Energy Intelligence
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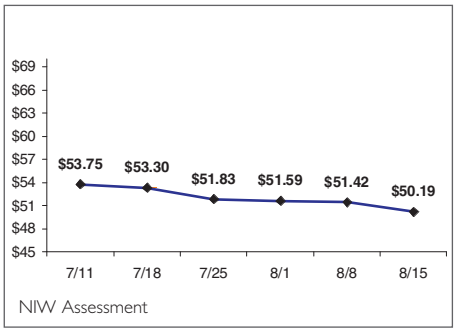
Nuclear Intelligence Weekly

Incorporating *Uranium Intelligence Weekly*

Vol. V, No. 33, August 15, 2011

UPP: $50.19/lb U3O8



Market Points

The price for U3O8 as reported by the Uranium Price Panel dropped to $51.19/lb, its fifth drop in as many weeks.

Sellers and buyers believe the price is likely to bottom out at $50 with sellers unwilling to go any lower.

Uranium Resources has cut its cash on hand by almost half of what it was at the end of 2010, according to its latest quarterly report.

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WEEKLY ROUNDUP

NRC Chairman Sees "Common Sense" In Task Force Proposals

- He is outnumbered four to one, but US Nuclear Regulatory Commission (NRC) Chairman Gregory Jaczko thinks his fellow commissioners will see the "common sense" of the post-Fukushima Task Force recommendations and vote for most or all of them within the recommended 90 days. NIW talked with the chairman last week (p3). The commission is considering how to respond to a barrage of legal filings from 25 environmental groups challenging the agency's right to issue licenses for new or existing plants (p4).

- Japan's Environment Ministry will take charge of nuclear safety in Japan under an agreement announced Monday, Aug. 15, according to Xinhua. A new agency under the ministry's aegis will integrate the Nuclear and Industrial Safety Agency (Nisa), the Cabinet Office's Nuclear Safety Commission, and some nuclear-related duties that currently fall to the Science Ministry, Xinhua reported, citing lawmakers. The agency will also take charge of handling nuclear emergency response tasks, including radiation monitoring, and dealing with the threat of nuclear terrorist attacks. Goshi Hosono, minister in charge of the nuclear crisis, said Monday that the government will work swiftly to create a preliminary panel this month to oversee the agency's creation and by next April the agency is expected to be fully operational, although parliamentary approval for the reorganization is necessary. The move follows the dismissal of three top nuclear officials, including the head of widely criticized Nisa, currently under the Ministry of Economy, Trade and Industry, which also promotes nuclear energy (NIW Aug.8'11).

- Southern's Vogtle project in the US state of Georgia is inching closer to construction, now that the NRC staff has completed its project safety evaluation and the AP1000 heads toward design certification (p5). Separately, the Congressional Budget Office issued a critical report of the US nuclear loan guarantee program, saying the Department of Energy is not charging the real market value for loan guarantees to build reactors (p6).

- India's domestic nuclear suppliers are worried that the country's new nuclear liability regime might expose them to massive claims in the event of an accident — just as it would non-Indian suppliers. Traditionally they have been protected by contract indemnification clauses (p6).

- Although state-backed and profitable, Kazatomprom has also borrowed heavily to fund its expanding uranium empire. And its high debt load is what earned it a downgrade to negative by ratings agency Fitch (p7). Meanwhile, Kazakhstan's uranium industry may again be facing tightened sulfuric acid supplies, which could significantly push up the cost of producing uranium (p8).

- Reeling from a government decision to phase out nuclear power, Germany's RWE will replace its chief executive officer, while E.On may let go of up to 9,000 employees (p10).

Uranium Price Drops for Fifth Straight Week

As financial markets took a pounding, the spot price for U3O8 dropped for a fifth straight week to $51.19 per pound, according to the Uranium Price Panel, thus continuing its slide toward the $49.80 assessment following the Fukushima Daiichi disaster (NIW Aug.8'11).

"There's nothing," a buyer said. "For me, no news is good news."

"Zip, squat, nil," said a seller of market activity. "Obviously there's nervousness because of the financial markets last week and the week before. ... My sense is this just makes people sit tight and see what happens."

Anyone selling below $50 will likely attract attention, a second seller said. "There's enough demand that I can't see it going below that, not really. We're still kind of in the summer period here, which always makes it interesting," the seller said. "There's still the Fukushima malaise."

Things are so stagnant that any trading at all could cause a big swing in the cost, the seller said. "I don't think it's as bad as some might think. ... The market right now in my mind found a pretty comfortable range between $50 and $55. I think the underlying fundamentals are still really strong. There are still energy markets and reactors around the world that continue to need uranium."

After Labor Day, everyone will go back to work, a buyer said. "Starting in September a lot of utilities are going to start looking at budgets for the rest of 2011 and they'll start looking at 2012," the buyer said. "They'll start looking to make purchases. I think by the NEI [Nuclear Energy Institute] meeting in October there will be a lot of people focused in on what to do for the rest of the year and 2012."

The buyer suggested that $50 is the price floor because any lower and no one will want to sell.

"They (sellers) are probably in a situation where they bought the material around the price we're at now or a little higher and they'd probably rather hold it, knowing the prices are likely to go up by the end of the year. It's kind of a game back and forth," the buyer said. "How desperate are the suppliers to sell and how needy are the customers to buy?"

A seller agreed — no one likely wants to sell below $50, though if there are sellers at prices below that mark, it might entice some companies, such as Cameco, to start buying again.

Uranium Resources' Cash Flow Dwindles

Texas company Uranium Resources said the amount of cash it has on hand is down by nearly half from the end of 2010. The company currently has $8.2 million, compared to $15.4 million at the end of 2010, according to its quarterly report released Aug. 15. The decrease stems from ongoing reclamation activities in Texas and from costs associated with a feasibility study in New Mexico.

The company is looking to advance its Church Rock/Crownpoint project in New Mexico with the study. Uranium Resources wants to begin production there in mid-2013. In May, the company and Cameco entered into a joint-venture agreement for exploration of the Los Finados property in Kenedy County, Texas, according to the quarterly report.

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URANIUM PRICE PANEL

For the week ended August 12, 2011

Weekly Spot Market Prices

		Aug.			Jul.				Jun.				May	
	Change	15	8	1	25	18	11	4	27	20	13	6	31	23
Price ($/lb U3O8)	-1.23	50.19	51.42	51.59	51.83	53.30	53.75	52.00	54.04	54.24	54.54	56.58	56.60	57.02
Total Assessments	*-1.00*	*11.00*	*12.00*	*12.00*	*12.00*	*14.00*	*12.00*	*11.00*	*12.00*	*12.00*	*11.00*	*10.00*	*10.00*	*16.00*
% within 1 StDev	*-0.76*	*90.91*	*91.67*	*83.33*	*91.67*	*92.86*	*83.33*	*90.91*	*91.67*	*91.67*	*90.91*	*90.00*	*70.00*	*87.50*
Low ($/lb U3O8)	-1.25	49.75	51.00	51.00	51.50	53.00	53.00	52.00	53.75	53.90	53.75	56.00	56.00	56.00
High ($/lb U3O8)	-1.25	50.75	52.00	52.75	52.50	54.00	54.00	52.00	54.50	54.50	55.50	57.00	57.00	58.00
Variability*	0.00	0.00	0.00	0.16	0.00	0.10	0.00	0.25	0.08	0.01	0.17	0.08	0.00	0.09

The Uranium Price Panel (UPP) represents the average price assessment reported by active spot market participants for a transaction of 100,000 lbs of U3O8 by book transfer on the date given. In the UPP, participants are assigned a market position of seller, buyer or intermediate. Each week Energy Intelligence eliminates assessments that are statistical outliers, and double-checks the market position of intermediates. It then uses random elimination to maintain an equal number of buyer and seller assessments in the final average. "Variability" represents the absolute range of conceivable final averages resulting from this random elimination. "High" and "Low" assessments represent the extremes of the non-eliminated market assessments. For a detailed explanation of the price panel methodology, see www.energyintel.com.

