired plants.

Yet, nuclear plants are far less costly to operate, and the fuel, uranium, is cheaper than coal and natural gas. South Carolina Electric & Gas chose nuclear instead of natural gas to meet some of its power needs because it could produce electricity at retail rates of about 8 cents a kilowatt hour vs. about 10 cents with gas. That's after figuring in subsidies such as production tax credits and before adding potential fees on gas plants for emitting CO<sub>2</sub>.

"Nuclear came out to be a better option," says Stephen Byrne, nuclear chief for SCE&G, which plans two reactors near Columbia, S.C. "The cost of natural gas fluctuates pretty wildly."

Trying to avoid past mistakes

The industry is recovering from a harrowing past. After the Three Mile Island accident in central Pennsylvania — which led to no deaths or known injuries, but caused a small radiation leak from the plant — the NRC passed sweeping new safety rules. Inspectors forced utilities to rip out pipes and install back-up pumps or generators midconstruction. Since utilities didn't submit designs before building, each reactor was custom built, further burdening the NRC.

Companies built plants so quickly to meet rising power demand that blueprints were only about 20% complete when construction began. Contractors redid work on the fly, causing delays. Double-digit interest rates drove up already swollen costs.

Compounding the problem: The NRC first issued a license to build a reactor, then a separate license to operate it. Utilities that completed plants had to wait for an operating license before they could sell electricity and recoup their investments.

Nationwide, state regulators denied utilities' petitions to recover \$18 billion in cost overruns. Some went bankrupt.

Under new rules, power companies can apply for one license to both build and operate a nuclear reactor, streamlining the review. Designs must be approved separately before construction begins. And power companies are using just five blueprints. Regulators hope they'll churn out cookie-cutter versions of each design. Yet, even as they seek licenses, only two of the five designs have been certified.

"They're putting the cart before the horse," NRC Commissioner Gregory Jaczko says. "They should get the design done" before applying for a license. Also, he says, some reactor makers are proposing extensive modifications to their designs. Westinghouse, for instance, wants to make about 100 changes to its AP1000 reactor, says Vice President Ed Cummins. He says they're largely minor.

Other key challenges:

- On time, within budget To avoid cost overruns, power companies want to lock in prices and put the onus on equipment vendors to pay added fees if a project is delayed. Vendors are reluctant to set prices because the reactors lack a track record, and it's impossible to predict the cost of labor and materials when construction starts in a few years.

NRG (NRG), an independent power producer that's building two reactors in Texas, has signed a contract with Toshiba that nails down most costs, says Steven Winn, CEO of the NRG unit building the plant. That's possible, he says, because Toshiba owns 12% of the venture and has already built four of the same model units, called an ABWR, in Japan.

Others are having mixed success at locking in terms. Exelon, for instance, recently said it was no longer going to use a General Electric Hitachi reactor because GE (GE) couldn't sufficiently guarantee fixed prices and a firm schedule. "We have to be careful and pragmatic" about risks, says GE Vice President Danny Roderick.

- Elusive financing. With lenders hesitant to take chances on nuclear energy, 10 companies seek a total of \$93 billion in federal loan guarantees for new nuclear plants. But only \$18.5 billion is available — enough to finance three or four projects.

NEI President Marvin Fertel told Congress this month that independent power producers would likely abandon projects if the entire \$93 billion is not funded, slowing the nuclear revival.

Bill Wicker, spokesman for the Senate Energy committee, says guarantees are meant to bankroll only the maiden versions of new models. No more than another \$18 billion is likely to be funded, he says. "It's not like a bottomless cup of coffee."

Loan guarantees are less critical for regulated utilities, such as Southern and SCE&G, that have state clearances to recover some of their costs from ratepayers before construction is completed. In Florida, Progress Energy (PGN) customers began paying an extra \$14.53 a month in January to finance two reactors. Missouri is among states considering such cost-recovery legislation, but lawmakers are divided. Ameren says it won't build a new reactor without it. "You'd get laughed off Wall Street," says Senior Vice President Richard Mark.

- Avoiding construction snafus. Manufacturers are trying to avoid the missteps of the first construction era. Three-dimensional computer images tell engineers precisely where pipes should go. GE and Westinghouse say 70% to 80% of their designs will be done before they break ground. And makers are increasingly building modular parts in the factory, cutting costs and minimizing mistakes on site. Westinghouse says 30% of its AP1000 reactor is modular.

Still, "When you're building (a new model) for the first time, yes, there's risk," says Jone-Lin Wang of Cambridge Energy Research Associates.

The delays and cost overruns plaguing Areva's EPR unit in Finland were partly related to concrete that failed inspection. "We're quite confident we're learning from" the Finnish experience, says Michael Wallace, chairman of UniStar, the Constellation Energy (CEG) unit building an EPR in Lusby, Md.

