

Inside Energy

November 16, 2009

Yucca Mt. backers galvanized by leaked DOE memo

Alarmed by a leaked Energy Department memo that outlines the Obama administration's strategy for terminating the Yucca Mountain nuclear waste repository project in Nevada, pro-nuclear groups began urging key lawmakers last week to block DOE's now-apparent plan to abandon Yucca's pending license application as early as next month.

Martez Norris of the Nuclear Waste Strategy Coalition, a group of electric utilities, state regulators and other entities that support Yucca Mountain, said her organization is urging House and Senate appropriators to reject any DOE request to reprogram funds designated for licensing activities.

"We're not waiting until DOE acts," said Norris, the coalition's executive director. "The administration's budget request clearly identified that the funding

was to support the licensing agreement. For them to turn around and take the fiscal 2010 budget and use it for other things, they're basically not complying."

John Keeley of the Nuclear Energy Institute, the industry's lobbying arm, was more circumspect about the leaked memo, which details DOE's proposed budget requests for Yucca Mountain for fiscal years 2011 to 2015. The memo also declares that "all license defense activities will be terminated in December 2009."

"Because it's preliminary, we'll wait for the actual budget numbers to come out before we comment," Keeley said. "Things are fluid."

The October 23 memo from DOE Chief Financial Officer Steve Isakowitz to the department's program budget officers, obtained by Platts, states that the target

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Renewable groups push to extend cash grant program

A popular provision in the \$787-billion economic stimulus bill that offers renewable-energy developers up-front cash grants in lieu of tax credits is scheduled to expire next year, and clean-energy groups are already pressing hard to extend it.

Lobbyists for the groups have met with House and Senate leadership on the issue, as well as the chairmen of the chambers' energy committees. They say the program's scheduled expiration at the end of 2010 creates too tight a deadline for many renewable-energy projects that depend on these cash grants to survive, particularly in the current tight credit environment.

"It took so long to get the implementing rules out, and the hope is to get it extended," said Monique Hanis, a spokeswoman with the Solar Energy Industries Association.

Gabriel Alonso, CEO of wind-farm developer Horizon Wind Energy, credited the cash-grant program with reinvigorating the clean-energy industry. The Houston-based Spanish subsidiary has wind-farm projects in Oregon, Illinois and Indiana, among other states, with 20 regional offices throughout the country.

"We have teams working with those state regulators and congressmen and senators to make sure they understand this mechanism for growth," Alonso said.

Marty Klepper, an attorney with Washington-based Skadden, Arps, Slate, Meagher & Flom, who has represented SEIA and is familiar with the lobbying efforts, said the groups are hoping to have the program extended at least two years.

So far, lawmakers appear receptive to extending the program, though no specifics are being offered. As it stands,

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developers are required to begin construction on their projects by the end of 2010 and achieve commercial operation by January 1, 2013, 2014 or 2017, depending on the type of project, to receive the up-front cash grant.

Jim Manley, a spokesman for Senate Majority Leader Harry Reid, said the Nevada Democrat "strongly believes in the incentives that are instrumental in developing our renewable-energy sources. He will continue to support the cash-grant program until the tax equity markets return to normal."

A Democratic aide who declined to be named said congressional leaders have met with representatives of clean-energy groups and are working on the issue.

"We know it's a highly successful and popular program, so we are talking to the appropriate committees about whether or not an extension is something we can do," he said.

Bill Wicker, a spokesman for Senate Energy and Natural Resources Committee Chairman Jeff Bingaman, Democrat-New Mexico, said clean-energy groups, including SEIA and the American Wind Energy Association, are in regular contact with the senator and his staff, but he declined to discuss their conversations.

The existing tax credit program gives developers a tax credit on profits generated through their clean energy projects. Typically, developers would line up tax equity investors to provide the up-front financing for their projects; the investors would then recoup their investments later with the revenue from the tax credits.

But with the credit markets impaired, tax equity investors have become difficult to find, and with the economy causing profits to droop to levels that diminish the return from the tax credits, the option of an up-front cash grant in lieu of the credits has become more desirable.

"There's an expression in investing that cash now is better than cash later," said Tom Baruch, founder and managing director of CMEA Capital, which invests in energy projects. "Early stage companies are always short of cash because there's

tremendous demands placed on them to hire people, do the engineering, the permitting. So the tax credits are nice, too, but it takes a while for those kinds of thing to hit the bottom line."

The cash grant equals 30% of the cost of the project, and the Treasury Department, which is managing the program, pays that out within 60 days of the project being placed into service.

The cash grant program was introduced as part of the \$787-billion economic stimulus package that Congress passed in February.

Without firm commitments to an extension, investors could be hesitant to provide financing for projects, especially long-term ones, said George Sterzinger, director of the Renewable Energy Policy Project, a think tank that supports clean-energy development.

"One of the flaws of stimulus is that it replicates the fascination with two-year programs," he said. "The deadlines are very tight. This stuff takes a lot of time. I haven't done a survey, but people are very nervous about the expiration."

