

Double Nuclear by 2040 Says Exxon

(Continued on Page 6)

September 13, 2013. World electricity demand is likely to grow by over 80% by 2040, and nuclear energy capacity will need to double to help to meet it, according to figures from Exxon Mobil. The company's analysis triggered a lively exchange at the WNA Annual Symposium in London.

Exxon Mobil's 2013 Outlook for Energy bases its findings on data from 100 countries across the globe, looking at 15 demand centers and 20 fuel types. It also takes into consideration the technology and policy issues underpinning the world's energy situation, Exxon Mobil technology advisor David Khemakhem explained to delegates at the World Nuclear Association's Annual Symposium. Latest figures indicate that, with world population anticipated to be close to 9 billion by 2040, energy demand will continue to increase. Electricity demand will drive that growth. Exxon's figures suggest that world nu-

clear capacity could be set to double to help meet that demand, as the cheapest form of low-CO2 electricity generation: other options such as onshore wind and solar photovoltaics have significant knock-on grid costs, Khemakhem remarked.

Exxon Mobil's figures spurred a lively and wide-ranging debate amongst Khemakhem's fellow speakers in a panel discussion on energy and nuclear power. Ron Cameron, head of nuclear development at the OECD Nuclear Energy Agency (NEA), led a call for greater transparency over prices across the energy sector. Growth in renewables of the scale seen in recent years had been made possible through subsidies, but the way subsidies had been handled in some countries had been an "economic disaster", he said. Consumers were effectively being asked to pay for the transition into renewables, he said, pleading for the hidden costs of renewables to be made clear,

Inside this issue:	
Double Nuclear by 2040 Says Exxon	1, 6
Ex-TVA Executive Pleads Guilty to Sending Money to Iran in Violation of U.S. Sanctions	1, 2
Florida Regulators Approve Settlement That Makes Customers Pay for Shuttered Nuclear Plants	3
Watts Bar 2 Reactor Construction On Track for 2015 Completion	4
Mitsubishi to Defend US\$4bn US Nuclear Plant Claim	4, 5
Japan Nuclear-Free as Last Reactor Switched Off	5
Nuclear Waste Lurks Beneath Arctic Ice	6
Nuclear Ship Takes Olympic Flame to North Pole	6
NWI News Update	7

Ex-TVA Executive Pleads Guilty to Sending Money to Iran in Violation of U.S. Sanctions



September 8, 2013. The former head of one of America's biggest nuclear power construction programs admitted Wednesday that he illegally sent money to Iran in violation of U.S. sanctions.

Masoud Bajestani, the Iranian-born nuclear engineer who previously served as a TVA vice president in charge of finishing the Unit 2 reactor at the Watts Bar Nuclear Plant, agreed to forfeit the \$600,000 authorities said he illegally sent to Iran from 2008 to 2010. Bajestani now faces up to five years in prison for violating U.S. sanctions imposed after Iran refused to suspend its uranium enrichment program. Bajestani

pleaded guilty Wednesday to a single count of conspiracy to violate the International Emergency Economic Powers Act and two counts of filing false income tax returns. He was arrested in December 2012 when he returned from a visit to Iran and was subsequently charged with 11 counts of illegal money shipments and tax payments. Bajestani previously had pleaded not guilty to the charges, which could have cost him penalties of up to \$1.25 million and up to 20 years in prison. Bajestani, who once owned a \$330,000 house in Apison where he lived with his second wife, was in charge of TVA's initial \$2.5 billion comple-

(Continued on Page 2)

Ex-TVA Executive Pleads Guilty to Sending Money to Iran in Violation of U.S. Sanctions

(Cont. from Page 1)



tion project for the Unit 2 reactor at TVA's Watts Bar Nuclear Plant. The 58-year-old vice president was fired in 2011 for lying about a financial hardship he claimed to get an early withdrawal of \$1.5 million from his TVA deferred compensation account.

After his firing, TVA determined it needed another two to three years and up to \$2 billion more than what was originally budgeted to finish the second reactor at Watts Bar.

U.S. Attorney William Killian said that between February 2008 and May 2010, Bajestani conspired with an Iran-based co-conspirator to invest in Iran in violation of U.S. law. In a statement released Wednesday night, Killian said Bajestani used an informal value transfer system known as "hawala" to transfer money to Iran. Bajestani also falsely reported on his income tax returns that he did not have an interest in a foreign bank account, Killian said.