- Tight supplies. Only one company, Japan Steel Works, builds the 600-ton steel forgings used to make reactor vessels. It can make only five or six a year. Southern, SCE&G, NRG and Constellation have spent tens of millions of dollars reserving such items. Those building reactors after the front-runners could face bottlenecks, Standard & Poor's says. But Japan Steel Works has said it's expanding its capacity by about a third, while others are entering the market. In the U.S., factories to make nuclear parts are being built in Virginia, Louisiana, Indiana and Tennessee.

- Fewer workers. New reactors are likely to strain a pool of nuclear workers depleted by the construction hiatus. About 100,000 new workers would be needed to build and staff the 26 proposed reactors. Meantime, 35% of the current workforce is eligible to retire in five years.

The NEI notes utilities have teamed with community colleges to train workers. Still, a likely shortage of specialized workers, such as nuclear welders, could drive up wages and construction costs, says consultant Steve Rus of Black & Veatch.

Overall, Reed says the risk of delays and cost overruns is "far less" now. Yet, some companies are waiting before deciding to build. In Texas, Luminant says it will monitor the status of natural gas prices and carbon caps. Ameren wants to see if the first plants are successful. That's why the utility didn't want "to be in that first wave of plants," says Ameren nuclear executive Scott Bond.

**Money no object for Indian reactor plans**  
**World Nuclear News**  
**March 25, 2009**

Plans to deploy new reactors in India look strong after key officials indicated the funds required were forthcoming.

Nuclear Power Corporation of India Ltd (NPCIL) and Areva have a memorandum of understanding to work towards an EPR-based nuclear power plant at Jaitapur, with two 1600 MWe reactors as a starting point but potential to expand to eight. The maximum total capacity of 9600 MWe would place Jaitapur ahead of any other nuclear facility in terms of power production.

NPCIL chair S K Jain said in a telephone interview with Bloomberg that the company had invited foreign banks to express their interest in the project. Fifteen international finance institutions including ten from France responded, said Jain, adding, "Our expression was for €3 billion but we have got commitments for €8 billion."

Kumar elaborated that debt was to fund 70% of the project with the remainder coming from NPCIL's cash reserved of 110 billion rupees (\$2.1 billion).

The project with Areva is just one of a massive program of nuclear build planned in India. Nuclear trade restrictions on India were lifted last year and delegation after delegation of foreign firms has visited since then. The business is mutually beneficial: Global reactor firms want to sell their wares, while Indian manufacturers want to win contracts to supply reactor components internationally. India itself, through NPCIL, wants to secure its electricity supplies with new reactors and long-term contracts for uranium fuel.

Most recently, GE Hitachi signed agreements with NPCIL as well as Bharat Heavy Electricals for the manufacture and construction of its Advanced Boiling Water Reactor.

Atomic Energy of Canada Ltd has also agreed to team up with Larsen & Toubro (L&T) for analyses of its ACR-1000 power reactor in the Indian context. L&T has also signed a memorandum towards a major role in the manufacture of components and modules for Westinghouse's AP1000.

Already present in the Indian market under special agreements, the Russian nuclear industry will be providing two more of its VVER-1000 units at Kudankulam.

**Support for reprocessing and action on waste**  
**World Nuclear News**  
**March 26, 2009**

A clear majority of US citizens would support recycling and reprocessing of used nuclear fuel, according to a new opinion poll which also found good all-round support for nuclear.

The survey - conducted by Bisconti Research and GfK NOP on behalf of the Nuclear Energy Institute (NEI) - found that 84% of respondents thought that nuclear energy will be important in meeting the USA's future energy needs. The same percentage of those questioned also supported the relicensing of existing reactors, proving they meet federal safety standards.

On general questions it was found that over two-thirds of US citizens support nuclear energy, with the majority of people considering nuclear power plants to be safer now than at the time of the Three Mile Island accident 30 years ago.

Sixty-nine percent of respondents said that they favour the use of nuclear energy as one way of generating electricity in the USA, with 30% saying they strongly supported its use. Just 12% of people said they strongly opposed the use of nuclear energy.

The survey also found that 62% of people agreed that the USA should definitely construct more nuclear power plants in the future, compared with 34% opposed to this.

With regards to the safety of the country's nuclear power plants, 76% of people said they considered them to be safe and secure, as opposed to 21% who did not. 83% of respondents said that they thought the plants are safer now than when the Three Mile Island accident happened on 28 March 1979. 46% said that safety had improved a lot since then, while 12% said that safety was about the same. Only 4% said they thought nuclear plants were now less safe.

#### Waste and recycling

While most people (63%) said that nuclear waste could safely be stored at plant sites until moved to a permanent disposal facility, 80% of those questioned thought it more appropriate for the waste to be stored at one or two volunteer sites where it can be stored more securely and efficiently.

