

## Nuclear Buzz

### U3O8 Trades: Actually, There's A Lot Going On

By *Andrea Jenetta, Publisher*

Despite the predictions by investment companies, utilities—along with their counterpart producers, trading companies and financial groups—are going to be very busy this summer. Yes, that's right, summer, when purchasing and procurement usually slow down.

According to the two leading price publishers, *Ux Weekly* and *Trade Tech*, we are in the midst of a notable jump in activity—and lo and behold!—said activity is both spot *AND* term.

The *Ux Weekly* reported 2.3 million pounds via 18 spot transactions for June, bringing the year-to-date total to over 15 million pounds. *Nuclear Market Review* likewise reported 15 deals involving 2 million pounds for the month, bringing the 2008 first half total to over 10 million pounds. Most of this buying must be discretionary.

Now that its purchase by Constellation is final (see *related brief on page 4*), Nufcor Uranium Ltd. has announced a prospectus for the sale of

### DOE Issues Loan Guarantee Solicitation for Nuke Projects

By *Nancy E. Roth, Managing Editor*

On the last day of June the U.S. Department of Energy released its long-awaited loan guarantee solicitations for new low-carbon energy technology development projects. Although this is DOE's second round of solicitations, it is the first that includes applications in the "nuclear power" and "front end nuclear fuel cycle" categories. USEC has publicly stated that it plans to apply in the latter category for loan guarantees supporting its American Centrifuge Project.

This solicitation makes up to \$30.5 billion in total federal loan guarantees available to undergird loans that will expedite the early commercial use of new or "significantly improved" energy technologies. Of that amount, Congress allocated \$18.5 billion to nuclear power facilities, and earmarked another \$2 billion for front-end nuclear fuel cycle facilities.

The remaining \$10 billion in loan guarantees will be available for projects related to energy efficiency, renewable energy and advanced transmission and distribution projects. Later this summer DOE will put out a loan guarantee solicitation for a total of up to \$8 billion for advanced fossil energy projects, according to a department press release. DOE has now posted loan guarantee applications for each category on its website.

#### Nonrefundable Application Fee: \$800,000

Nuclear energy project sponsors must submit a two-part application. Part I, due on Sept. 29, will provide a "top level description" of the project, project eligibility, financing strategy and progress to date in "critical path schedules" such as licensing, site preparation and long-lead procurements. With the first submission the project sponsor must pay 25% of the \$800,000 application fee. [see DOE Issues Loan Guarantee on page 8](#)

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new company shares to buy several million pounds of everyone's favorite energy metal. As a side note, one non-U.S. utility (could it be Taiwan Power?) has re-entered the market for that pesky 300,000 pounds. I guess the third time will be the charm for our Taiwanese friends.

Speaking of non-traditional financial arrangements, evidently a General Electric subsidiary has purchased 30 million shares in Paladin, which as you all know aspires to be the next Nufcor (and more). With a 5% stake, GE is Paladin's second largest shareholder after Merrill Lynch.

Meanwhile, according to NMR's reckoning, a number of utilities are right now in the process of buying 26 million pounds under long-term contracts. That's a lot of uranium, my friends. You can't blame them. With price indices ranging from \$57.46 (*Uranium Intelligence*) to \$69.43 (Tullet Prebon), it is indeed a good time to buy and while this flurry of buying and selling activity will no doubt put upward pressure on the price, for now all market players should be happy.

### **SMART Instead of Stupid**

On Friday, Sen. Pete Domenici, R-N.M., the soon-to-be-retired patron saint of nuclear energy in Congress, introduced the cleverly titled SMART (Strengthening Management of Advanced Recycling Technologies Act). Co-sponsored by Sens. Jeff Sessions, (R-Ala.), Mary Landrieu (D-La.) and Lisa Murkowski (R-Alaska.), the measure promotes the establishment of privately owned and operated spent fuel storage and recycling facilities.

As we in the nuclear industry already know, there are three technically sound and safe solutions on-site dry cask storage, underground disposal and recycling. There are an infinite number of ways to organize said solutions into a comprehensive management program.

Those who believe there is a "nuclear waste issue" that needs to be addressed before we build new reactors are woefully misinformed or disingenuously antinuclear. In my mind there are only two real problems with nuclear waste: politics (the State of Nevada, anti-nuclear lobby, abysmal ignorance of all things nuclear) and implementation (DOE's ineptitude, Congressional cowardice).

The SMART proposal would (1) establish a competitive 50-50 cost share program between the Department of Energy and private industry to finance engineering and design work and the development of license applications for up to two spent fuel recycling facilities; (2) authorize DOE to offer long-term contracts for spent-fuel recycling services and for storage-facility operators;

and (3) set up economic incentive program for communities that wish to host interim storage facilities for waste

It would also fund related activities by allowing access to a small portion (around 5%) of the \$20 billion Nuclear Waste Fund. The bill establishes a \$1 billion revolving fund, which will also receive contributions from annual interest on the Nuclear Waste Fund. The revolving fund will allow projects to proceed without the need for annual appropriations from Congress.