Wayne Song, a Los Angeles-based attorney with Morgan, Lewis & Bockius who works with renewable-energy developers, said if the cash-grant program expires, renewable-energy projects are likely to decrease, at least until the credit markets recover enough to make the tax credit program viable again.

"In some instances, development in previous years continued in the understanding that there was a deep pool of investors who would come in to get these tax credits," he said. "I think you may see some developers wanting to have that commitment prior to expending funds if the cash grant were not extended."

One possible reason Congress might be reluctant to extend the cash grant program is that many renewable-energy developers who have applied for the incentives are headquartered overseas, Song said.

"Foreign utilities have come in to purchase renewable energy developments, and a lot of them are European-based companies," he said. "There may be some hesitancy to extend the

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credits if the money is going back to Europe, but I don't think that's a huge risk."

Alonso said that Horizon Wind Energy, whose parent company is headquartered in Lisbon Portugal, has been using its cash grants to directly reinvest in projects in the states. For instance, he said, the company received a \$47-million cash grant for its wind farm project in Whitfield, Oregon, which it then reinvested into the second phase of its wind farm in Indiana.

"We're seeing the great benefit of the cash grant," he said. "[Lawmakers] can see the projects in the ground, that jobs are being created, that we are a real business making a real and positive impact in those communities. Having the access to these monies makes a big difference. It makes a positive impact for developers." — *Herman Wang*

LOANS/LOAN GUARANTEES

Venture capitalist appointed by DOE to run \$105-billion finance programs

Do you need several billion dollars to build a nuclear power plant or set up a wind farm? How about a few hundred million dollars to open an electric-car factory? If so, you are going to want to know the name of this new Energy Department official: Jonathan Silver.

In an effort to make its financing mechanisms run more smoothly, DOE last week named former venture capitalist and investment manager Silver as executive director of the agency's loan program office.

Silver will report to Energy Secretary Steven Chu and oversee two of the department's main loan mechanisms: a loan guarantee program with about \$80 billion in authority and the \$25-billion Advanced Technology Vehicles Manufacturing loan program.

The loan guarantee program, which backs private loans for energy projects, has been criticized for years for picking recipients slowly.

The program was established in 2005 but did not commit to its first loan guarantee until earlier this year. Since then, it has announced three loan guarantees worth almost \$600 million, well short of the \$80 billion dollars authorized by Congress for alternative-energy projects, such as wind, solar, geothermal and nuclear energy and electric power transmission.

About \$30 billion of that is authorized under the 2009 American Recovery and Reinvestment Act, and must be awarded before the end of next year, putting even more pressure on DOE to act quickly.

David Frantz, who has been in charge of loan guarantees since 2007, will remain as the head of that office, and will report to Silver.

"Jonathan Silver has been put in place to strengthen and streamline the loan guarantee program office," DOE spokeswoman Tiffany Edwards said following the announcement on

Silver on Tuesday.

The Advanced Technology Vehicles Manufacturing program, which was created under the 2007 Energy Independence and Security Act, has been run by DOE's chief financial officer. Under the program, DOE is authorized to issue \$25 billion in direct loans to automakers and suppliers for advanced automobiles and parts. So far, the department has agreed to issue \$8.5 billion to five companies.

Prior to his appointment at DOE, Silver was a managing general partner of Core Capital Partners, a venture capital company that manages \$350 million in funds and invests in a wide range of information technologies.

Before that, he was a managing director and chief operating officer of hedge-fund giant Tiger Management. Tiger was once the second largest hedge fund in the world, with more than \$20 billion dollars in assets. It shut down in 2000.

According to DOE, Silver also served as a policy adviser to the secretaries of commerce, interior and treasury during the Clinton administration.

"The loan programs at DOE play a critical role in spurring investment in a clean energy economy, creating new jobs and fighting carbon pollution," Energy Secretary Steven Chu said in a statement. "Jonathan's background and expertise will help us dramatically expand our efforts and capitalize on the many significant opportunities we have in front of us."

The appointment also drew praise from some in the renewable energy industry, which might have more access to capital for large projects if DOE speeds the loan guarantee process.

"It does show the commitment of Secretary Chu and the administration to make this an efficient, effective program," said Monique Hanis, a spokesman for the Solar Energy Industries Association, which has urged the department to move quickly on loan guarantees.

Some in the investing world were also pleased by DOE's selection.

Ken Locklin, the director of finance and investment at the Clean Energy Group, a nonprofit organization that promotes renewable energy, said he has been impressed with DOE's efforts under the Obama administration to approve loan guarantees.

"They are creating greatly expanded levels of activity from whole cloth, in essence. They certainly will have to expand their staff capabilities. They've worked with a lot of very talented consultants to move things quickly in the early going," Locklin said. "But obviously in an ongoing basis you need to institutionalize some of that learning." — *Derek Sands*

DOE may back synthetic gas plants despite glut of supply, low prices

The Energy Department said last week it might issue up to \$3.6 billion in loan guarantees for two synthetic natural gas projects — a move that some experts called risky in light of low gas prices.