Even though the Obama administration has said that it will not proceed with the Yucca Mountain waste repository in Nevada, 77% of respondents thought the government should continue to develop the facility as long as it meets federal regulations. In addition, 89% of those questioned said that a panel of independent experts should be established to advise President Obama and Congress on how best to manage the country's nuclear waste over the long term. The high rates of response to both questions indicate a strong desire to see the issue of radioactive waste settled.

Some 83% of people also said they supported US plans to recycle used nuclear fuel rods in order to generate more electricity and reduce the amount of waste to be disposed of. Just 13% are opposed to this plan.

The telephone poll of 1000 adults across the country was conducted between 12 and 15 March.

Ann Bisconti, president of Bisconti Research, commented: "The strong public support shown for nuclear energy - and the fact that support is being sustained at levels as high as they have been in the 26 years that I have been conducting public opinion research on this topic - indicates a real change. The levels of support found for nuclear energy in recent months really are unprecedented."

She added, "The poll found that the public is more concerned today about jobs, economic growth and energy independence than about global warming and air pollution. Clearly though, they see nuclear power as one of the ways to address all these challenges."

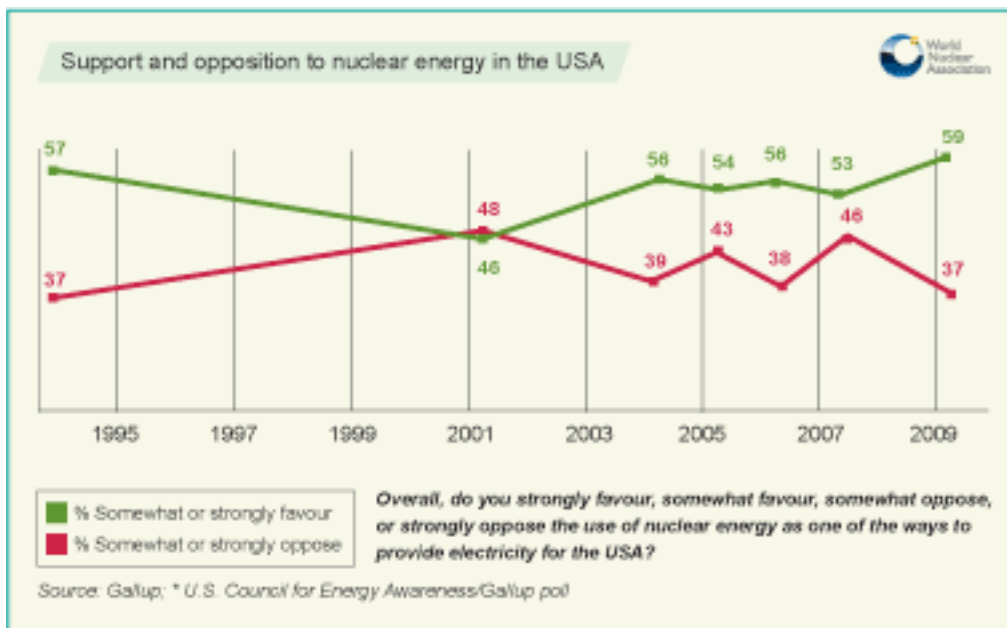
The publication of the NEI poll results closely follows those of a survey by the Gallup polling organisation. That poll found that some 59% said they somewhat or strongly favoured the use of nuclear energy in the USA as a means of generating electricity. This, Gallup said, is the highest level of support ever found in its polls.

## Record Support for American Nuclear World Nuclear News March 23, 2009

Support for nuclear energy in the USA is at the highest level ever found by the Gallup polling organisation.

In a telephone survey of 1012 adults this month, some 59% said they somewhat or strongly favoured the use of nuclear energy as a means of generating electricity. The figure is the highest ever found by Gallup, although it only edges out support levels in 1994, 2004 and 2007 by a few percent. The same question found opposition to nuclear at a joint record low of 37%. In all the Gallup polls since 1994, the proportion of people reporting no opinion on nuclear power was always 7% or under.

Opinion poll, USA, March 2009



In common with many other national opinion polls on nuclear, it can be seen that levels of support and opposition tend to move simultaneously. This indicates a relatively large body of people have no strong opinion on nuclear power and their stance changes with current affairs.

Nuclear found a clear majority of support among males, 71%, while females recorded lower levels of 47%. Safety remained a concern for respondents, with 42% considering the plants to be unsafe, against 56% who said they were comfortable with nuclear safety. Again, Gallup noted a large difference between the sexes: 72% of men consider nuclear power to be safe, but only 41% of women.