In and of itself, spent fuel is just a fact of nuclear power. But the amount of time, money and energy that has been wasted to "fix" it over the past 26 years (and counting) is stupid. At the rate the Yucca Mountain Project is going, it will likely be at least another 10 years before the program receives just a construction authorization. Anything that would allow us to move on with our lives is smart. ●

### **Cameco to Start Dewatering at Cigar Lake**

*By Jacob Mazer, Assistant Editor*

Cameco announced that it is about to embark on a new phase of its remediation activities its giant Cigar Lake project in Saskatchewan, Canada. The company has been revamping the mine since October 2006, when a rock fall caused the mine to flood. Having plugged the leak and performed needed structural work, Cameco will now begin pumping out the water.

The mining team will dewater the mine over the course of several months. As the water goes down the team will install a ladder way, ventilation ducting, water pipes, power and communication cables and other necessary equipment. Cameco successfully tested an underground seal at the site in February, concluding that no further precautionary measures were needed before dewatering.

The Canadian Nuclear Safety Commission approved all remediation activities up to (but not including) the restart of underground construction at the mine. It is still reviewing further activities, such as the completion of a second mineshaft, and a public hearing scheduled for September.

Cigar Lake holds proven and probable uranium reserves exceeding 226.3 million pounds. Before the flood, production could have begun as early as this year. Cameco now anticipates production startup in 2011 at the earliest, but said that it needed an assessment of mine conditions after dewatering to provide a more certain date.

## African Mines Update

# Russian Miner to Open Exploration in Namibia

By Roger Murray, Special Correspondent

Leading Russian uranium mining company Atomredmetzoloto, a subsidiary of state nuclear power company Atomenergoprom, intends to start prospecting for uranium in Namibia during the third quarter of 2008 in the Klein Spitzkoppe area, west-central Namibia. Klein Spitzkoppe is some 40 km. northwest of the town of Usakos (*FCW #284, June 25*).

An airborne radiometric survey to the southeast of Klein Spitzkoppe identified a calcrete-hosted uranium anomaly in 1968. Subsequent drilling indicated carnotite-enriched calcretes at a 10-meter average depth, with a 1978 estimate of 4.5 million tonnes grading 239 grams per tonne U3O8 (1,100 tonnes contained uranium), although the Geological Survey of Namibia stated that the mineralization was “isolated and variable.”

## Joint Venture With Investors

Atomredmetzoloto plans to set up a joint venture with a subsidiary of the Russian bank Vnestorgbank (VTB), called VTB Capital Namibia, and with investment company Arlan, which is headquartered in Namibia, according to the RIA Novosty press agency. Arlan will hold 75% minus one share in the joint venture, while Atomredmetzoloto and VTB Capital Namibia will own 25% plus one share. VTB Capital Namibia will contribute to the joint venture its two exclusive exploration licenses for nuclear fuel.

According to the May 2008 list of valid Namibian prospecting licenses, made available to *FCW* by the Geological Survey of Namibia, VTB Capital Namibia received the two exploration licenses (3850 and 3851) in January of this year. They remain valid until January 16, 2010.

For its part, Atomredmetzoloto will prepare a feasibility study and act as the project's manager, while Arlan will invest an initial \$4.5 million for the project, the news release said. The companies expect prospecting to last two to three years and hold up reserves of at least 5,000 tonnes (9.3 million pounds) U3O8, RIA Novosti added.

Atomredmetzoloto will need to comply with stringent environmental controls on exploration in a sensitive ecological area, which is an important wilderness and game conservancy tourist attraction. ●

## Bluerock Ships Uranium Ore to White Mesa Mill

By Jacob Mazer, Assistant Editor

Bluerock Resources sent its first shipment of uranium ore, which had been stockpiled at its J-Bird mine in Colorado, to be processed into U3O8 concentrate at the White Mesa Mill, operated by Denison Mines. Bluerock CEO Michael Collins called the event a significant milestone in “the evolution of Bluerock from an exploration company to becoming the newest producer in the United States.”

The two companies signed a toll milling agreement earlier this year, allowing uranium from the J-Bird mine to be processed at White Mesa in return for the direct milling costs plus a fee per ton of ore, linked to the long-term uranium price. In the same

deal, Bluerock also agreed to sell 25,000 tons of ore per year to Denison's Ore Purchase Program.

The J-Bird mine includes 25 mineral claims west of the Uravan Mineral Belt on Colorado's western slope. Drilling results show mineralization ranging from 0.03% to 0.24% U3O8.

## Plans for Own Mill

Meanwhile, Bluerock has set its cap to build a uranium mill of its own, via subsidiary Mancos Resources. Mancos signed an agreement with officials in Emery County, Utah for a parcel of land in an industrial park west of Green River, where it plans to build a \$100 million uranium mill. The mill would have the capacity to process about 1,200 tons of ore each day.

Mancos has presented its plans to the Utah Radiation Control Board. The project must be approved by the state engineer, the Radiation Control Division and the Air Quality Division. ●

**Uranium Resources Inc.** backed out of a deal with **BHP Billiton** to acquire miner **Rio Algom Mining LLC**, saying that current uranium market conditions were not attractive to investors, which prevented URI from securing the \$180 million needed to finance the acquisition, according to a company statement. The acquisition would have included a licensed conventional mill site, which is a valuable asset in the infrastructure-staved domestic production industry. Uranium Resources will expense the \$1.2 million it has already incurred in connection with the transaction in the second quarter.