SAFETY
Jaczko Pushes for Regulatory Reform

The chairman of the US Nuclear Regulatory Commission, Gregory Jaczko, wants to move forward with all 12 of the main post-Fukushima Task Force recommendations but places the highest priority on six proposals that he says can be carried out in relatively short order. He's also optimistic that his fellow commissioners will see the "common sense" in the recommendations and approve most or all of them within the recommended 90-day time frame.

"I think we'll get pretty close to getting things done in 90 days. I don't see that as off the table," Jaczko told NIW in an interview Wednesday, Aug. 10. But he's got his work cut out for him given that, in their "notation votes" on the Task Force report, the other four commissioners expressed significant reservations about moving forward that quickly and offered proposals for more study (NIW Aug.1'11).

In his own notation vote issued Aug. 9, Jaczko accused his colleagues of attempting to slow regulatory reform, "micro" managing the staff and, in the case of Commissioner William Ostendorff, directing the staff to "completely reconsider all the recommendations in the Task Force's report, including those that concern near-term reactor safety issues, defeating the purpose of establishing the Task Force to begin with."

Asked about these opposing views, and to what extent they might have been influenced by industry, Jaczko shrugged his shoulders. "I hate to get into motives. I don't know why people do what they do. They cast their votes. They are what they are."

Had he made things worse for himself by withholding information during the Yucca Mountain proceedings, even though he was legally entitled to do so (NIW Jun.13'11)? Or, more recently, by what Senate Republicans characterized as his "high handedness" over the assumption of emergency powers in the aftermath of Fukushima? Could these have been a factor in the other commissioners' decisions?

Jaczko defended his role. "It is my job as chairman to set goals for us. Do I expect those goals are going to be achieved 100%? No." However, on the Task Force report he said he thought that with more time the commission would at least partially converge because "everyone's going to have to come to the realization. ... I mean they [the Task Force recommendations] are common sense."

The biggest point of contention, he said, is the proposal for a shift in the agency's approach to beyond-design-basis events, from a voluntary to a regulatory basis. That's contained in the Task Force's first recommendation for "a logical, systematic, and coherent regulatory framework for adequate protection that appropriately balances defense-in-depth and risk considerations."

A New Category?

As Jaczko sees it, all of the report's recommendations, if adopted, would fall under the agency's adequate protection designation, therefore requiring new regulations (and follow-up inspections). "That's what recommendation one is all about. It's basically saying safety means having not only design-basis kinds of of things, which is kind of how you design the plant, but then these extended design-basis requirements. ... That's where there's been more intense discussion."

His own reaction to the report was to take "the good with the bad." There were two basic statements, he explained, one that "a lot have latched onto, which was that there was no immediate threat — that to me was the Task Force saying there was no need to shut down any [nuclear] facilities in this country. That would be the good so to speak. The bad would be 'here are some things we need to fix.' And so I'm not willing to take the one without the other. We have to be willing to accept the fact that we don't need to shut down any plants but recognize we need to make some enhancements."

In his view, Fukushima was a wake-up call to industry and its regulators to take steps to ensure such an event never happens in the US. "I think Fukushima should, as I said, if there's one thing I learned from it, [it] is that if we had a mind-set anywhere, even if it's just a little piece in the back of our mind that — 'You know what? We're never going to have an accident again' — that needs to go away and we need to recognize that if an accident like what happened in Japan were to happen in the United States it is not acceptable. ... Whatever falls from it [in terms of new regulations] is what falls from it."

While some might see the divisions over the Task Force report as signs that the commission is dysfunctional, Jaczko says the disagreements are signs that commissioners are doing their jobs. "I don't see it as dysfunctional. This is actually good. I chalk this up as success. Normally we don't release these votes until the commission has kind of done the sausage-making of bringing it all together," he said. "I actually think it's great for it to be done beforehand, for people to see the opinions of the commissioners. I mean that's what they're paid for. They're paid to have opinions, to think about these issues and then for us to come together and talk about it."

Although the formal statements by each of the five commissioners suggest a formidable level of dissent, Jackzo believes there is movement in the direction he'd like to see. For example, he noted that most of the other commissioners had requested specific information from the staff concerning some of the Task Force recommendations within 30 or 45 days, and that he took that as a sign they weren't prepared to stand still on the recommendations as a whole.

"What I'm saying we should do in 90 days is kind of figuring out what to do with each of the recommendations. We're not going to be done with any of them in 90 days. If they require an order it's going to take some more time to do the order; its going to take time to implement the order."

However the chairman also made clear he expects that while new regulations will take time to develop and implement, he expects that post-Fukushima reforms in their entirety should be completed within five years, even taking into account further possible changes based on new accident

information likely to drift in over the next couple of years. "If five years from now the commission is still dealing with post-Fukushima events I think that's a mark of failure on the part of the commission and the agency."

Priorities

More immediately, Jaczko said, "There are really only six recommendations that they [the Task Force] say where you should begin near-term activities because you have enough information dealing with external events." These include station blackout (SBO), consolidating emergency procedures into one holistic framework, remote spent fuel pool monitoring and makeup cooling systems, hardened vents and emergency preparedness incorporating more than one event.

"I mean this is kind of obvious. ... To some extent it wasn't terribly earth shattering. And if you really look at those six recommendations none of that is terribly expensive. I mean the most intrusive probably and the least defined in my mind ... is the hardened vents [in BWRs]. ... When I looked at that recommendation clearly what they're saying is 'look we've never required the hardened vents; we need to do some kind of requirement for hardened vents for Mark Is and Mark IIs. That's the one where you're going to have to get in and do physical mods in the plant. But everything else presumably is more likely going to be additional equipment, modifications" that don't involve major changes inside the reactor building.

As Jaczko told a Senate hearing Aug. 2, the priority is on installing hardened vents in five of the eight Mark IIs that don't already have them. Mark Is all do, although they are outside "a holistic coherent [regulatory] framework," he noted (NIW Aug.8'11). These were installed on a voluntary basis because of the vulnerability of BWR containments, particularly in Mark Is, to severe accidents. However, as critics note, hardened vents installed at Fukushima malfunctioned during the accident, leading to explosions.

Further into the future, Jaczko believes the commission will have other important issues to address, such as expanding or changing the emergency preparedness procedures to encompass a differently configured evacuation zone, which could be beyond the current 10-mile limit. "The 10-mile Emergency Preparedness Zone doesn't tell you where you're going to stop; it tells you where you're going to start. ... Personally I think we need to get away from the 10-mile zone in general and go to more of a performance-based program."