Knoxville attorney Donald Bosch, who represents Bajestani, said the decision to plead guilty "was very difficult" for the former TVA executive, particularly since the money he sent to Iran was used to buy housing and transportation for his wife and to help his elderly parents in Iran.

"He did a lot of good work for TVA and is a proud American citizen who looks forward to putting closure on this case in January," Bosch said. "The money that was sent to Iran was for personal use to support his family. There was nothing nefarious about these money shipments."

But federal prosecutors said the money transfers violated U.S. sanctions with Iran and said Bajestani failed to report the income from his foreign holdings.

Bajestani will be sentenced in January in federal court in Knoxville. He could not be reached for comment late Wednesday. Bajestani, who moved to the United States from Iran in 1975, holds dual citizenship in the U.S. and Iran. At TVA, he rose to one of the utility's top jobs as site vice president in charge of completing Watts Bar Unit 2, which at the time was the only major nuclear plant construction project in America. Although he long denied any wrongdoing, Bajestani said in a 2010 divorce proceeding that he requested an early withdrawal from his TVA retirement account because he wanted to invest where his returns would be greater in Iran's capital city. Bajestani divorced his Iranian-born wife of seven years in 2010.

"The dollar was losing its value, and I had this opportunity that I discussed with [my wife] to invest some money outside the U.S. and specifically buy some property back in Tehran, Iran," he testified in his divorce. "So I decided to withdraw that money and invest it outside the U.S."

Killian said investing money in Iran is illegal under international sanctions the United States and the United Nations have adopted in response to Iran's alleged nuclear weapons program. (Timesfreepress.com (NUCBIZ)).

Our program specialties include: Human Performance, Training and Accreditation, Simulator Instructor Training, Operations Training, Engineering Services, Corrective Actions Program Improvement, Root Cause Analysis and Self-Assessment, NRC Exam Writing, CBT for Dry Cask Storage/ RadWaste Training, and many Human Performance Trainers.

NWI Consulting, LLC, PO Box 33117, Knoxville, TN 37930
(865) 385-6166 (Office), Toll-Free Fax: (888) 817-8890 or (865) 769-5400

Florida Regulators Approve Settlement That Makes Customers Pay for Shuttered Nuclear Plants

October 17, 2013 - TALLAHASSEE, Florida — Florida utility regulators on Thursday quickly approved a multi-billion-dollar settlement with the state's second largest utility that will require customers to keep paying for shuttered and abandoned nuclear power plants.

While some critics had called the deal with Duke Energy Florida a "rip-off," the Florida Public Service Commission voted 4-1 in favor of the settlement after roughly 20 minutes of debate.

Commissioners who voted in favor of the settlement called it a way to bring an end to a lengthy and complex process while also placing limits on how much customers will pay for two nuclear plants. Duke has nearly 2 million customers in Florida.

"I think this is an opportunity to stop the bleeding," said Commissioner Julie Brown.

The Republican-controlled Florida Legislature back in 2006 passed a law that gave utilities the ability to collect money up front for nuclear power projects as a way to encourage the possible growth of nuclear power in the state.

Progress Energy, which has since merged with Duke Energy, started collecting money from customers to pay for repairs to its existing Crystal River plant as well as pay for the start-up costs associated with a plant proposed to be built in tiny Levy County on the Gulf Coast. But Charlotte, North Carolina-based Duke decided last February to permanently close the Crystal River nuclear plant after repairs did not go as planned. Workers cracked a concrete containment wall in 2009 and an attempt to fix the problem in 2011 resulted in more cracks.

Then this summer, Duke officials announced they were abandoning the Levy County plant due to changes in the energy market and regulatory hurdles at the state and federal level.

Under the settlement approved by regulators, the average residential customer would pay \$5.62 a month starting in January or an increase of 89 cents over current bills. But the cost could go up even more between 2015 and 2019 depending on additional expenses associated with the closing of Crystal River. Duke expects to collect all it needs for the Levy plant by 2018, but charges associated with Crystal River could continue to go on. Duke investors and money from insurance settlement is being used for part of the cost for the two plants, but most of the cost will come from ratepayers. Duke will try to salvage and sell off parts that could also wind up reducing the final price-tag. Attorneys representing various customer groups contended the deal was the best that could be expected given state law.