URI also announced that it had begun producing at the Rosita project in South Texas, by injecting oxygen into the formation. The mining team corrected previous problems with lower flow rates at Rosita by removing screens from some poorly performing wells and underreaming the holes before resetting the screens. That substantially improved the flow rate, and the project is now back on track.

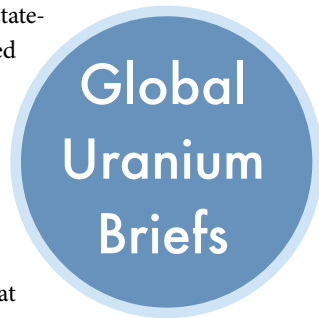
As of June 24 URI has produced about 187,000 pounds of uranium, 104,200 pounds of which the miner generated in the second quarter. That slightly beat its earlier Q2 production estimate at Kingsville Dome in Texas.

**Constellation Energy's** subsidiary, Constellation Energy Commodities Group Ltd., has acquired 100% of the shares of **Nufcor International Ltd.** from **AngloGold Ashanti** and **FirstRand International**, according to a company statement. Nufcor will be exploring new risk management offerings for North American, European and Asian uranium investors. Meanwhile, Nufcor will continue to be a market advisor to Nufcor Uranium Ltd. by way of its subsidiary Nufcor Capital Ltd.

Analysts, including at *FCW*, have predicted that Constellation's move into uranium trading could signal that utilities are ready to play a more active role in the uranium market. Constellation's acquisition of Nufcor tends to confirm that trend.

Lifting Queensland's ban on uranium mining could expand the state's economy and, through use in nuclear power plants, avoid huge greenhouse gas emissions, the Queensland Resources Council said, according to Dow Jones Newswire. The council said that Queensland producers could win around 2% of the global market by 2030, were the ban lifted.

Over 400 people from 25 countries gathered at the Australian Institute of Mining and Metallurgy's International Uranium Conference 2008 last week to discuss technological, environmental, and social issues of uranium mining.



**AREVA** signed an agreement to work with **Murchison United** to explore its uranium projects in Mauritania, said *miningmx.com*. A more extensive joint venture could follow if significant uranium resources are discovered.

North Carolina's Utility Commission ordered hearings on the validity of power demand forecasts utilities have used to justify the construction of new power plants, according to the *Wilmington Star-News*. An antinuclear group, North Carolina Waste Awareness & Reduction Network, contends that local providers **Duke Energy** and **Progress Energy** are overestimating the growth in demand for new electricity. The Commission passed over NCWARN's call for hearings twice before granting their request.

Progress, which supplies electricity to southeastern North Carolina, hopes to build two new reactors at the Harris Nuclear Plant. The company did not name a cost for the project, but estimates for the two Progress reactors at a Florida plant put the price at \$17 billion. North Carolina state law allows utilities to add the cost of new plants to electric bills as the plants are being built.

Australia's **Universal Mining** submitted a request to Macedonia's government to explore for uranium, both in the known uranium-rich Mariovo region, as well as the eastern part of the country, reported the *Macedonia Daily*. The company has already created a Macedonian-Australian company, **Mak Red River Resources**, which is searching for various minerals at Sopotnica.

The Canadian Competition Policy Review Panel this week recommended that the government loosen restrictions on foreign ownership of uranium mines, said Reuters. The country's current policy requires domestic companies to own a majority share in mines, forcing foreign companies to seek domestic partners to mine Canada's vast uranium supply—a requirement that has deterred some potential investors. **Cameco Corp.**, the world's top uranium producer, said that foreign countries might reciprocate by lowering barriers to Canadian ownership of companies, or grant access to enrichment technology. —*Compiled by Jacob Mazer, Assistant Editor*

## London New-Build Conference Displays Financiers' Fissures

By Roger Murray, *Special Correspondent*

A small but representative cross-section of utility, regulatory, legal and financial representatives assembled in mid-June to discuss new build in the U.K. at the Financing Nuclear Power conference in London. One thing that emerged clearly at the conference: despite U.K. government's the unprecedented support for a new generation of nuclear power stations in Britain, the risks and opportunities for new build are still quite finely balanced. Even champions of the new build program do not expect the process to be entirely smooth.

While most speakers assumed that the U.K. would deliver new build, they espoused widely differing views about how much financing the private sector would provide, particularly in view of decommissioning and waste-management expenses. Malcolm Keay, a senior research fellow at the Oxford Institute for Energy Studies, was skeptical that the much-vaunted nuclear reconnaissance is actually underway. Keay pointed out that, except for Finland and France, virtually all nuclear plants now under construction and planned are in Asia—and globally they would only compensate for lost capacity through the decommissioning of reactors in Europe.

### The U.K.'s Facilitative Approach

Adam Dawson, nuclear unit director for the Department for Business, Enterprise and Regulatory Reform, cogently summarized U.K. government actions to encourage nuclear new build. He confirmed that the government was pursuing a fully market-driven approach that was a different model to that in Europe and the U.S.