Through mid-October, Jaczko's main priority will be persuading his fellow commissioners that "some of these things should have been and should be going forward regulatory requirements and not even put into this space of cost/benefit, but in the baseline kind of safety standard." Ultimately, he said, "It's a policy choice."

In Washington's current climate, where there is intense pressure from Republicans and the Tea Party in general, to get rid of "job-killing regulations" Jaczko is likely to have a tough time persuading his colleagues to make that choice.

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Environmental Groups File 19 Legal Actions Against US Reactors

The Nuclear Regulatory Commission (NRC) got a barrage of legal challenges from 25 environmental groups last week challenging existing and new reactor license administrative proceedings.

The 19 filings claim that the National Environmental Policy Act (NEPA) requires the NRC to prepare an environmental impact statement following the commission's post-Fukushima 90-Day Task Force review, which was released in July (NIW Jul.18'11). They allege that the NRC can't issue or renew any reactor licenses until it "has either strengthened regulations to protect the public from severe accident risks or until it has made a careful and detailed study of the environmental implications of not doing so," according to a Friends of the Earth press release representing all the groups.

"What we've learned in the wake of Japan's nuclear disaster — and what the Nuclear Regulatory Commission's experts concluded — is that current regulations are fundamentally inadequate. They simply do not provide the level of safety required by laws including the National Environmental Policy Act and the Atomic Energy Act," said Phillip Musegaas, Hudson Program Director of Riverkeeper, Inc., in a press release. Riverkeeper filed one of the 19 challenges, on Indian Point in New York. "The law requires regulators to take this information into account before issuing any licenses for reactors. Our filing today is intended to force them to do so," Musegaas said.

The NRC will review the filings and respond appropriately in each proceeding, Scott Burnell, a spokesman for the agency, told NIW. If one of the submissions was filed past the time for public comment, or is part of a previous petition, it will be handled according to NRC guidelines, he said.

"Other points to consider include a) the agency's repeated statements that any Fukushima-related regulatory changes will apply to all US reactors, whether their licenses have been renewed or not, and b) the task force report's very direct statement that existing plants are safe for continued operation," Burnell wrote to NIW.

In a 19-page technical declaration supporting the filings, Arjun Makhijani, president of the Institute for Energy and Environmental Research, says the Task Force report implicitly calls for a review of all new reactor design certifications. "The effects of seismically induced flooding and fires on spent fuel pool arrangements should also be reviewed," Makhijani writes. "All of these reviews could result in the imposition of costly prevention or mitigation measures, affecting comparisons with the alternatives."

At the end of the declaration, Makhijani concludes that consideration of the Task Force's conclusions and recommendations for reactor licensing and rulemaking would "materially affect the outcome of many and possibly all those studies." Among the 90-Day review's recommendations are suggestions that the staff order operators to enhance spent fuel pool makeup capability and remote instrumentation, and requiring hardened vents in BWR Mark I and Mark II containments.

Among the groups filing the legal challenges are Beyond Nuclear, Sierra Club of New Hampshire, People's Alliance for Clean Energy, Green Party of Ohio, Friends of the Earth and Blue Ridge Environmental Defense League. The filings are targeted at reactors across the US, including Diablo Canyon, Watts Bar, Bellefonte, Summer, South Texas, Comanche Peak, Vogtle, Turkey Point, Indian Point, Calvert Cliffs, Davis-Besse, Seabrook, Fermi, Levy, Shearon Harris, North Anna, Bell Bend and W.S. Lee, according to the press release.

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NEWBUILD
AP1000 and Vogtle Inch Closer to Approval

Southern Co. subsidiary Georgia Power's Vogtle project is inching closer to the starting gate, now that the staff of the Nuclear Regulatory Commission (NRC) has finished its safety evaluation for both the project and the AP1000. "Both the AP1000 certification and the Vogtle Combined License now have an FSER [Final Safety Evaluation Report], so both move on to the next step in the respective processes," NRC spokesman Scott Burnell told NIW.

The agency's Office of New Reactors completed its technical work on the AP1000 by issuing a 1,500-page FSER earlier this month. The New Reactors staff, which issued a proposed rule in February, is currently wading through more than 13,000 public comments on the design submitted through early May, as well as information from Westinghouse.

"The staff must draft a final rule based on all that information and provide the rule to the agency's five Commissioners to consider and vote on; this step is expected to occur in the next few weeks. The Commissioners' vote, expected by the end of the year, will provide direction to the staff that determines if and when the NRC finishes the certification process and approves the AP1000," Burnell said on an NRC blog.

Based on its AP1000 work, the staff also completed a technical review of safety issues for the Vogtle project and issued a separate FSER around the time of the AP1000 FSER — demonstrating its apparent determination to keep the two projects tightly tracked. "That document, combined with a Final Supplemental Environmental Impact Statement, marks the end of the staff's review. As with design certification, however, it's not the end of the licensing process," Burnell said.

Next month the commissioners will conduct a mandatory hearing, based on the Vogtle FSER and the environmental review, to determine whether the staff's work supports the legal conclusions necessary to issue a license. They are expected to make a decision later this year, or early next, depending on the outcome of the AP1000 certification process. "If the AP1000 final certification rule has been approved, the Commissioners will issue their decision immediately. If the rule is still under discussion, the Commissioners must hold their decision until the rule is approved," Burnell said. "The bottom line is that the NRC still has months of work to do before either the AP1000 or the Vogtle license can be approved."

The completed evaluation of Vogtle comes less than a month after the Georgia Public Service Commission rejected a proposal that would have protected ratepayers from potential cost overruns in building the plant (NIW Aug.8'11). Aris Candris, president and CEO of Westinghouse, said this puts the project in the homestretch. "We're happy that the NRC technical staff has approved the amended design and confident that the NRC Commissioners will do the same so construction of AP1000 units can begin here in the US," he said.

Design Criticisms

The AP1000 review has been held up by staff concerns over the concrete and steel shield building and plans to build it using modular construction techniques. Those concerns have been satisfied. However, nuclear opponents say the AP1000 lacks an adequate containment, something that evidently does not worry NRC staff.

Critics say the containment is not airtight and subject to a "chimney" effect where radiation would escape more easily in an emergency. The combination of air circulating around the steel vessel (between the interior walls of the shield building and the reactor vessel) and water tanks positioned on top of the vessel (part of a passive emergency core cooling system) breed corrosion, said Glenn Carroll, coordinator of Nuclear Watch South. In the past, the concrete enclosures have been airtight to prevent a potential radiation leak from escaping to the atmosphere.

"You've got water, you've got air and you've got heat. You've got a corrosive environment," she said. "And you have steel. It won't be a seamless piece of metal. You'll have bolts, vulnerable joints where corrosion can happen more rapidly."

And if the side of the steel vessel were to corrode, the airflow being used as a passive safety measure would instead be a passive radiation dispenser, Carroll said. "You're trading robust containment for a chimney. It's outrageous," she said.

Much of the criticism over the containment stems from an analysis by Arnie Gunderson, chief engineer of Fairewinds Associates. "The steel containment in the AP1000 design has no backup secondary concrete containment behind it [as most existing US PWRs do] to capture post-accident radiation that leaks out," he told Nuclear Engineering International last year.