Brown acknowledged that while some have accused Duke Energy of negligence in the Crystal River repair job, she said "it's apparent to me there is no conclusive evidence to support those allegations." The lone PSC member to oppose the settlement, however, said regulators should have continued to ask questions. Eduardo Balbis noted that some critical documents related to the case — including a settlement Duke reached with an insurer — were confidential. Balbis said customers deserved to know whether or not the decision to retire the Crystal River plant was the right decision. PSC Chairman Ronald Brise called the settlement a "difficult situation" but said "there is now a fence around the things we can control."

Associated Press

Watts Bar 2 Reactor Construction On Track for 2015 Completion



Wed, Oct 30 2013. The Tennessee Valley Authority reported consistent progress on the second unit at its Watts Bar nuclear plant Tuesday, and the project remains within its budget.

TVA has issued quarterly progress reports since its board added \$1.5 billion to \$2 billion to the project's budget and three years to its scheduled in April of 2012. The most recent report covered work from May through July of this year, and the federal utility reported that bulk construction is now in its final phase. "The plant is approximately 80 percent complete, and we are focusing on completing and readying plant systems for preoperational testing," Mike Skaggs, the

TVA executive in charge of the project, said in a release.

The report estimated fuel loading will likely take place in June of 2015, followed by commercial operation in December. That's comfortably within the timeframe between September of 2015 and June of 2016 laid out in the project's revised schedule. Spending in 2013 is coming in at \$562.6 million, which is \$62.6 million over the budget for that fiscal year. Nonetheless, TVA still expects spending will fall within the \$4 billion to \$4.5 billion approved for the project.

"The spending was increased to better align expenditures with priorities. The major priorities were to increase the staffing levels of engineering and construction workers in order to support early completion, testing and turnover of selected systems to operations. This is the result of the project transitioning from mostly bulk construction work to a higher portion of work guided by system completion and testing," the report read.

Once completed, the Westinghouse pressurized water reactor near Chattanooga, Tenn., will generate 1,180 megawatts alongside unit 1.

Mitsubishi to Defend US\$4bn US Nuclear Plant Claim

October 18, 2013. Japan's Mitsubishi Heavy Industries said yesterday it would defend itself against a US\$4 billion damages claim in the US over a shuttered nuclear power plant amid allegations of faulty equipment. Southern California Edison (SCE) and its subsidiary Edison Material Supply is asking for arbitration over the claim against Mitsubishi and its wholly-owned US subsidiary Mitsubishi Nuclear Energy System. The original dispute, first raised in July, says SCE had to close San Onofre Nuclear Generating Station because replacement steam generators supplied by Mitsubishi were defective. SCE owns 78 percent of the power plant. The arbitration, intended to avoid a court battle, is being sought because the two sides have so far failed to reach agreement.

"Through the arbitration process, Mitsubishi will aggressively defend itself by accurately representing the facts involved and the applicable legal principles," the company said in a statement released in Tokyo. "At the

(Continued on Page 5)

Mitsubishi to Defend US\$4bn US Nuclear Plant Claim

(Continued from Page 5)

same time, Mitsubishi will take actions for its counterclaims because it has been damaged by inappropriate actions by SCE” regarding the restart of the power station and the repairs to the steam generators, it said.

Mitsubishi says its contract with the US companies limits liability to a maximum US\$137 million and excludes consequential damages such as the cost of replacement power. Mitsubishi said the dispute was presently having no impact on its earnings prospects. The co owners of the power station — San Diego Gas & Electric and City of Riverside — have filed lawsuits against Mitsubishi alleging breach of warranty obligations. These lawsuits are now pending at a US District Court in southern California. Mitsubishi said it wants all the disputes resolved by arbitration and has filed motions with the court requesting a stay of the suits.