Dawson noted that DBERR Secretary of State John Hutton had announced that the government would establish an internal Office of Nuclear Development to facilitate nuclear new build in the U.K. Alongside it would be a new Nuclear Development Forum, which Hutton would chair. That is where the nuclear industry could press its case in holding government to account on new build progress.

The government sought to simplify and expedite its decision-making process "at a strategic level," said Dawson, to be ready when a planning application came forward for nuclear plant construction. Four major challenges await the government's attention: justification, generic design assessment, siting and waste and decommissioning.

Justification is a part of the regulatory and legal process that began after the U.K. announced its decision to embrace nuclear last January. The government must complete this process, which is part of the European Union's Basic Safety Standards directive, before any new plants can be built. Applicants for new-build construction must describe and assess the net benefits of nuclear and weigh them against the health and other potential detriments of nuclear power generation. The Nuclear Industry Association submitted a joint application on behalf of its members last March. Dawson said that the government was expected to make positive decision on whether it met the EU requirement in December (*FCW #281, June 4*).

Generic inspection of nuclear plant designs aims to determine whether a design meets the safety case and can be built ahead of site-specific license applications. The government must ensure the GDA process remains on track, which means ensuring sufficient resources, including personnel. One step the government will take is to make more use of GDA resources outside the U.K., in France and the U.S. Although the GDA process is due to end for the three designs in 2010, Dawson said that Ernst & Young research indicated that investors viewed the GDA process as "an immense hurdle for investment."

A strategic siting assessment consultation is to be launched shortly, including a list of sites regarded as suitable. The assessment will be based on a June 12 government document summarizing nuclear plant siting criteria. The consultation is to be closely aligned with a new law now before parliament, which would remove final project decisions from politicians and authorize an independent infrastructure planning commission to handle them. The Ernst & Young report flagged up the need for the proposed planning framework "without delay."

### Decommissioning Uncertainties Plague Process

Waste and decommissioning are major issues for nuclear power financing and Dawson said the government was aware that that investors wanted certainty regarding potential costs. A new energy bill will require plant builders to have a funding program for decommissioning ahead of time. The funds are to come entirely from the operators, without government subsidy. A new Nuclear Liabilities Financing Assurance Board is to be established by the end of this year to advise the Business Department on operators' plans for disposing of nuclear waste.

The cost of a deep geological facility would have significant effects, however. The government has begun identifying a repository site by offering incentives to communities to volunteer to host it. The Sellafeld area in Cumbria, northwest England, is expected to

emerge as the preferred locality.

But no repository will be ready by the time plant operators have to make their investment decisions. Dawson said that before plant investment decisions were made the government would publish how much it would cost to dispose of a unit of spent fuel in a deep geological facility. One major factor in the price would be how much depository space would go to legacy, rather than new, waste. The decommissioning fund would have to cover this.

Dawson acknowledged the element of uncertainty this requirement creates, as the end result could go very badly or very well for the taxpayer. If the disposal unit cost turned out to be more than the price charged to operators, taxpayers would have to ante up the shortfall. But if the cost were less than estimated, the new-build waste would effectively subsidize the legacy waste disposal and benefit the taxpayer.

Nuclear Industry Association CEO Keith Parker stressed that public acceptance had improved but remained “fragile,” and that planning predictability would be a must. The industry could not tolerate another protracted public inquiry like that done on Sizewell B, which took 14 years from inception, he emphasized.

### Financiers at Odds

Investors’ views on nuclear vary, to say the least. Thomas Scheibel, director of Dresdner Kleinwort, stressed that the high upfront cost was the main investment disincentive, although once a nuclear plant was up and running it would be strongly cash-generative. With supply chain costs rising and project delays multiplying, project finance would not be a major component of the cost of building new nuclear plants, he said. Investors would not see nuclear as financeable on a purely non-recourse or merchant basis. Only existing nuclear operators, jointly or in consortia, or major European utilities with strong balance sheets appear able to carry these major risks, Scheibel added.

In contrast, Andrew Newberry, project finance partner at Herbert Smith, said that although few financial institutions were now willing to invest in new nuclear facilities, perceptions had changed a lot in recent years. The estimated cost of currently planned global nuclear new-build to 2030 is \$188-330 billion, according to IAEA figures.

To meet the likely funding gap for new nuclear plants in the absence of government support, as in the U.K., banks would have to take a role in project financing, especially as demand for new nuclear capacity, especially in low-carbon environments, “would be even greater than current projections envisage,” Newberry argued. The combined balance sheets of the largest European utilities, including France’s EDF, Germany’s E.ON and RWE, and Spain’s Iberdrola, would be stretched to accommodate the entire cost of new plant construction. ●

### Prospects for Legal Challenges May Grow

*By Roger Murray*

Michael Redman, a partner at Clifford Chance, a London-based law firm, offered some thought-provoking comments on whether the new U.K. planning and energy laws would give investors any assurance about the likelihood of antinuclear groups calling for a judicial review at any stage of development.