The projects, which York-based Leucadia National Corporation has been pursuing for several years, would capture and store their carbon dioxide emissions. DOE said in a

Federal Register notice Thursday that it intended to prepare environmental impact statements for the two projects, which Leucadia wants to build in Mississippi and Indiana. DOE also expressed its desire to provide loan guarantees for the two projects should they pass environmental muster.

But ironically, DOE's announcement came on the same day that the International Energy Agency predicted a gas supply glut by 2015, and that there will be little need for additional gas before 2030. IEA said the oversupply was caused by massive new discoveries of gas in the US and elsewhere, as well as reduced demand because of the global economic slowdown.

John Deutch, a Massachusetts Institute of Technology professor who worked at DOE in the 1970s and served as CIA director during the Clinton administration, questioned DOE's willingness to provide billions of dollars in federal loan guarantees to the two synthetic gas plants, given the current market conditions.

"These plants are going to be coming onto a gas market in the United States which is going to be very low, [with] lots of plentiful gas," according to Deutch, who is part of the MIT Center for Energy and Environmental Policy Research. "So I don't really see the point of it."

According to DOE Press Secretary Stephanie Mueller, economics will figure into the final decision.

"The decision of whether or not to make a loan guarantee depends on a lot of factors, including market demand for the output," she said.

The project planned for Rockport, Indiana, would convert local coal to about 153 million cubic feet of synthetic natural gas per day. It would also be able to capture 80% to 90% of the CO₂ it produces, which it plans to sell to a company in the Gulf of Mexico region for enhanced oil recovery.

That CO₂-capture plan, however, depends on the construction of a CO₂ pipeline to the Gulf. If that is not built, and Leucadia cannot find another use for the CO₂, it would be released into the atmosphere, according to DOE.

The company was also hoping to enter into a 30-year gas purchasing agreement with local utilities, but last year, after two years of negotiations, the utilities decided against the agreement. While the project has had the support of Indiana Governor Mitch Daniels, the project has attracted opposition from local community groups, including the Citizens Action Coalition, which argued the plant would cost consumers billions of dollars.

Cost estimates for the plant have ranged from \$1.5 billion to more than \$2 billion.

The Mississippi project would be designed to burn petroleum coke left over from the refining process to produce about 120 million cubic feet of synthetic natural gas per day. The MG Industrial Gasification Facility in Moss Point, Mississippi, would also capture up to 90% of its CO₂ emissions, and sell it to Denbury Onshore for enhanced oil recovery.

According to documents filed by Leucadia with the Securities and Exchange Commission in October, the road is still long for the projects.

"These projects will require significant equity investments, which the company does not presently intend to fund by

itself," according to the filings. "The investigation, evaluation, financing and construction of these large scale projects is expected to take years to complete."

Deutch said that if DOE decides to provide financial backing to the two projects at all, the department should focus on their ability to capture and sequester their CO₂ emissions.

"We know we can build the gasification part," Deutch said. "You want to do the CO₂ sequestration part first. We all know that [enhanced oil recovery] is not a scalable CO₂ sequestration opportunity."

The projects should incorporate EPA-approved, verified and monitored CO₂ storage, according to Deutch. Without the carbon-capture and storage component, Deutch was skeptical of the federal government's support of the projects.

"I don't understand what the rationale here is for any public expenditure," he said. "In my view I don't see very much merit to projects like this, although I do know they are very popular with those people who have investments in them."

DOE has had bad luck with providing loan guarantees for gasification projects in the past. In the early 1980s, with concerns in the US over natural gas shortages, DOE provided the consortium Great Plains Gasification Associates with a \$2-billion loan guarantee to build a massive plant in North Dakota to convert coal to natural gas. But when gas prices plunged a few years later, the consortium defaulted on its loan and the plant went to DOE, which sold it to Basin Electric in 1988.

While DOE has emphasized the development of renewable energy since the Obama administration took office, it has also provided billions of dollars for efforts to more cleanly burn fossil fuels, including projects to develop carbon capture and storage technology.

The department is also considering loan guarantees for several other multi-billion dollar gasification projects, in Mississippi and Illinois, which would produce electricity after converting coal to gas. — *Derek Sands*

DOE again asked to clarify rules for multiple loan-guarantee requests

Clean-energy groups have been pressing the Energy Department to amend its loan-guarantee program rules to allow multiple loan applications from a single developer.

The groups, which include the American Wind Energy Association, the Solar Energy Industries Association, the US Combined Heat and Power Association, the Biomass Power Association and the Geothermal Energy Association, say the instructions in the various loan-guarantee solicitations contain conflicting language on whether multiple applications are allowed. Lobbyists for the groups have met with DOE officials twice in the last month to get clarification.

The most recent meeting, which occurred October 29, according to a lobbyist disclosure posted on DOE's web site, concerned the new "Financial Institutions Partnership Program," under which lenders are prequalified by DOE to provide loans for commercially ready clean energy projects, with

the bulk of those loans then guaranteed by DOE.