Japan Nuclear-Free as Last Reactor Switched Off

September 15, 2013. TOKYO (AFP) – Japan went nuclear-free on Monday as it switched off its last operating reactor for an inspection, with no date scheduled for a restart amid strong public hostility to atomic power. Kansai Electric Power took offline the No. 4 reactor at its Oi nuclear plant in the western prefecture of Fukuoka at 1:33 am (1633 GMT Sunday) "without any problems," said a company official. The move left the world's third largest economy without atomic energy for the second time since the Fukushima nuclear crisis erupted in March 2011. Nuclear power supplied about one-third of the resource-poor nation's electricity before a tsunami knocked out cooling systems and sparked meltdowns at Fukushima, causing tens of thousands to flee their homes. Prime Minister Shinzo Abe has openly backed a return to the widespread use of atomic energy, but the public remains divided over his support, with opponents concerned on safety grounds. Japan previously was without any nuclear energy in May 2012, when all of the country's 50 commercial reactors stopped for checkups in the wake of the disaster. Utilities were unable immediately to restart them due to public opposition. It was the first time in more than four decades that Japan had been without nuclear power. Government officials and utilities voiced concern at the time that Japan could face major blackouts without nuclear power, particularly in the western region that relied heavily on nuclear energy.

Their fears proved unfounded but the government last year gave Kansai Electric approval to restart No. 3 and No. 4 reactors at the Oi plant, arguing that nuclear energy was necessary to meet increased electricity demand during the winter. The reactors were reactivated in July 2012 and resumed full commercial operation the following month, but the No. 3 reactor was shut down earlier this month for a scheduled inspection. The nation's other reactors have remained idle. Utilities this summer have submitted applications to restart their reactors with the Nuclear Regulation Authority, which has significantly upgraded safety standards since the Fukushima crisis. The central government and utilities will seek the consent of local governments and communities hosting nuclear plants before any future restarts.

Radiation was spread over homes and farmland in a large area of northern Japan when the massive tsunami hit the Fukushima nuclear power plant on March 11, 2011 and caused meltdowns of its reactors. No one is officially recorded as having died as a direct result of the meltdowns, but tens of thousands were evacuated and many remain so. Some areas are expected to be uninhabitable for decades.

Nuclear Waste Lurks Beneath Arctic Ice

October 25, 2013. Large-scale Soviet nuclear tests, dumping of spent fuel and two scuttled nuclear-powered submarines are a major source of pollution in the Arctic ocean, a Russian research institute has said. There are 17,000 containers and 19 vessels holding radioactive waste submerged in the Kara Sea, as well as 14 nuclear reactors, said a report passed by Russia to the Norwegian authorities in 2012, according to Bellona, an environmental group that acquired a copy of document. As the Arctic thaws under the influence of global warming, oceanic currents in the region could strengthen, carrying the radioactive material to other continents, Alexander Shestakov, head of the Global Arctic Program at WWF, or World Wildlife Fund, said. The sinking of nuclear material and scuttling of ships used to be widespread practice. Of particular worry now is the Soviet nuclear submarine, K-27, scuttled in 1981 in the Kara Sea. The boat, equipped with two nuclear reactors, was filled with bitumen and concrete before being sunk, according to the Russian Nuclear Safety Institute, to ensure that it would lie safely on the ocean floor for 50 years.

That period is nearly up. Last year, speakers at a joint seminar with Bellona and state nuclear company Rosatom warned that a nuclear reaction could occur on the K-27. "Before that, no-one knew about the danger," Igor Kudrik, a nuclear safety expert at Bellona said. (NUCBIZ)

Double Nuclear by 2040 Says Exxon

(Continued From Page 1)

with no disconnect between wholesale cost of electricity and the price. "Affordability is an issue," he remarked.

Nuclear should be seen as complementary to rather than in competition with renewables, the panelists felt. Nuclear could play a vital role in providing affordable base load power to support the intermittent nature of many renewables, in the absence of a truly effective and affordable means of storing electricity. Energy policy, climate change, and carbon trading expert Bryony Worthington, representing The Weinberg Foundation, urged the nuclear industry not to waste any energy "talking down" renewables, and pointed to the emergence of new third-party advocates opening up the nuclear debate to new audiences.