The prospects for lawsuits have changed since 2001, when the Aarhus Convention of the United Nations Economic Commission for Europe went into effect. All EU countries bar Ireland have accepted the Aarhus Convention, which aims to widen public access to environmental information and to increase government accountability. All parties to Aarhus are currently adjusting their legal systems to bring them into full compliance.

In the U.K., Aarhus might effectively remove current Common Law constraints, under which the loser in a judicial review pays not just both sides’ legal costs but damages for the period for which a development has stopped while the issue is before the court. Accordingly, if Greenpeace or other antinuclear group were to challenge a nuclear plant development after licensing had been approved, it faced a potentially huge financial penalty if it lost.

Aarhus could lessen the penalty by excluding the requirement that the loser pay damages. Redman told the conference that British judges are now reviewing this procedure, possibly increasing the prospect for more legal challenges in the future.

Current American policies are insufficient to give nuclear power a leading role in climate protection, according to the *Annual Energy Outlook 2008* by the U.S. Department of Energy's Energy Information Administration, said World Nuclear News. The report projects a 15% growth in nuclear capacity, from 100.2 gigawatts to 114.9 gigawatts by 2030, which is 33% higher than last year's growth projection, yet still predicts that energy use will grow by 19% and CO2 emissions will increase 16%. Though the projected emissions increase is less than half that predicted in the 2007 report, the EIA concluded that the country must put in place fairly radical energy policy changes to curb CO2 emissions.

**Group of Eight** leaders will agree on an initiative to expand the use of civil nuclear power to curb global warming at their July 7-9 summit in Japan, according the Associated Press. The draft names nonproliferation, safety, and nuclear security as guiding principles of the program.

Belarusian President Alyaksandr Lukashenka denied accusations that he has made a secret decision as to who would build the nation's first nuclear power plant and invited French, German, American, Japanese and Russian companies to submit offers for the project over the next month, according to BBC Monitoring. The country decided to build a nuclear plant last January.

Romania has changed its mind about holding only a 20% stake in a venture to build two more reactors at its Cernavoda power plant, and has now announced that state-owned **Nuclearelectrica** will control at least 51% of the project, Reuters said. **Electrabel**, **Enel**, **Iberdrola**, **CEZ**, a Romanian unit of **ArcelorMittal**, and **RWE** are being considered as the project partner.

Preliminary findings indicated that a nuclear facility in China's Chongqing municipality would not be harmful to residents, *China Daily* reports. The feasibility and environmental impact report must still be finished, as does the review of construction plans. If approved, construction is expected to begin next year. The project would be southwest China's first nuclear facility.

Acknowledging delays in the project to build a second nuclear power plant in Belene, Bulgarian Prime Minister Sergei Stanishev said he'd convened a working group to examine the prospect of building two new units at the existing Kozloduy facility by 2030 in the case that an agreement to restart its four closed reactors cannot be secured, according to the *Sofia Echo*. Kozloduy Chief Executive Ican Genov said that a new reactor at his plant would be at least €800 million (\$1.3 billion) less than at Belene, as the necessary infrastructure already exists.

Project delays were blamed on selected builder **Atomstroyexport** for not yet submitting its technical project to Bulgaria's nuclear operator. The Russian company pledged to do so by the middle of July.

Bob Carr, former New South Wales Labor premier, and Paul Howes, head of the Australian Workers' Union, criticized the antinuclear policy of the current Kevin Rudd-led Labor government, saying the stance could put the country in a precarious position twenty years from now, according to *News Track India*. Carr and Howes said more nuclear plants were needed to reduce carbon dioxide output. Rudd responded that his administration would not consider nuclear energy as a response to climate change.

Jordan signed preliminary agreements to co-operate with Canada and Britain on a peaceful nuclear program, reported Agence France Presse. The country, which relies on imports for 95% of its energy needs, hopes to generate 30% of its power from nuclear by 2030, and has signed similar agreements with France and the United States.

Construction began at Russia's Novovoronezh-II nuclear power plant, according to World Nuclear News. Units 1 and 2 are expected to start in 2012 and 2013, with dates yet to be set for units 3 and 4. The project is part of an upsurge in Russian nuclear new build, planned to total 42 new reactors by 2020. Russian Deputy Prime Minister noted the opportunities for foreign firms to take part in the new wave of nuclear construction.

—**Compiled by Jacob Mazer, Assistant Editor**

New Build News

*see DOE Issues Loan Guarantee on page 1*

The Part II submission is to present information for DOE's due diligence evaluation. The application lays out the extensive data requirements for this part of the application. DOE acknowledges that nuclear project sponsors may not have all the data by the deadline date of Dec. 19, 2008, and the department is allowing applicants to turn in an incomplete initial submission, along with the remaining 75% of the fee. As subsequent data becomes available the applicant can add it to the submission. Regardless of the outcome, the application fee is not refundable.

For example, the completed submission must include a detailed breakout of the total project cost; the sponsor's technical and business plans, including financial and market analyses; contractual arrangements; and a layout of the operational risks and mitigation strategies. A section on the sponsor's financial plan is to include, among other things, project funding sources and letters of intent, plus details about other borrowed funds.