The groups say in a paper submitted to DOE that the FIPP solicitation states that a "Lender-Applicant" may submit multiple applications, but that "it is unclear whether this language allows multiple applications by Lenders with the same borrower/developer using the same technology."

"If that is the intent of the original language, DOE should say so," the groups said in their paper.

Asked about the October 29 meeting, DOE Press Secretary Stephanie Mueller directed Platts to an undated DOE "frequently asked questions" web page on the loan-guarantee program, which simply states that under FIPP, "more than one Application may be submitted by an Applicant or a Lender-Applicant."

However, under a different solicitation for innovative projects in energy efficiency, renewable energy and advanced transmission and distribution technologies, "an Applicant may only submit one Application for one project employing a particular technology, consistent with Section 609.3(a) of 10 CFR Part 609.

"That is, an Applicant under the Innovative Solicitation may not submit an Application(s) for multiple projects using the same technology but may submit separate Applications for projects using different technologies."

The renewable-energy groups say that all of DOE's loan guarantee solicitations should be open to multiple applications.

In making their case to DOE, the groups say that restricting multiple applications from a developer would run counter to the intent of the stimulus bill.

"Many of the 'shovel-ready' utility scale projects that can meet the [Recovery Act] timelines are being developed by a few developers," wrote Charles Shipp, a lobbyist for the USCHPA and SEIA, in an email to DOE officials overseeing the loan-guarantee program. "Many of these projects also are very far along in the [Bureau of Land Management's] environmental review queue and are in the 'fast-track' program. We do not [think] the [Recovery Act's] intent was to exclude these projects." — *Herman Wang*

CLIMATE CHANGE

Despite panel vote against climate bill, Baucus vows support for cap and trade

A key Democratic lawmaker vowed last week to help push a climate bill through the full Senate, despite his recent decision to break party ranks and vote against a cap-and-trade measure that was nevertheless approved by a Senate panel earlier this month.

Senator Max Baucus, a Montana Democrat who chairs the Finance Committee, said at a hearing Tuesday that he would "work to pass climate-change legislation that is both meaningful and that can muster enough votes to become law."

Baucus was the sole Democrat to vote against a bill (S. 1733) that the Environment and Public Works Committee approved on November 5. Baucus tried but failed to make a several significant changes to the bill, including limiting the Environmental

Protection Agency's authority to regulate greenhouse gas emissions under the existing Clean Air Act.

Still, Baucus said at a Finance Committee hearing Tuesday that he expects to support a final measure, albeit one with more protections for US industry.

"Let me be clear: We must work to minimize any job losses," he said, promising to focus on ways to spur creation of new jobs while cushioning existing industries from the effects of a carbon-constrained economy.

To be successful, any cap-and-trade bill must attract between 12 and 20 swing Democrats like Baucus, who is a strong ally of his state's coal industry.

The EPW-passed bill calls for reducing GHG emissions by 20% below 2005 levels by 2020, but Baucus wants to weaken that target to 14% or 17%. The later figure would track with the 2020 target in the House-passed climate bill (H.R. 2454), which was negotiated by that chamber's coal-state Democrats.

Senator Charles Grassley of Iowa, the Finance Committee's top Republican, said that any cap-and-trade bill would raise electricity rates for consumers. Despite the bill's efforts to mitigate those costs for the poor, he said, it would still hurt low-income consumers the most.

"Stop trying to sell this policy as if it will have no economic effects for working Americans, and accept the idea that there is no free lunch," Grassley said.

At the hearing, witnesses from conservative think tanks said a cap-and-trade approach to greenhouse gas mitigation would lead to higher electricity rates, greater allowance price volatility and slower-than-expected economic growth.

Margo Thorning, chief economist of the conservative American Council for Capital Formation, defended a study she helped write that found the cost of such a mandate would be far greater than had been estimated by the Environmental Protection Agency. She also said a US cap-and-trade bill would have no effect in reducing global GHG emissions because developing countries such as China and India are opposed to making in-kind reductions.

But Senator John Kerry said Thorning mischaracterized China and India's position. "That's not accurate. You have to be accurate," Kerry said, noting that China has pledged to making significant reductions in its energy intensity. Kerry, a Massachusetts Democrat, is a co-sponsor of the Senate's cap-and-trade bill.

Kenneth Green, a resident scholar at the American Enterprise Institute for Public Policy, said that cap-and-trade is not an effective mechanism to reduce carbon emissions. This is especially true, he said, if emissions allowances are distributed for free, which would happen under both the House and Senate bills.

Green said a carbon tax is more efficient than cap-and-trade, but if the latter is used, he said all credits should be auctioned to determine their full value. Green noted that the European Union has had difficulties with cap-and-trade, including over-allocation of allowances which led to a devaluation.

Kerry admitted that the European experiment with carbon markets had not been smooth.

"It's fair to say they had some problems, and they had [price] collapse. I accept all that. So do they, for that matter,"

he said. The EU had learned from its mistakes, Kerry said, and is now on-track to implement its cap-and-trade scheme more effectively.— *Jean Chemnick*

Two electric utilities side with EPA in business group's climate lawsuit

Two of the US' largest natural gas and electric utilities are siding with the Obama administration in a climate-change lawsuit brought by the country's largest business group, once again illustrating the sharp divide in the American business community over government-led efforts to curb industrial greenhouse gas emissions.