Gunderson says that in an emergency, the shield building would draw in air through vents near the top of the structure, and spray water onto the containment vessel from tanks above the reactor vessel. Water and air would cool the containment vessel passively. Gases would be vented out of a chimney in the roof of the structure, which he says is not filtered.

Westinghouse has completely rejected the criticism. A January report by the NRC Advisory Committee on Reactor Safeguards reviewed the potential for corrosion and found that the Westinghouse design and maintenance program complies with NRC regulatory standards. "This program is acceptable and is expected to ensure against undetected corrosion of the CV [containment vessel] pressure boundary," the report states.

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UNITED STATES
CBO Says Loan Guarantees Underpriced

The US government is not charging the real market value for loan guarantees to build nuclear power plants, according to a study released Aug. 3 by the Congressional Budget Office (CBO). The loan guarantees administered by the US Department of Energy (DOE) are designed to promote investment by lowering borrowing costs. The CBO report says the guarantees may also lead some to believe that "the government is providing an implicit guarantee on a larger amount of debt than the amount formally contracted."

The report is the latest shot fired in the ongoing conflict between the CBO, the DOE, the White House Office of Management and Budget (OMB), lawmakers and the industry over loan guarantee terms (NIW Sep.27'10). An adjustment of just 1% in credit subsidy fees, what nuclear loan guarantee recipients pay to cover loan-default risk, can cost utilities many millions of dollars. Utilities say the amount of such fees can determine whether a project is economically viable or not.

The DOE provisionally backed a loan of $8.3 billion for Southern's Vogtle Plant in Georgia in 2010 — the only guarantee thus far at least tentatively approved. The company cleared another round of hurdles Aug. 9 when the Nuclear Regulatory Commission staff recommended a limited work authorization for Vogtle 3 and 4 (NIW Aug.15'11). Congress has voted $18.5 billion in total for reactor loan guarantees.

Fair Market Value

DOE estimates for a project's cost, which influences loan guarantee costs, are "significantly lower" than the calculations a private guarantor would have for the same project, according to the CBO report. The DOE estimates are calculated as required by law under the Federal Credit Reform Act (FCRA) of 1990, but fair-value estimates provide a more realistic measure of the costs to taxpayers. "FCRA estimates do not recognize that the government's assumption of financial risk has costs for taxpayers that exceed the average amount of losses that would be expected from defaults; those additional costs arise because a borrower is most likely to default on a loan and fail to make the promised payments of principal and interest during times of economic stress, when the losses are especially painful for taxpayers."

Loan guarantee costs for nuclear construction vary greatly depending on the project characteristics and the economic environment in which a project proceeds, according to the CBO. The makeup of the company, how the project is financed, the regulatory environment, the demand for electricity and whether construction costs can be passed on to customers all factor into the ultimate cost of construction, according to the report.

Currently the DOE assigns a similar recovery rate for all loans as a starting point to determine the subsidy fees. But the agency isn't able to assess the value of its loans as precisely as the loan recipients. Not only are rates likely to vary greatly across projects, but also over the lifetime of a given project, the report states. The CBO said site-specific factors could contribute to better determining loan values but that officials do not "appear to make full use of the information available to DOE through its detailed project assessment."

The report also notes that higher subsidy fees — charging fair market value — can backfire. The higher fees could drive away good borrowers, making it impossible to provide a loan guarantee without a subsidy. "Because of the high degree of uncertainty involved, it may not be possible to charge borrowers the full cost of a loan guarantee," the CBO report states.

Rep. Dennis Kucinich (D-Ohio) and Rep. Elijah Cummings (D-Maryland) sent a letter to DOE Secretary Steven Chu to discuss the report, which Kucinich requested during the last Congress while chairman of the domestic policy panel of the House Committee on Oversight and Government Reform.

"In light of CBO's findings, the continued use of this current model to establish credit subsidy fees for nuclear reactor construction projects could expose taxpayers to the risk of billion dollar bailouts," Kucinich and Cummings wrote in their letter.

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INDIA
Questions Over Local Supplier Liability Exemption

It is not just foreign nuclear suppliers that fear last year's Indian nuclear liability law because it exposes them to massive liability if a reactor they have helped to build in India suffers an accident. Indian nuclear suppliers, who have traditionally been protected by indemnification clauses in their contracts, are also worrying about how the law will change their country's nuclear liability regime.

"Certainly, the nuclear liability issue is important to us," MV Kotwal, president of Larsen & Toubro's (L&T) Heavy Engineering Division, and member of the key Indian nuclear supplier's board of directors told NIW last week.

Kotwal said that since the inception of the Indian nuclear program L&T has been involved in it, as a supplier of components and a builder of power plants. The company is supplying steam generators and other components to Indian Heavy Water Pressurized Reactors (IPHWRs) now under construction, he said.

And indemnification clauses in L&T's contracts protect it from liability in case of an accident at one of the plants it has been involved in building, Kotwal said. The question for L&T is how the new nuclear liability law will affect the company's liability in connection with future projects.

"Any commercial entity cannot take up business with unlimited liability," Kotwal said. But the Indian government understands this, and has a chance to further define and limit supplier liability in the rules it is now in the process of promulgating for the implementation of the new liability law.

"After the [nuclear liability] act has been passed, there were discussions about how the industry would move ahead," Kotwal said. "Now we are waiting for the rules, and then we'll have to see."

Kotwal said he believes the rules will be favorable enough to suppliers to allow for L&T's continued involvement in the Indian nuclear program. "I'm not even thinking about any sort of situation that will involve stepping out of the nuclear business," he said.

Rumors of Secret Letters

Kotwal told NIW that L&T had not been given letters of indemnification or any other sort of protection against liability connected with its participation in future nuclear projects. This seems at odds with recent rumors that the Indian government has been quietly moving to protect home-grown nuclear suppliers from liability, while leaving foreign suppliers to fend for themselves.

Indian newspaper The Telegraph published an op-ed by former Indian ambassador to the United States Ranendra (Ronen) Sen on Jul. 28, that referenced these rumors. "We have committed ourselves to a level playing field," Sen wrote. "We cannot legally apply different requirements for suppliers from different countries, or have different rules for domestic and foreign suppliers. The letters of indemnification we have apparently issued to some suppliers are of doubtful legal validity."

The letters of indemnification Sen was referring to in the op-ed, he told NIW recently, were supposedly issued to Indian nuclear suppliers. But Sen, who was ambassador from 2004 to 2009 and played an important role in negotiating the landmark 2005 US-India deal that ended India's decades-long nuclear ostracism, said he could not personally confirm the existence of these letters.

Sen serves on the board of directors for Tata Motors, part of the India's Tata Group. Tata Consulting Engineers, which is also part of Tata Group, on its website touts its "extensive experience in the field of civilian nuclear energy," centering around design, engineering, and procurement work for research and power reactors in India. Another Group member, the utility Tata Power, has repeatedly said in recent years that it wants to participate in building nuclear power plants in India.

A spokesman for India's Department of Atomic Energy, when asked Aug. 3 whether letters of indemnification were being issued to protect suppliers, asked NIW to submit questions by email. Since then, the spokesman has not responded to NIW's emailed questions or follow-up phone calls.

Legal Validity

Attorney Mohit Abraham, co-chair of the New Delhi-based Nuclear Law Association's nuclear liability working group, said he had also heard that letters were being issued to protect Indian nuclear suppliers from liability in the event of an accident at a plant they help to build. But he also was unable to offer first-hand confirmation.