### **Loan Guarantees: New-Build *Sine Qua Non***

DOE hosted a telephone press conference on Monday morning to announce the release of the new solicitation. David Frantz, director of DOE's Loan Guarantee Office, presided over the event with DOE attorney Larry Oliver. DOE's reviews would fall into three categories, Frantz said: the technical review, which will look at the environmental and energy benefits of the technology; plus the programmatic review, which will examine the construction and risk mitigation plans.

Finally, the overall creditworthiness review, which accounts for 50% of DOE's project ranking, encompasses an evaluation of the project's prospects for loan repayment, along with the sponsor's capability, financial commitment to the project, financial strength and the credibility of the business and financial plans. The application stipulates, "Greater weight will be given to applications that rely upon a smaller guarantee percentage, all else being equal."

In a response to a reporter who questioned whether the loan guarantee program was really suited to nuclear projects, given the large funding requirements needed for nuclear projects, Frantz said that by all indications, "With respect to nuclear projects,

none of them would be proceeding without the loan guarantee program."

### **Frantz: DOE to Extend Funding Past 2009**

To another question about project sponsor qualifications Frantz replied, "We would not be granting a loan guarantee [to a project sponsor] without a COL [Construction and Operating License] in place." When a reporter pointed out that DOE's funding authorization will run out in 2009, before the Nuclear Regulatory Commission would issue any COLs, Frantz noted that in its FY 2009 appropriations request DOE had asked the House to extend the funding by one year for the non-nuclear projects, and by two years for nuclear, in recognition of the complexity of nuclear projects. The House Appropriations Committee has thus far allowed the extensions to stay in the DOE appropriation.

The solicitation packet, however, stipulates that in order to apply the sponsor must only have already filed with the NRC for a COL by December 31, 2008. The applicant must also show that the project entails an NRC-approved reactor design, or a design that has been submitted to NRC for certification—and have identified the final plant site.

One reporter asked how the "technical readiness for near-term commercial application" provision listed in the work plan evaluation applied to nuclear technology. Frantz replied that applicants proposing to use reactor designs that NRC has already certified (Westinghouse AP1000 and GE-Hitachi Advanced Boiling Water Reactor) would get a higher ranking, as DOE would consider them more ready than those still being certified (GE-Hitachi Economic Simplified BWR, AREVA U.S. EPR, Mitsubishi U.S.-APWR and Westinghouse Amended AP1000).

The "technical readiness" factor, however, is only one of three that comprise the Technical Approach/Work Plan, which as a whole is weighted at 10% of the ranking. Thus a choice of a newer reactor design will not sink the application (*see sidebar, p. 9*).

NRC is also reviewing pre-application submissions for the AECL ACR-700, Westinghouse IRIS and PBMR's Pebble Bed Modular Reactor. ●



## Application Evaluations and Rankings

(Excerpted from DOE Loan Guarantee Application Form)

### Financial Review (Total Weighting: 80%)

Major areas of focus in the financial review will include, among other considerations, the following.

#### **Creditworthiness of the Project** (Weighting: 50%)

DOE will consider the proposed project's capacity to provide a reasonable prospect of repayment (e.g., its economic viability, its ability to generate sufficient cash flow to service the borrower's debt obligations over the life of the loan guarantee, etc.). DOE also will consider Project Sponsor capability, financial commitment to the project, financial strength, including the ability to pay transaction costs arising out of the project (e.g., fees and expenses for DOE's independent consultants and outside counsel as they are presented for payment on a periodic basis as discussed in Section IV.9 of the Solicitation) on a timely basis, and credibility of the business and financial plans, as well as overriding market factors that could significantly influence the success of the project. In accordance with Section 609.7(a) of the Final Regulations, greater weight will be given to applications that rely upon a smaller guarantee percentage, all else being equal.

#### **Programmatic Factors**

##### • **Construction Factors** (Weighting: 15%)

The Department will evaluate the project's construction plan based on the cost and the completion date certainty, giving particular consideration to whether the guaranteed portion of the Guaranteed Obligation, together with amounts available to the applicant from other sources, will be sufficient to carry out the project.

##### • **Legal and Regulatory Issues** (Weighting: 15%)

The Department will evaluate the project's capacity to mitigate risk from potential legal and regulatory issues that could jeopardize the success of the project. Areas of review will include intervener, permitting and public acceptance risks.

### Technical Review (Total Weighting: 20%)

Consideration will be given to environmental benefit, particularly avoidance, reduction or sequestration of the emissions of air pollutants and/or greenhouse gases, the period of time required to place the project into service and/or to be commercialized, the potential for reducing costs to consumers, and the commercial scale of the project. Consideration also will be given to creating a balance in the types of nuclear power projects and technologies that are included in DOE's loan guarantee portfolio. Major areas of focus in the technical review will include, among other considerations, the following:

#### **Technical Relevance and Merit** (Weighting: 5%)

DOE will evaluate the extent to which the project would (1) employ new or significantly improved technologies as compared to commercial technologies in service in the U.S. at the time the Term Sheet is issued and (2) advance other Title XVII objectives.