Also on the panel, moderated by MZ Consulting president Milton Caplan, were Areva UK CEO Robert Davies, UX Consulting Company senior vice president Jonathan Hinze and energy strategist John Licata. All joined in enthusiastically in a lively discussion on the shape the nuclear generation sector may take in the coming decades, from large-capacity reactors to the role of smaller reactors such as SMRs and the need for energy security, with Licata drawing on his own experience and analysis of the effects of "Superstorm Sandy", which left large areas of the eastern USA without power in October 2012. Researched and written by World Nuclear News

Nuclear Ship Takes Olympic Flame to North Pole



October 25, 2013. The torch relay for the 2014 Winter Olympics in the Russian city of Sochi reached the North Pole with the aid of the world's largest nuclear-powered icebreaker. The Olympic flame was carried in a special oil lamp on the trip aboard the 50 Years of Victory. The vessel left the Russian port of Murmansk on 15 October and reached the geographic North Pole on 19 October. Two new records were set during the voyage. Firstly, it was the first expedition to the North Pole during the polar night and secondly it was the shortest time for an icebreaker to travel from Murmansk to the North Pole (just over three days and 19 hours). Eleven torchbearers carried the torch during the Arctic stage of the torch relay.

Coming from Russia and seven other Arctic countries, they have all made contributions to the study of the Arctic. The Olympic festival in the heart of the Arctic - in temperatures around -15°C - included the lighting of an Olympic cauldron and concluded with a laser show. Expedition leader Artur Chilingarov commented, "For the first time in human history, the Olympic flame will visit the place known as the top of the world." The torch will now return to Murmansk on 30 October. The Olympic torch relay began in Moscow on 7 October and will travel through 83 Russian regions. In total it will be carried by 14,000 torchbearers and travel more than 65,000 kilometers, including by car, train, plane, reindeer sleigh and Russian troika. The relay will end at the opening ceremony in Sochi on 7 February 2014. (World Nuclear News)

NWI Products And Services

Check out our Products & Services



nwi Consulting, LLC

PO Box 33117, Knoxville, TN 37930

Office: (865) 385-6166 Fax: (888) 817-8890

Website: www.nwi-llc.com

Email: nwi@nwi-llc.com

NWI Consulting, LLC is a professional consulting firm specializing in power generation performance improvement services, specialized learning interventions, computer-based training, organizational development, accreditation renewal/recovery, and professional staff augmentation. NWI has a broad portfolio of U.S. and international clients in the electric generation industry and is headquartered in Knoxville, TN. NWI's power plant services includes supporting such areas as Operations, Training, Work Control, Outage Management, Performance Improvement, Nuclear Oversight, Maintenance, Radiation Protection, Chemistry, and Emergency Preparedness. NWI has assisted clients in other, more specialized efforts including Leadership/Management Development, Executive Coaching, Conflict Resolution, Multi-Discipline Assessments, Root Cause Analyses, NRC 95-003 Preparations and specialized Safety Analysis (50.59).

The following key activities are being conducted by NWI professionals...

NWI News Update

- Supporting Oversight & Maintenance activities at Entergy's Grand Gulf.
- Providing CAP/ Engineering support at PPL's Susquehanna Steam Electric Station.
- Supporting PN14 effectiveness review support for Pilgrim Nuclear Power Station.
- Offering QA support for 95-003 activities at TVA Browns Ferry Nuclear Plant.
- Conducting causal analysis, streaming analysis, & training support at First Energy's Perry Nuclear Plant.
- Providing project closure support for CAP closure activities for Ft. Calhoun.
- Supporting activities Maintenance & Tech. Training improvement efforts at Duke's Catawba Nuclear Station.
- Conducting PM Optimization project for PPL's Susquehanna Steam Electric Station.
- Supporting EPU project at Xcel Energy's Monticello Nuclear Generating Plant.
- Providing work management support for NPPD's Cooper Nuclear Station.

WE WISH TO EXPRESS SPECIAL THANKS TO THE FOLLOWING CLIENTS FOR MAKING NWI A PREFERRED CONSULTING COMPANY.

- **DUKE ENERGY'S CATAWBA NUCLEAR STATION**
- **ENERGY NW COLUMBIA STATION**
- **FIRST ENERGY'S PERRY NUCLEAR PLANT**
- **FORT CALHOUN STATION**
- **ENTERGY'S PILGRIM AND GRAND GULF STATIONS**
- **NPPD COOPER NUCLEAR STATION**
- **PPL SUSQUEHANNA STEAM ELECTRIC STATION**
- **TVA'S BROWNS FERRY NUCLEAR PLANT**

- **XCEL ENERGY'S MONTICELLO NUCLEAR PLANT**

Thank You



Editor: Frank S. Tsakeres
NWI Director of Operations



Associate Editor: Kate Hendrickson
NWI Director, Marketing