If they do exist, however, they might work, Mohit said.

India's parliament passed the Civil Liability for Nuclear Damage Bill in August of 2010 (NIW Sep.13'10). The part that concerns suppliers is section 17 (b), which says, "The operator of the nuclear installation, after paying the compensation for nuclear damage in accordance with section 6, shall have a right of recourse where ... the nuclear incident has resulted as a consequence of an act of supplier or his employee, which includes supply of equipment or material with patent or latent defects or sub-standard services."

The arrangement laid out in 17 (b) is at odds with nuclear liability laws in many countries, including the US and Japan, which are written to channel all liability to the operator, sheltering suppliers. It also clashes with terms of the Convention on Supplementary Nuclear Compensation (CSC), an international treaty the US has been peddling since the mid 1990s, trying to get enough countries to ratify it to bring it into effect (NIW Jul.27'09). India has signed, but not yet ratified the CSC (NIW Nov.1'10).

Section 17 gives the operator, which in India would be state-run Nuclear Power Corp. of India Ltd. (NPCIL) the right to go after suppliers — it directs them to do so, Abraham points out. Therefore, NPCIL, or the government on behalf of NPCIL, could write into contracts with suppliers clauses specifying that it was waiving its right of recourse.

"It's not direct liability that the act puts on the supplier — they couldn't get out of that," said Abraham, a partner at PXV Law. "It's a right of recourse, which can be waived."

However, because of a peculiarity of the Indian legal system, such waivers (and practically anything else) can be challenged in court by any Indian citizen who takes the time to file a "writ petition," Abraham said. The filer could argue that it was against the public interest for the government to refuse to try to recover taxpayer money from a negligent supplier when the law allowed it to do so.

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KAZAKHSTAN
Kazatomprom's Increasing Debt

Kazatomprom's high debt load prompted ratings agency Fitch to revise its outlook for the Kazakh uranium mining giant last month to negative. Although the company is state-backed and continues to report sizeable profits, it has borrowed heavily to fund increases in its uranium output.

In 2010, Kazatomprom doubled its debt from about $416 million to $833 million. By the end of 2010, it also had more than $304 million in additional financial liabilities, "mainly guarantees of minimum distribution to [China Guangdong Nuclear Power Co. subsidiary] Beijing Sino-Kaz Uranium Resources, a JV partner," from 2010-2033, worth about $290 million, according to Fitch.

In a Jul. 21 report, Fitch said its current long- and short-

term "foreign currency Issuer Default Ratings" of BBB- for Kazatomprom take into account the company's strong points. The ratings agency's analysts noted, for example, "the company's ability to successfully implement its ambitious expansion strategy."

Fitch also gave Kazatomprom kudos for its "position as one of the leading uranium producers worldwide," and "the fact that most of its planned uranium production for 2011-2015 has been contracted under long-term agreements."

And Kazatomprom has turned in consistently strong financial results. Earlier this month, it released first half 2011 results showing net income of 30.369 billion tenge ($207 million), up 63% from first half 2010. It also reported revenues of KZT 144.851 billion ($989 million) for the first half of 2011, 37% higher than for the same period in 2010, a rise it attributed to increased sales of uranium products as it continues to boost production (NIW Aug.8'11).

The Downside

Despite these positives, Fitch analysts remained concerned about Kazatomprom's gross leverage ratio: its gross debt divided by its earnings before interest, taxes, depreciation and amortization (Ebitda). Kazatomprom's gross leverage for 2010 was 2.8x, according to Fitch, meaning its debt was 2.8 times as large as its Ebitda.

This is in line with the leverage ratios of its nuclear peers, but high compared to its peers with similar credit ratings in the Commonwealth of Independent States (CIS), the former Soviet Union, according to Fitch.

There are a very limited number of "pure" uranium mining companies in the world to compare Kazatomprom to. So Fitch also compared it to all industrial companies rated in the low BBB/high BB ratings categories in the Commonwealth of Independent States (the former Soviet Union), and found that those "CIS peers" had much lower leverage ratios of 0.8x to 1.4x.

And while Kazatomprom's debt is stable, its earnings are vulnerable. Fitch noted the company's "limited diversification." In 2010, 86% of Kazatomprom's revenue came from uranium sales, and 70% of that uranium revenue came from contracts with five customers: China Nuclear Energy Industry Co., Nukem, Korea Hydro & Nuclear Power Co., China Guangdong Nuclear, and Itochu.

Fitch also pointed out Kazatomprom's "exposure to uranium price volatility, since about half of Kazatomprom's uranium products are sold at spot prices." It noted that, since Fukushima, "uranium oxide (U3O8) futures prices have been under pressure ... which may have a lasting negative impact on Kazatomprom's earnings."

Although Kazatomprom is owned by the Kazakh government's sovereign wealth fund, Fitch rates Kazatomprom on a standalone basis as legal, operational and strategic ties between Kazakhstan, its ultimate parent, and the company are considered to be limited, according to Fitch's Parent and Subsidiary Rating Linkage methodology.

More Debt in the Future

In a statement issued Jul. 27, a few days after Fitch's report came out, Kazatomprom protested that it was diversifying with solar, wind and geothermal energy projects, and moving to "become one of the major players on the world market of rare-metal and rare-earth products." The company also insisted that, "Despite the relatively high level of leverage, operating activities of Kazatomprom is carried out at own funds [sic]. Borrowed funds are raised primarily to finance projects under the investment program."

And, indeed, Kazatomprom plans to borrow more money to finance more projects. Its 2011-13 investment program calls for some $1.7 billion in spending, 70% of which are "supposed to be implemented with own funds [sic]," according to Kazatomprom, leaving $510 million to presumably be paid for through additional debt. Kazatomprom plans to build a fuel assembly plant, construct desalination plants, start "pilot industrial development" at the Zhalpak and Moinkum uranium deposits, and inject capital into the Uranium Enrichment Center in Russia, among other ventures.

All this spending won't push the company's gross leverage ratio up past about 2.5x, but that's only because its earnings are likely to benefit from payments from its uranium mining joint venture (JV) partners. These are expected to "increase dramatically" as "JVs and associates continue to ramp up their production and move into a stable cash generating phase," according to Fitch. This means Kazatomprom's financial health will depend heavily on payments from these JV partners.

In its Jul. 27 statement, Kazatomprom was unapologetic about its debt load, and signaled no change of course. "Taking into account the strategic plans and pace of development, the management of Kazatomprom believes that the company has sufficient capacity for decision on all financial matters related to development," the statement said.

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URANIUM
Sulfuric Acid Concerns Return to Kazakhstan

After several years of unimpeded production successes, Kazakhstan's uranium industry may again be facing tightened supplies of sulfuric acid, a key resource needed to extract pounds from the country's in situ recovery (ISR) operations. This in turn could significantly push up the cost of producing uranium — last year state-owned producer Kazatomprom revealed that in 2009 the price of sulfuric acid represented half of the total cost of uranium production (NIW Jun.1'10).

As the country has dramatically boosted its production in recent years, the newer incremental production has increasingly come from harder-to-exploit deposits, many of which require far more sulfuric acid than long-producing fields. Even in some of these, as ISR production moves further afield from the "heart" of the deposit, extraction complications and costs are rising. While producers are only starting to feel the impact of this, the talk of sulfuric acid shortages may only be a harbinger of things to come.