#### **Technical Approach/Work Plan** (Weighting: 10%)

Projects will be evaluated based on the clarity and technical strength of the approach to achieve the project objectives, including but not limited to (1) the potential for replication of commercial use of the technology in the United States, (2) technical readiness for near-term commercial application, (3) life-cycle and sustainability of the primary technology and project facility, and (4) timeframe required to achieve results contemplated in the application.

#### **Environmental & Energy Security Benefits** (Weighting: 5%)

Projects will be evaluated in terms of the capacity of the project to avoid, reduce or sequester air pollutants or anthropogenic emissions of greenhouse gases, and the potential for the project and the use of the proposed New or Significantly Improved technologies employed in the project to improve the energy security of the United States. Potential environmental impacts of the project, mitigation plans, NEPA considerations, site permits, site preparation and construction and commissioning of the facility will be considered. Finally, the domestic energy security benefits of the project will be reviewed and compared to existing technologies or systems.

## Energy Northwest Gets NOV for Hydrogen Burn Welding Event

By Andrea Jennetta, Publisher

The U.S. Nuclear Regulatory Commission issued a notice of violation to Energy Northwest for failing to monitor combustible gas concentrations during the welding of a spent-fuel canister's lid-to-shell weld, during the recent loading campaign at the Columbia plant. The utility uses Holtec International's HI-STORM spent-fuel storage system.

According to the June 17 notice, two hydrogen burn events took place, the first on April 8 and the second on April 16, during a follow-up NRC inspection. During the welding operations for the first canister, Energy Northwest decided to stop combustible gas monitoring after the root pass weld was completed. In its report, agency inspectors described the initial hydrogen ignition event:

"The welders were working on the next weld layer using a hot wire pass and had completed approximately one-half of the lid circumferential weld using two weld heads when the first hydrogen burn event occurred. The hydrogen burn caused the vent and drain port covers to be blown off the...lid and relocated several inches away. Approximately a quart of water from the [canister] drain port was ejected and deposited on the [canister] lid."

## Federal Railroad Authority Rejects NV Protest on Rail Line

By Andrea Jennetta, Publisher

The federal railroad board has said it will consider the U.S. Department of Energy's plan to build a rail line to Yucca Mountain, setting aside a Nevada protest that the application was incomplete.

Despite taking corrective actions, on April 16 the revised monitoring configuration "was ineffective in determining the presence of combustible gases and a second hydrogen burn event occurred during welding operations on the next canister loaded," the agency continued.

Following the second event, the utility placed the canister in a safe configuration and hired industry experts to determine the causes of the events and determine corrective actions to prevent the ignitions from occurring again.

Holtec's evaluation of the potential impact of the bounding hydrogen burn event on the spent fuel assemblies and the canister concluded that the integrity of both was unaffected. Based on the input and advice of the experts, Energy Northwest "implemented changes to introduce an inert gas (argon) beneath the [canister] lid during the lid-to-shell welding process" and moved the explosive gas monitor sampling point closer to the canister vent port.

NRC inspectors were on hand when welding operations were resumed and concluded that the procedures had been adequately revised and that the installation activities were completed without any further events.

Twelve casks were loaded during the campaign, bringing Columbia's total to 27. The utility has 30 days to respond to the violation notice. ●

The Surface Transportation Board denied the state's demand that it reject DOE's application to build and operate a 300-mile railroad from Caliente, Nev., across a largely rural area to the repository site. The board ruled June 27; the state is considering options for possible appeal.

Nevada attorneys had argued the Energy Department's rail application lacked an operating plan, safety plans and a meaningful analysis of terrorism risks. They questioned the adequacy of environmental material included in the application.

## DOE Can Perform More Detailed Review

But the three-member rail board said DOE had submitted sufficient information to move forward with a more detailed review. The department could not be expected to provide everything at this point, still several years away from operation, it concluded.

The board also rejected Nevada's complaint that it had no jurisdiction over the Yucca Mountain project. The Surface Transportation Board regulates common carrier railroads that offer services to the public.

DOE has not decided whether it will allow ranchers and farmers to use the Yucca rail line, or to operate as a private carrier. The

distinction could be important. If DOE declares its Nevada line as private rail, it would fall under state jurisdiction and give Nevada officials opportunities to block it through police, water and land use regulations.

In its seven-page ruling, the board said that made little difference at this point whether DOE has made the decision.

"While DOE may not have made a final decision as to whether to have common carrier service on the proposed Caliente line, such uncertainty does not deprive this agency of jurisdiction," the panel said. ●

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## DOJ Faults \$50M Morgan Lewis Contract For Yucca Licensing

By *Andrea Jenetta, Publisher*

Government attorneys are criticizing the Energy Department for not consulting the Justice Department before awarding a four-year \$47.7 million to the law firm Morgan Lewis & Bockius, warning that conflicts of interest could delay the opening of the Yucca Mountain repository.

"Neither DOE nor Morgan Lewis consulted with or even notified the Department of Justice before entering into an agreement that involved significant conflicts of interest affecting the United States," wrote Jeanne Davidson, director of the Justice Department's commercial litigation branch in a letter sent to DOE Inspector General Gregory Friedman.

"Under its new contract with DOE, Morgan Lewis' work may affect the date on which that repository may open in the future, if at all, potentially providing Morgan Lewis with the ability to affect the amount of damages that its clients in the SNF [spent nuclear fuel] cases will incur," Davidson argued.