PG&E and Sempra Energy were granted permission last week to file friend-of-the-court "amicus" briefs in the lawsuit, in which the US Chamber of Commerce is seeking to block the Obama administration from setting the first-ever GHG standards for new motor vehicles.

In a joint, seven-page motion lodged with the US Court of Appeals for the District of Columbia Circuit earlier this month, PG&E and Sempra said they are "committed to being industry leaders in addressing the challenge of global climate change as it relates to greenhouse gas emissions." The two utilities said they would "provide a first-hand and real-world perspective on the practical implications" of the Obama administration's proposed GHG standards for motor vehicles.

"PG&E's and Sempra Energy's participation in the briefing of this case ... would bring significant additional value to the court's deliberations," the companies said in their November 4 court filing. The court ruled last week that the two utilities could file amicus briefs in the case.

The lawsuit at issue, which the US Chamber of Commerce filed in September along with the National Automobile Dealers Association, seeks to reverse the Environmental Protection Agency's decision in July to allow the state of California to implement its landmark standards to curb GHG emissions from new motor vehicles. California needed a special "waiver" under the federal Clean Air Act to implement its standards, which require Ford, General Motors and other automakers to reduce the GHG emissions of new cars and trucks that they sell in the Golden State by about 30% beginning in 2016.

The Bush administration's EPA refused the grant California the waiver, saying it would result in a "confusing patchwork quilt" of automobile emissions regulations. But the Obama administration reversed that decision, and has proposed to implement California's GHG standards across the entire country, in conjunction with a related initiative to raise Corporate Average Fuel Economy Standards to 35.5 miles per gallon by 2016, about 40% better than the current 25-mpg average.

In their court filing, PG&E and Sempra said they supported California's efforts to reduce motor vehicle GHG emissions as part of the state's larger initiative to curb heat-trapping gases from all industrial sources — including electric and natural gas utilities.

"If motor vehicle greenhouse gas emissions cannot be reduced as expected, other sectors of California's economy will have to make up the difference, and will be unduly burdened by

the need to reduce their emissions by more than their fare share," PG&E and Sempra wrote.

In a related move, former EPA Administrators William Reilly and Russell Train — both of whom served under Republican presidents — also filed papers last week seeking to side with the Obama administration in the case. Reilly and Train said their amicus briefs would "facilitate the court's consideration of the vitally important legal and policy issues involved in this case," especially the section of the Clean Air Act that allows EPA to allow California to set tougher-than-federal air-quality standards in certain circumstances.

Seven well-known climate scientists also filed papers last week seeking to back EPA in the lawsuit. But the Pacific Legal Foundation, a Sacramento, California-based group that bills itself as a prompter of "sensible environmental policies that respect individual freedom and put people first," sought to back the chamber and the auto dealers' group in the case. The court has not yet ruled on those motions.

Several energy companies, including PG&E, Exelon and PNM Resources, resigned their chamber memberships in recent weeks, citing the business group's opposition to federal climate-change legislation. The chamber says it shares the "mainstream" goal of passing a US climate bill and crafting an international global-warming treaty, but that it opposes the specific House-passed climate bill and the similar version that is working its way through the Senate.

Meanwhile, the chamber and the auto dealers' group fired back against EPA last week for trying to get the lawsuit thrown out on a legal technicality. Earlier this month, lawyers representing EPA filed papers claiming that the chamber does not have legal "standing" to sue because it would not be harmed if the Obama administration follows through with its plan to implement California's automobile GHG standards on a nationwide basis.

But the chamber rejected that argument last week, saying there is no guarantee that all 50 states would adopt "identical" motor vehicle GHG standards. And that could harm auto dealers by "increasing the cost, and changing the type, design, and performance of, the vehicles they can sell," the chamber and the auto dealers wrote in a motion Monday.

The court has not yet set a date for oral argument in the case.

— *Brian Hansen*

INTERNATIONAL

Obama, Chu take low-carbon message to China, but no breakthrough expected

President Barack Obama and Energy Secretary Steven Chu are in the midst of separate trips to Asia this week, and both are expected to discuss energy and climate-change issues facing China, Japan and other regional economic powers.

The trips come just weeks before a major UN climate-change conference in Copenhagen, which participants hope will form

the basis for a new international climate treaty.

Obama kicked off his trip with a meeting with Japanese Prime Minister Yukio Hatoyama in Tokyo, where the two leaders agreed to collaborate on a range of energy issues. They also issued a joint statement saying developing countries such as China and India also must take action to reduce their industrial greenhouse gas emissions.

"It is vital that we achieve a successful outcome," they said of Copenhagen. "The United States and Japan are determined to engage themselves at all levels to secure this goal."

Obama and Hatoyama agreed to initiate collaboration between each country's respective national laboratories, and to set up a joint task force to see how the islands of Hawaii and Okinawa could become "energy independent" through new renewable energy and so-called "micro-grid projects." They also agreed to cooperate on carbon-capture and storage, smart grid, nuclear power and other areas.