## **Sentiment toward nuclear power improving: study**

**By Eileen O'Grady**

**Reuters**

**March 17, 2009**

Consumers around the world, worried about reliable energy supplies and pollution, said their countries should use less oil, natural gas and coal to make electricity and use more nuclear and renewable power, according to a 20-country survey by Accenture.

In Accenture's Multinational Nuclear Power Survey, 88 percent of the more than 10,500 respondents said reducing reliance on fossil-fueled power generation was "important" or "very important" to improve energy security and trim emissions of carbon dioxide, a greenhouse gas blamed for climate change.

Electricity from wind, solar and other renewable sources was seen as one way to pare the need for fossil-fueled electricity. More than a third of respondents said more power from nuclear plants will also be needed.

"U.S. and global aspirations for lower-carbon, or zero-carbon electricity, are unattainable without nuclear in the mix," said Daniel Krueger, an Accenture managing director for the global generation and energy markets group.

New York-based Accenture, a global management consulting and technology firm, works with nuclear industry clients, primarily in information technology.

Nearly three-fourths of those surveyed said nuclear power will play an important role in meeting future electric demand, including 93 percent of Indians, 80 percent of Americans, dropping to 62 percent of Canadians and 51 percent of Germans.

In the United States, 73 percent of the respondents said it would be acceptable to build a new reactor within 100 miles of their home, but only 47 percent said construction of a new reactor within 25 miles would be acceptable.

Krueger said while U.S. consumers were most willing for new reactors to be built at existing sites, opposition to nuclear power remained strong in densely populated Northeastern states.

Overall, men endorsed the use of more nuclear while women raised the most concern about nuclear safety issues, waste disposal and potential terrorism, according to the survey.

In many countries public sentiment toward nuclear power has softened over the past three years, Accenture said.

People surveyed in China and South Africa were the most supportive of adding nuclear capacity while, surprisingly, consumers in France, Japan and Germany were more negative.

In a warning to the industry, Krueger attributed the erosion in support on public reaction to recent nuclear plant operating problems in Japan and France.

"An incident anywhere in your country can quickly erode support for nuclear and a major incident anywhere in the world -- if not handled in a forthright manner -- could undermine the entire global industry," Krueger said.

(Editing by David Gregorio)

**Chu: Nuclear must be part of energy mix**  
**By H. Josef Hebert**  
**Associated Press**  
**March 11, 2009**

WASHINGTON (AP) — Energy Secretary Steven Chu sought Wednesday to assure skeptical senators that the Obama administration supports continued development of nuclear energy, even as it backs away from building a nuclear waste dump in Nevada.

"Nuclear is going to be part of our energy future. It has to be," Chu told members of the Senate Budget Committee at a hearing in which a half dozen senators, Republicans and Democrats, raised concerns about the administration's support for nuclear power.

Each time Chu gave a similar assurance, even as he reiterated that the administration has every intention of pulling the plug on a proposed nuclear waste site at Yucca Mountain.

"You can see the reason for some of the skepticism," Sen. Lamar Alexander, R-Tenn., told Chu.

"I don't want to save Yucca. I accept the fact that may not be viable," said Sen. Judd Gregg of New Hampshire, the committee's ranking Republican. However, he said he was concerned about the administration's degree of support for building new reactors.

Chu said he is ready to act on loan guarantees for the first group of new reactors and plans on "moving very aggressively to getting the money out the door." Congress in 2005 authorized \$18.5 billion in loan guarantees for new reactors, but none of the applications has yet to be approved.

Still, Chu said the administration is determined to move in a new direction on how to deal with the thousands of tons of waste in the form of used reactor fuel now being kept at power plants.

Chu said the material can be kept safely "for decades" at reactor sites. And he said he hopes to have a recommendation from a special panel on alternatives to Yucca Mountain and long-term nuclear waste disposal before the end of the year. He said he will soon name members to the planned panel.

"I believe in nuclear power as a central part of our energy mix. It provides clean, baseload electricity," Chu told the hearing.

Sen. Mike Crapo, R-Idaho, nevertheless, said he was worried about "subtle signals that raise concern" about the administration's support of nuclear energy, particularly its opposition to endorsing reprocessing of nuclear waste.

"Closing the fuel cycle is something we want to do," replied Chu, referring to future reprocessing of waste so it can be recycled.

But Chu said more research is needed because current methods of reprocessing used in Japan and Europe raise concerns about nuclear proliferation because they produce pure plutonium.

Obama's proposed budget calls for eliminating funding for the Yucca Mountain nuclear waste project 90 miles northwest of Las Vegas, except for money needed to respond to questions from the Nuclear Regulatory Commission on a Yucca license application the Bush administration submitted last year.

Chu dismissed suggestions that the license application be withdrawn. He said the application process could provide an insight as to what the NRC will require of a future nuclear waste strategy.