Already Cameco has warned that its massive Kazakh ISR operation of Inkai experienced "brief interruptions" of sulfuric acid supply during the year's first half. While production remains on track, "if availability continues to be an issue, production may be impacted for the year." And Uranium One, at this point the second-largest equity producer in Kazakhstan, has been forced to import costlier sulfuric acid from Russia.

While there are other factors behind Kazakhstan's sulfuric acid supply tightness, the key factor is increased demand from the uranium sector. The need for increasing amounts of acid to produce one kilogram of contained uranium is a symptom of the kinds of challenges the Kazakh industry is facing. Some even speculate that production challenges like these, rather than any political decision out of Astana to preserve the value of the country's strategic resources, may be behind the coming production plateau.

Plateau Problems

"Despite the overall success of the ramp-up in production over the past several years, Uranium One's view is that the continued growth in production will begin to plateau as many of the mines in the Northern Geological Basin achieve steady-state production levels and the newer operations in the Southern Basin continue to ramp-up at a more measured pace," said Uranium One Chief Executive Officer Chris Sattler in an investor conference call last week. "This is evidenced by year-on-year growth of about 15% from 2010 to be forecast for 2011, as well as Kazatomprom's stated goal of producing approximately 20,000 metric tons in 2012 — a marginal increase over the forecast for 2011."

This "measured pace" can already be seen in the Southern Basin's Inkai South mine (operated by the Betpak Dala joint venture, of which Uranium One owns 70%), where it already seems to be a struggle to ramp up to the nameplate capacity of 2,000 tons of uranium (5.2 million lbs U3O8) per year — a feat scheduled to be accomplished by the end of 2011. "The program for 2011 provides for the installation of 472 wells to achieve the production target for the year," said Uranium One in filings last week, "however it is now considered that additional wells might be installed due to lower-than-expected head grade in production solutions."

Or take another deposit Uranium One is involved with: the Kharasan ISR project (30% owned by Uranium One, 30% by Kazatomprom, and 40% by the Japanese Energy Asia consortium). Kharasan has been a problematic site due to the deposit's high carbon levels. The sulfuric acid injected into the orebody lowers the pH of the water within the deposit, enabling injected water to more aggressively dissolve the uranium. However, carbon counteracts and neutralizes the sulfuric acid, meaning that more acid must be injected.

This is why Kharasan was selected during the initial sulfuric acid crunch several years ago as the site for a completely new sulfuric acid plant at nearby Zhanakorgan (NIW Sep.8'09). That $199 million plant, built by the Italian firm Desmet Ballestra, is scheduled for mechanical completion by the end of the year, and for first production next year. Interestingly, the plant will not only supply sulfuric acid to the Kharasan ISR operation — its targeted capacity is now 550,000 tons of sulfuric acid per year — it will also supply electricity; through the process of converting the elemental sulfur into acid, heat is released and the plant will have an 18.5 MW steam-turbo generator that will contribute power to the local electricity grid.

Supply Crunch

But the commissioning of the Zhanakorgan acid plant is still months away, and in the meantime Uranium One and Kazakhstan's other producers must deal with a supply crunch. Both Uranium One and Cameco claim that the uranium industry must compete for the allocation of domestically produced sulfuric acid with fertilizing companies during the sowing season. Moreover, one of the country's major sulfuric acid producers — perhaps Kazakhmys, with its 1.2 million ton/year Balkash plant — temporarily shut down its operations in order to perform maintenance.

This is uncomfortable for companies like Uranium One and Cameco, which are at the back of the queue to receive domestic acid supplies. Katco, for example, Kazatomprom's joint-venture with France's Areva that operates the largest ISR operation in the world, never seems to have any difficulties obtaining sulfuric acid.

Kazatomprom, as the state-producer, has first dibs on sulfuric acid supplies for the uranium industry (NIW Jun.23'08). And Kazatomprom's sulfuric acid consumption may actually increase faster than that of its various joint-venture partners in Kazakh production. In its 2010 prospectus, the company revealed that it takes approximately 100 kg of sulfuric acid to dissolve one kg of contained uranium.

This was presumably the average rate for Kazatomprom's own mines, for it contrasts starkly with Uranium One, which said last week that the mines in the northern basin (where some of its key producing assets are located) require anywhere from 40 kg to 60 kg of sulfuric acid per kg of Uranium. But in newer fields — including Uranium One's southern fields — the acid requirements can be an order of magnitude higher. Multiple sources in the Kazakh uranium industry have told NIW that requirements can push as high as 200 kg of sulfuric acid per kg of Uranium.

Assuming its requirements are pushing north to such levels, it seems reasonable to assume that Kazatomprom is taking an ever-larger slice of domestic acid production. Thankfully for Uranium One, it's now majority-owned by a state-owned Russian firm, Atomredmetzoloto (Armz). With the assistance of Armz, Uranium One has been able to secure Russian acid supplies from oil and gas operations across the border. In 2008 industry sources told NIW that importing Russian acid could cost up to $300/ton, more than double what Uranium One claims to be paying at the moment, but it's safe to assume the company's Russian connections also secured a much lower price.

Cameco, meanwhile, appears to be waiting for the problem to go away: "If availability continues to be an issue," the company said in its recent quarterly report, "production may be impacted for the year."

A Recipe for Cost Escalation

Ultimately, there is little concern that scarcity of sulfuric acid will dramatically influence national production goals. The real impact will be felt in terms of cost. Assuming Kazakh uranium production of 19,000 tU/year, and a very conservative estimate of 100 kg of sulfuric acid per kg of Uranium, total acid requirements would be 1.9 billion kg. Uranium One's current costs of $140/tons sulfuric acid would put the yearly tab for acid alone at $266 million.

Then comes transportation costs; until the Zhanokorgan plant opens, there is no actual acid production in Kazakhstan's key uranium region, meaning that companies must generally truck material from eastern Kazakhstan, Uzbekistan, or even Russia. The largest acid-hauling trucks can carry 40,000 kg, meaning that current production, using the above conservative assumptions, would require some 47,500 truck deliveries per year, or 130 massive acid trucks delivering material every day.

Given the condition of southern Kazakhstan's roads, this is an ambitious logistical requirement, to say nothing of its costs. But change any of the assumptions, such as the acid requirements of lower-grade or more complex new uranium fields, the availability of the large acid-hauling trucks, or the cost of the acid, and the implications for Kazakh uranium production are potentially much greater.

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GERMANY
RWE and E.On Continue to Reel

RWE will replace its chief executive officer, while E.On may let go up to 9,000 employees, Germany's two largest utilities announced last week as they continued to reel from the government's post-Fukushima decision to phase out nuclear power in Germany by 2022.

Current RWE CEO Juergen Grossman, who pushed hard for a lifetime extension of Germany's nuclear fleet, will continue in his position through June 2012. At that point he will be replaced by Peter Terium, 47, who has been in the company leadership for eight years, most recently heading Essent, the Dutch utility (with a nuclear plant) that RWE took over in 2009 (NIW May23'11). While Grossman is leaving RWE amicably, he is the first major German utility executive casualty since Berlin's May decision (NIW May31'11).