"To this end, our countries aspire to reduce our own emissions by 80% by 2050 and endorse a global goal of reducing emissions by 50% by that year," they said.

Chu began his trip in New Delhi, India, where he met with Montek Singh Ahluwalia, the deputy chairman of the planning commission. He noted that the House passed a climate-change bill this summer that calls for an 80% reduction in GHG emissions by mid-century, and that the Senate was working on a similar measure.

"The US will continue to work hard toward combating climate change," Chu said.

Obama was slated to head to Tokyo, Singapore, Shanghai, Beijing, and Seoul for his eight-day trip abroad, and his first as president to East Asia. Chu will join Obama in Beijing on Monday.

White House officials acknowledged that cooperation with China, the world's largest emitter of greenhouse gases, would be critical, but said no immediate pact would come out of Obama's meetings with Chinese President Hu Jintao this week.

"We do not expect that Beijing is going to produce a climate-change agreement, but we do expect that the leaders will spend time together discussing how best to proceed, and how to work together to make Copenhagen a success," Michael Froman, deputy national security advisor for international economic affairs, told reporters on Monday.

Regional experts echoed that sentiment, but added that they expected agreements of some kind on technology. As a prelude to Obama's trip, US Trade Representative Ron Kirk negotiated an agreement last month which allowed US and other foreign firms to sell wind power technology in the Chinese market.

Evan Feigenbaum, a senior fellow at the Council on Foreign Relations, said that "demand side" issues like emissions reductions were contentious topics, but opening up trade was a point of agreement. "The demand side is controversial but the supply side, the technology based initiatives, are utterly noncontroversial," he said.

India and the US are expected to sign a memorandum of understanding on climate change when Indian Prime Minister Manmohan Singh visits the US later this month.

Prior to Obama's arrival in Asia, Secretary of State Hillary

Clinton said the US would reach out financially to developing countries in their efforts to reduce GHG emissions as part of a possible Copenhagen treaty. Clinton said Wednesday that the US would support a global "climate fund" to provide financial assistance to these countries.

"Funding through the new global climate fund and a technology mechanism will help developing countries identify what they need, where to get it, and how to finance, operate and maintain it," she said.

Prospects for an agreement at Copenhagen have dimmed in recent weeks, although Obama told *Reuters* last week that he would go to the Danish capital if it would help the chances for a final agreement.

"If I am confident that all of the countries involved are bargaining in good faith and we are on the brink of a meaningful agreement and my presence in Copenhagen will make a difference in tipping us over edge then certainly that's something that I will do," Obama said Monday. — *Alexander Duncan, Herman Wang*

RENEWABLE ENERGY

BLM mulling tighter water restrictions for solar projects in the Western US

In the coming years, companies that build solar plants on federal lands in the Western US may have to significantly scale back their use of water, a key Interior Department official said last week.

Linda Resseguie, who is overseeing the Bureau of Land Management's efforts to craft a programmatic environmental impact statement for solar development in Arizona, California and four other Western states, said the department may require companies to use water-saving technologies.

"One thing BLM could do is to require developers to always look at a water-conservation alternative when we do the [National Environmental Policy Act] analysis for specific projects," Resseguie said in an interview Monday. "If you want to do wet cooling, we are probably also going to require you to look at a water conservation alternative, so dry cooling."

Some solar power plants use air-based "dry cooling" to cool down the steam that spins their turbines, while others use significant amounts of water. The later approach, known as "wet cooling," can be problematic given limited water resources in the sunny but arid environment of the desert southwest.

BLM expects to issue a draft PEIS for solar development next summer, and finalize it in mid to late 2011. The agency has already received hundreds of public comments on the scope of the draft EIS, and many of those focused on water issues, Resseguie said.

"People are very concerned about water" relative to future solar power development, she said.

Some wet cooling requires hundreds of millions of gallons of water per year, which can take much-needed water away from

communities and natural ecosystems. Dry cooling requires only a fraction of that.

Mark Mehos, a solar power scientist at the Energy Department's National Renewable Energy Laboratory in Colorado, said dry-cooling technology costs some 5% to 10% more than its wet-cooling counterpart. He noted that it would cost more to do dry cooling in very dry areas.

"It is very important for the ambient conditions," said Mehos, NREL's principal program manager for concentrated solar power.

BLM and the California Energy Commission gave initial approval last week to a 440-MW solar project developed by BrightSource. The Ivanpah solar thermal power plant uses dry cooling, which Resseguie said was a key factor in its approval.

"As developers come to us with projects, and this is any project, we would require that they tell us how much water they plan to use and where they plan to get it so that we understand that they have a good plan in place to support that water use," she said of the current process.

Yet as part of the solar PEIS, BLM has identified 24 "solar energy study areas" where development will occur first. The sites were identified in accordance with the respective states – California, Nevada, Arizona, New Mexico, Colorado and Utah. She said that as BLM makes these sites available for development, as opposed to developers approaching BLM, that would allow the agency to dictate water-use requirements.