The firm has acknowledged conflicts of interest on nuclear waste issues, as it is representing several U.S. utilities that are suing the

department for failing to meet a 1998 deadline for taking title to spent fuel. It also had previously lobbied for the Nuclear Energy Institute.

### IG: Safeguards to Avoid Conflict of Interest

But DOE Inspector General Gregory Friedman defended the agency, explaining that he reviewed the contract and determined that "the Department's actions were consistent with applicable procurement conflict of interest provisions."

Friedman's review was documented in an April 3 IG report, which found that the Energy Department properly followed requirements to obtain conflict of interest waivers and to demand that Morgan Lewis erect firewalls between its work for the government and for the utilities (*FCW #273, April 9*).

While chiding the department for not fully documenting why the firm was selected, the IG did not recommend voiding the contract awarded last September.

Friedman agreed with DOE officials' explanation that Morgan Lewis was hired because it was the only firm with adequate nuclear licensing experience for the job, and that safeguards were put in place against the conflicts.

The IG report also detailed the firm's previous work for the agency, which included a 2001 investigation into allegations that a quality assurance official at Yucca Mountain had abused his authority. ●

After nearly 40 years of unrestricted access, the disposal facility in Barnwell County, S.C., is now open only to low-level waste from generators in Connecticut, New Jersey and South Carolina. The agreement to limit shipments was reached in 2000. Barnwell County leaders have fought the agreement, worried about the loss of jobs and revenue. County Council Chairman Keith Sloan told The State newspaper of Columbia the waste can be handled safely. The amount of waste shipped to the site has been reduced in recent years. The site is owned by Utah-based **EnergySolutions**.

Meanwhile, two U.S. senators plan to introduce a bill to ban the import of foreign low level waste, echoing a similar measure already under consideration by the House (*FCW #270, March 19*). Benjamin Cardin, D-Md., and Lamar Alexander, R-Tenn., said their bill also would allow the president to grant specific exemptions only if the importation would serve a crucial national or international policy goal.

Like its House counterpart, the Senate bill targets plans by **EnergySolutions** to import 20,000 tons of LLW from Italy, process most of it in Tennessee and bury about 1,600 tons at its Tooele County, Utah, facility. The company filed a related application with the Nuclear Regulatory Commission last September.

It could cost up to \$1 billion to clean up uranium mill tailings in Moab, Utah, near the bank of the Colorado River, by 2019, according to a U.S. Department of Energy cost estimate report submitted to Congress on Tuesday. The 2019 deadline gets the project done faster than the 2028 deadline the department submitted to Congress last year but is still way beyond the 2012 deadline initially proposed when the department took over the project.

In a five-page report, the department's Office of Environmental Management said it is working on railroad and truck options to move the tailings about 30 miles away and will make a transportation mode decision later this year. The department needs to move the tailings as well as remediate the groundwater.

Two Utah Congressmen, Rep. Jim Matheson (D) and Sen. Bob Bennett (R), called for the report and required the 2019 deadline through an amendment Congress approved last year after energy officials testified the department was instead working on a 2028 timetable.

The Energy Department announced Tuesday it will dig up a significant amount of transuranic waste from the Idaho National Laboratory, adding billions to cleanup costs but settling a dispute over just how much waste a 1995 agreement forces the federal government to remove.

The announcement came after U.S. District Judge Edward Lodge ruled in May 2006 that DOE must remove all transuranic waste from INL by 2018, unless it's unsafe to do so. A federal appeals court upheld the decision in March.

The Energy Department had argued that transuranic waste in rotting barrels dumped into pits and trenches between 1954 and 1970 was not covered under the 1995 agreement and should be left in place.

DOE will now remove no less than 7,485 cubic meters of waste from between 5.7 acres and 7.4 acres at the INL. The waste will be sent to the Waste Isolation Pilot Plant in New Mexico. Crews will target only waste most likely contaminated with plutonium-tainted transuranic elements, uranium and chemical solvents that could move easily if they enter the region's groundwater.

Remaining waste, located in a landfill in the southeastern corner of the Idaho site, would be capped to keep out rain and snow. Removal won't be completed until 2020 and capping is slated to be finished in 2027. Removal could cost \$300 million per acre or more, not including shipping the waste to New Mexico or capping and monitoring remaining waste.

Engineering companies **CH2M Hill** and **URS Corp.**'s Washington division hold the existing seven-year, \$2.9 billion contract to remove Cold War materials from INL. About 12,000 cubic meters have been removed so far.

**Washington Closure Hanford** has renegotiated its subcontract with **Stoller Corp.** to operate Hanford's Environmental Restoration Disposal Facility. The revised contract is technically considered an extension, taking Stoller's operation of the landfill for low-level waste to the original contract end date of Feb. 28, 2010. The remaining work is valued at about \$18.5 million. The contract had been awarded on a fixed unit price and has been converted to a time and material contract. The revised contract also gives Washington Closure more oversight. Changes in operations were made after a worker was found to be falsifying test data in early 2007. More than 200 truckloads of waste are being disposed of at ERDF each day.

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