The news came as both RWE and E.On sought to adjust their corporate strategies to Germany's new political and commercial realities. In the first half of 2011, RWE's profits fell 22% from 2010 levels to €1.59 billion, while E.On's plummeted from €4.93 billion to €935 million. This was particularly due to E.On's June quarter, where profits fell below zero, losing the company €1.49 billion.

"Despite some minor improvements in prices and spreads in the last month, the overall environment for conventional generation in Europe ... remains very challenging as the economic difficulties in many of our countries are more pronounced than expected," said E.On CEO Johannes Teyssen in an investor conference call. "From the political front, decisions to reverse the lifetime extension of nuclear energy, within weeks, in Germany, only illustrates a broader trend toward increased government decision and intervention. This is an environment that we have to face and work with."

"Nevertheless," Theyssen continued, "we will simply not accept an even lower profitability in the short term, and stagnation in the longer term." Theyssen, therefore, outlined a bold set of cost-cutting measures to pull the company back into profitability. As part of these measures, E.On may let go 9,000 of its 79,000 global staff — 55% of whom are employed outside Germany.

Meanwhile, RWE plans some €3 billion ($4.25 billion) in asset sales, which comes less than one year after it announced in February €8 billion in noncore asset sales. This will be accompanied by €2.5 billion in share sales, the revenues of which will primarily be used to pay down RWE's enormous debt load, much of which was incurred through the purchase of Essent in 2009.

Both companies, perhaps understandably, continue to complain about the German government's nuclear U-turn. "The decision of the German government was made at the peak of our huge investment program to build highly-efficient conventional power plants and significant investment in the renewables business as part of our CO2 mitigation strategy," said Grossman in an investor conference call. "This is an additional burden which we couldn't have expected at the beginning of the year."

Grossman added that RWE would not meet its previously announced CO2-mitigation 2020 target due to the loss of nuclear production. Aspects of the German government's decision are of course under attack legally by RWE, E.On, and German utility EnBW (NIW Jul.18'11). A final decision over the legality of the government's move from the Federal Constitutional Court will be "years and years" in the making, RWE warned. However, "the nuclear fuel tax [that the government imposed in 2020] will probably be decided earlier than other lawsuits we're putting forward," said Grossman.

It also remains unclear how either RWE or E.On will in this environment ever put any significant capital into both companies' British joint-venture to build new nuclear reactors.

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BRIEFS

INDIA

Indian External Affairs Minister SM Krishna on Aug. 10 took the floor of the Lok Sabha, the lower house of India's Parliament, to make it clear that New Delhi believes a recent Nuclear Suppliers Group (NSG) agreement does not affect India. NSG members in June decided not to sell enrichment and reprocessing technologies (ENR) to countries that — like India — are not signatories to the nuclear Non-Proliferation Treaty (NIW Jun.27'11). Krishna said India won a "'clean' exemption from the NSG in September 2008, i.e. the NSG members had agreed to transfer all technologies which are consistent with their national law." He also said the US, France and Russia have issued statements saying the NSG agreement would not affect their cooperation with India. "Not every NSG member has the ability to undertake transfer of enrichment and reprocessing items and technology to other countries," Krishna said. "We expect that those that do and have committed to do so in bilateral agreements with India, will live up to their legal commitments." He also said that India already has indigenous enrichment and reprocessing capabilities, and that access to technology from abroad would only be "an additionality" to accelerate India's nuclear program.

INDIA

Prime Minister Manmohan Singh's government has decided to implement post-Fukushima safety upgrade recommendations from a slew of task forces, even though some of the task forces have yet to issue their recommendations. Six committees formed by state-run nuclear operator Nuclear Power Corp. of India Ltd. (NPCIL) recently issued their reports (NIW Aug.8'11). Committees formed by the Atomic Energy Regulatory Board and the Bhabha Atomic Research Centre are expected but have not yet been released. Already, however, the government has "directed that the recommendations of the [NPCIL] taskforces and those of the high level committee constituted by the Atomic Energy Regulatory Board (AERB) and the Bhabha Atomic Research Centre (BARC) be implemented after due process of approval," V. Narayanasamy, a Minister of State in the Singh government recently told the Rajya Sabha, the upper house of parliament. Veteran Indian anti-nuclear activist Surendra Gadekar told NIW he didn't think the NPCIL reports were deep or comprehensive enough, but he said their recommendations would likely be implemented. The nuclear program "is not economic in any sense, so the government will pay because they don't care about cost," he said.

JAPAN

A third-party investigation into Kyushu Electric's campaign to influence public opinion for the restart of its Genkai reactor earlier this year revealed that a senior executive ordered documents from a 2005 campaign to switch to mixed-oxide (Mox) fuel to be destroyed. Nobuo Gohara, the head of the investigation, told a news conference last week that senior Kyushu executive Akira Nakamura had ordered the documents destroyed after they were requested by Gohara's investigation committee on Jul. 21, according to the Mainichi Daily News. Gohara contended that Nakamura believed the documents could "inconvenience" a certain individual, and he speculated that this could be a local or central government politician or official. The documents concerned an October 2005 briefing for the government on Kyushu's proposed pluthermal program. Gohara is now expanding his investigation to include whether Kyushu Electric has been engineering a cover-up.

JAPAN

Nagasaki's mayor called for increased use of renewable energies in Japan to replace nuclear power, Xinhau reported. "No matter how long it will take, it is necessary to promote the development of renewable energies in place of nuclear power in a bid to transform ourselves into a society with a safer energy base," Tomihisa Taue said Aug. 9 at a ceremony marking the 66th anniversary of the atomic bombing of the city. Taue told Xinhua in an interview that Japan once believed the "myth" of reactor safety, but is rethinking its options. Japanese Prime Minister Naoto Kan used Tuesday's event to renew his pledge that Japan would examine the causes of the Mar. 11 accident at Fukushima and aim for a society that would not depend on nuclear power generation.

TURKEY

Australia's WorleyParsons won a consultancy contract last week from the Russian-owned "project company" that is working toward building four Rosatom VVERs at Akkuyu, on the Mediterranean coast in Mersin province (NIW Jul.19'10). Akkuyu NGS Elektrik Uretim Anonim Sirketi, the company established to oversee construction and operation of the Akkuyu plant, signed an agreement with WorleyParsons to consult throughout the preconstruction phase of the project. Akkuyu plans to complete this stage with receipt of the construction permit at the end of April 2013. "This award demonstrates our experience and expertise in new nuclear build consulting and is an important early stage award on the project," said WorleyParsons head John Grill in a statement. This is the second major newbuild consulting award WorleyParsons has won. In 2008 the company snatched a $188 million contract to conduct a prefeasibility study for an Egyptian nuclear power program out from under the feet of US firm Bechtel (NIW Jun.6'11).

UNITED STATES

The US Department of Energy (DOE) is holding a series of meetings in southwestern Colorado to gauge public reaction to federal leasing of land for uranium mining in the area. In 2008 the federal government renewed 31 leases for mining on more than 25,000 acres in Colorado and Utah but stopped activity on the leases to review the program after environmental groups challenged the DOE program. The groups claim the program doesn't comply with the National Environmental Policy Act and the Endangered Species Act. DOE officials met sharp opposition to the program at a meeting in Telluride, Colorado Aug. 10 when a city councilman addressed the officials with six others nearby wearing black hoods. These were meant to represent those who have died in nuclear attacks or as a result of fallouts, according to the Telluride Daily Planet.