"The conditions are such that we could make some mitigation requirements up front immediately," she said. "That would be the most efficient way for us to process this, but we have to be sensitive to what the state requirements are and whether states would agree with us on that since they are the ultimate controller of water resources."

She used the example of a solar energy study area nearly 40 miles outside of Phoenix known as Gillespie. The eight-mile-long and one-to-two-mile-wide strip is part of the watershed that includes Phoenix which the Arizona state government controls.

"In Gillespie there won't be any groundwater withdrawal, so that's just understood" that wet cooling will not be an option, she said.

As for the two other solar energy study areas located in more remote corners of the state, she said that further study has to be done to know if there is sufficient groundwater.

"It will be analyzed closely to the extent that we have information available to us," she said. — *Alexander Duncan*

'Fast track' for Calif. solar project faces potential obstacles from critics

Environmental and community groups in Southern California may attempt to delay, and possibly kill, a 750-MW solar power on federal desert lands that the Interior Department has put on a "fast track" to receive federal economic stimulus dollars.

One of the groups' concerns is that the Obama administration's effort accelerate approval of the project may leave state

and federal agencies insufficient time to perform an adequate draft environmental impact statement on the proposal. The draft EIS will consider not only the project's potential effects on protected species like big horn sheep and flat tailed horned lizards, but also the land's cultural value to Native American tribes.

Representatives of the groups said they are considering using the regulatory process to delay approval enough so that the project's sponsor, Stirling Energy Systems, will lose out on the stimulus money. A successful challenge by them would effectively kill the ambitious 6,500-acre Solar Two Project because Stirling officials have indicated that the project could not go forward without the public funds.

While the Sierra Club's national office has not taken an official position on the estimated \$2.2-billion plant, its lead official in California's Imperial County, where the project would be built, said last week that the organization anticipates a fight.

"I cannot see any reason why the Sierra Club officially would not be requesting a revised or supplemental draft EIS if the original one that comes out is deemed to be inadequate in terms of biological or cultural resources," said Edie Harmon, a leader on Imperial County land use with the Sierra Club's San Diego chapter.

"I think there is going to be a very strong push to consider that it needs to be at an alternative site — that it's not an appropriate site," she added.

The Solar Two Project, also known as the Imperial Valley Solar Project, is on federal land controlled by Interior's Bureau of Land Management. The county is nestled in the southeast corner of the state, sharing a border with Arizona and Mexico.

BLM and the California Energy Commission have indicated that the draft EIS will come out no later than December 31, which would make it the second of nine fast-track BLM solar projects in California to reach that point. The first such draft EIS, for BrightSource's 440-MW Ivanpah plant, was published last week (*IE*, 9 November, 11).

BLM and the California commission have accelerated the approval process to help project sponsors begin construction by the end of 2010, a requirement for economic-stimulus funding they are seeking.

Harmon and local activist Donna Tisdale said they are considering appeals at two critical junctures in the regulatory process to delay the project.

"If it comes to an appeal, I will help Edie on challenging the project in any way I can," said Tisdale, president of the community activist group Backcountry Against Dumps. "In my opinion, the project is a misuse of public lands and taxpayer stimulus funds."

The project calls for 30,000 parabolic dishes, nearly 40 feet tall, which would generate 25 kW each. The dishes would be comprised of large mirrors whose reflection would generate heat to warm a gas that would spin a turbine. The project would run 4.5 miles along a highway and take up mostly unspoiled BLM land.

Sean Gallagher, vice president for market strategies and regulator affairs at Stirling, acknowledged that using public land comes with risks, but added that he did not expect any delays. He said the company needs final approval by

September 15 in order to begin construction in time to qualify for the stimulus funds.

"The risk in any [National Energy Policy Act] or [California Environmental Quality Act] process is that if some piece of information is overlooked or not analyzed adequately, then the agency can decide it needs to supplement the draft EIS," he said. "That can lead to a revised draft and a new comment period. We expect that the agencies will produce a very thorough document."

But state officials who declined to be identified said that CEC staff which would normally handle one such EIS are now involved in many more. Adding to staff pressures are three-day monthly furloughs ordered by the state because of California's financial troubles.

One official said BLM and CEC staffs are "very concerned" that all of the fast-track projects may face regulatory or legal challenges, which could delay them and rule out stimulus funding for them.

"They don't have to win, just delay," the official said of project critics.

BLM spokeswoman Jan Biedrosian said that BLM staff in the state are working very quickly. "We're certainly working at a rapid pace, but our goals are being met," she said. "We expect Solar Two to meet all requirements."

Stirling has applied for a loan guarantee from the Energy Department and funding from the Treasury Department. The Treasury program, which would cover up to 30% of the project, requires construction to begin by the end of 2010.

There are nine BLM fast-track solar projects in California, one in Arizona and three in Nevada. Receiving similar consideration from the bureau are seven wind projects, three geothermal projects and seven transmission projects in western states.

Gallagher said financial support from the American Recovery and Reinvestment Act would be a lifeline to the solar industry in the near term.