UNITED STATES

Korea Electric Power Co. (Kepco) agreed to fund uranium exploration at Vancouver-based Strathmore's holdings in the Gas Hills Beaver Rim area of Wyoming, according to a press release from Strathmore. Kepco plans to buy $8 million in shares of Strathmore and will invest an additional $2 million in a "project development allowance." The money from the allowance will go to exploration of the Gas Hills Beaver Rim area. Kepco also has an option to invest an additional $35 million into the company, which would give it a 40% interest in Gas Hills. "Kepco's vision in the future of nuclear power and international presence in uranium development is widely recognized," said Strathmore CEO David Miller. "We look forward to finalizing our agreements and working with Kepco for many years to come."

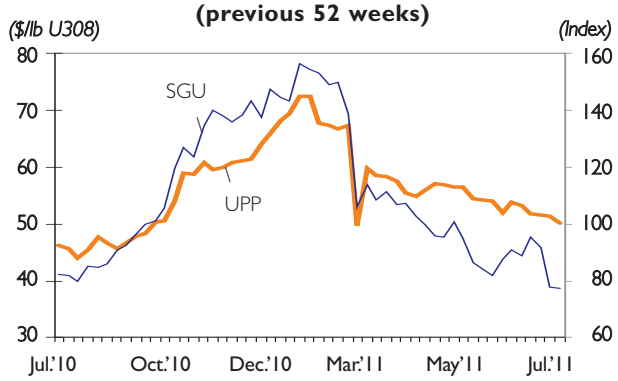
UNITED STATES

Residents of Virginia near the site of a potential uranium mine have started seeing advertisements for uranium mining. Virginia Uranium, which owns the claim to a large uranium deposit in Pittsylvania County in southern Virginia, wants to overturn a statewide ban on uranium mining (NIW Jul.11'11). The ads started Aug. 8 and are sponsored by The Virginia Energy Independence Alliance, a coalition of nuclear, mining and energy interests. One of the ads shows photographs of closed store fronts and factories and a man in a polo shirt talking about how there aren't as many jobs in southern Virginia as there used to be. "Developing our own energy resources will create hundreds of good paying jobs," the man says.

ENERGY INTELLIGENCE URANIUM MARKET UPDATE

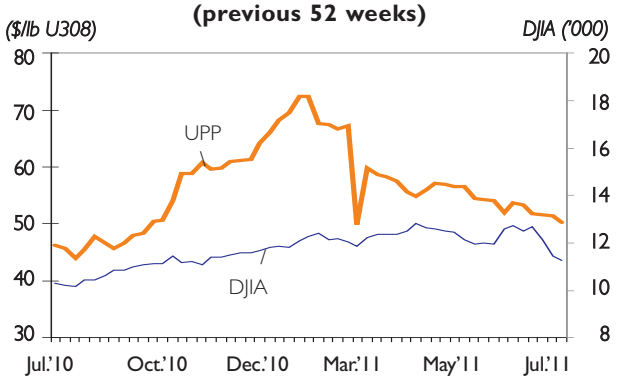
For the week ended August 12, 2011 (All figures as of Friday close unless otherwise indicated.)

UPP vs. Solactive Global Uranium Index* (previous 52 weeks)



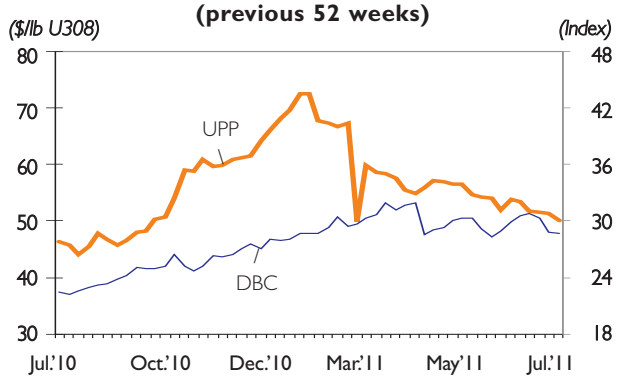
*Solactive Global Uranium Total Return Index, created by Structured Solutions AG, tracks the price movements in shares of companies active in the uranium mining industry. Calculated as a total return index and published in USD, its composition is ordinarily adjusted twice a year.

UPP vs. Dow Jones Industrial Average* (previous 52 weeks)



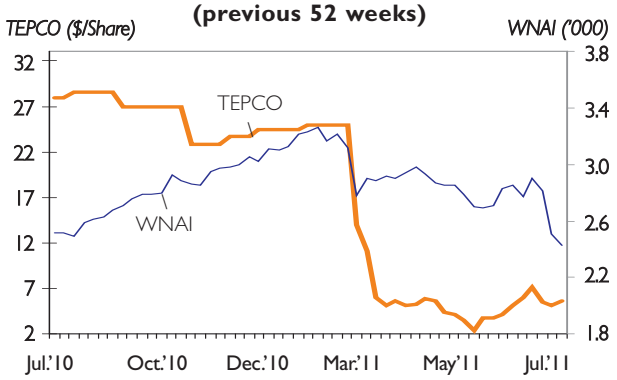
*Roughly two-thirds of the Dow Jones Industrial Average's 30 component companies are manufacturers of industrial and consumer goods. The others represent industries ranging from financial services to entertainment.

UPP vs. PowerShares DB Commodity Index* (previous 52 weeks)



*The PowerShares DB Commodity Index Tracking Fund is designed to provide investors with a broadly diversified exposure to the returns on the commodities markets. It is based on the Deutsche Bank Liquid Commodity Index, which is composed of futures contracts on 14 of the most heavily traded and important physical commodities.

TEPCO vs. WNA Nuclear Stock Index* (previous 52 weeks)



*Maintained by the World Nuclear Association, the World Nuclear Association Nuclear Energy Index includes companies that build nuclear power facilities, design and service reactors, operate nuclear reactors, supply nuclear components, technology, and fuel.

Monthly Spot Market Prices

	Change	2011 Jul.	Jun.	May	Apr.	Mar.	Feb.	Jan.	2010 Dec.	Nov.
Uranium ($/lb U3O8)										
Low	-1.00	+51.00	+52.00	+55.00	+55.00	+50.00	+67.00	+61.50	+59.50	+54.00
High	-1.00	+53.50	+54.50	+57.00	+58.00	+67.00	+72.50	+69.50	+61.50	+60.50
Conversion ($/kgU)										
Low	-0.50	+10.50	+11.00	+11.00	+11.00	+11.00	+12.00	+11.00	+11.00	+11.00
High	-	+11.50	+11.50	+11.50	+11.50	+12.00	+13.00	+12.50	+12.50	+13.00
Enrichment ($/SWU)										
Low	-2.00	+148.00	+150.00	+153.00	+154.00	+154.00	+154.00	+154.00	+153.00	+153.00
High	-1.00	+151.00	+152.00	+154.00	+155.00	+155.00	+155.00	+155.00	+155.00	+155.00

NIW monthly UF6, SWU and U3O8 prices rely on the general consensus of direct market participants and is informed by actual market transactions. This section was previously known as the Nukem Weekly Report and the Nukem Price Bulletin. The methodology for NIW's weekly UPP price is different – more information about the methodology behind that price is available on page two.

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