"Projects like ours are going to rely pretty heavily on the stimulus funds over the next couple of years, given the current financial conditions," he said.

But Tisdale countered that "political pressure" from the Obama administration and the "artificial deadline" imposed by the stimulus bill would make for poor choices in siting projects.

"We're dealing with multi-billion-dollar corporations who talk with the Obama administration one on one," she said of attempts by her organization and others concerned about the projects. "We can't even get a letter answered. Our communities are under assault right now."

Two critical issues under consideration at the Solar Two site involve species and Native American cultural values. Gallagher said the company in a preliminary study found few flat tail horned lizards, though it also noted that the site was a habitat for the reptile. The company would "fund acquisition of habitat elsewhere to make up" for lost habitat and help relocate any lizards, he said.

Gallagher said big horn sheep have been spotted on the site, but called it an "unusual event" and added that the US Fish and Wildlife Service is conducting a study on the sheep. "It's not a migration corridor," he said.

Officials at the Center for Biological Diversity disputed claims that the effects on wildlife would be minimal. "These are good projects, but we don't want them in the wrong places," said Ileene Anderson, a CBD biologist. She said the Solar Two Project was not yet under consideration for a regulatory challenge because the draft EIS has not been issued. "We have species here that don't occur anywhere else in the world."

Harmon said the land holds cultural value for local tribes like the Quechan. She said preliminary studies show the project area has at least 13 rare cremation sites and nearly 300 other places with artifacts. According to Harmon, CEC staff has indicated that the Solar Two site has more cultural heritage sites than all of the other sites under consideration by CEC, and that examining the site adequately could take two to three years.

"That sent out more alarm bells," she said. "Taking pictures or digging stuff up is not the same as leaving it in place."

Still, Harmon said she was encouraged by past situations where concerns over Native American cultural sites halted development of a project on BLM land. She pointed to a mine proposed by Glamis Gold in Imperial County more than a decade ago, which BLM ultimately turned down in 2001.

Another potential impediment for Solar Two is an ongoing battle over the Sunrise Powerlink, a transmission project proposed by San Diego Gas & Electric. Stirling has said it would build 300 MW for the existing grid but needs the Sunrise project to make the next 450 MW a reality.

The transmission project is held up in state and federal court. One of the plaintiffs in state court is the Center for Biological Diversity, which has challenged the transmission line's proposed route through wildlife habitat.

"The siting is the biggest problem, and there's also the question of whether it's really needed," said Lisa Belenky, an attorney with the group. — *Alexander Duncan*

OIL/NATURAL GAS

Salazar touts oil, gas drilling in ND, home to key climate-bill opponent

Interior Secretary Ken Salazar told a North Dakota energy conference last week that he supports a balanced approach to reducing greenhouse gas pollution, including the development of new oil, natural gas and coal resources.

But Salazar sidestepped mention of cap-and-trade legislation, an approach backed by the White House but opposed by several key lawmakers, including the conference's host, Senator Byron Dorgan, a North Dakota Democrat.

Salazar was a keynote speaker at the Great Plains Energy Expo & Showcase, a two-day gathering of energy companies, government officials and academics.

While not mentioning the cap-and-trade bill, which has narrowly passed one Senate committee, Salazar defended Obama's approach, saying that increasing reliance on renewable energy

and reducing greenhouse gases does not mean abandoning oil, coal and gas production.

"Some critics would have you believe otherwise," Salazar said. "They want you to believe the Obama administration is 'anti-this,' or 'anti-that.' The truth is: we are developing on all fronts, but responsibly."

Salazar has been criticized by oil and gas trade groups for halting drilling leases in Utah that were granted in the waning days of the Bush administration. Last month, Salazar decided to award some of those leases and delay others, a compromise that did not satisfy critics.

And Salazar has gone slow when it comes to drilling offshore, despite the expiration of a moratorium on granting leases on the Outer Continental Shelf.

Salazar did not backtrack during his speech Monday in a state that recently passed Louisiana to become the nation's fourth-largest producer of crude oil. The state also ranks in the top 10 of coal-producing states.

"The United States is the Saudi Arabia of coal," Salazar said. "We will continue to rely on this critical domestic energy resource for years to come.

"But US companies should be leading the world, developing and exporting to countries like China and India advanced coal technologies that promote carbon capture and sequestration."

Salazar also challenged conference attendees to lead in the development of renewable resources, including solar and wind power.

"Developed in the right way and in the right places, the Great Plains' states vast wind energy potential — along with solar, geothermal, and other renewables — can power our economy with affordable energy, create thousands of new jobs, and reduce harmful pollution associated with the burning of fossil fuels," he said.

North Dakota's other senator, Democrat Kent Conrad, is a founding member of the "Group of 20," which has called for additional offshore oil drilling in addition to energy conservation and development of renewable energy.

Dorgan has said he favors caps on greenhouse gas emissions, but does not support creating a marketplace to trade emission credits.

"I'm willing to cap carbon to address the threat to our environment," Dorgan said in a July opinion piece. "I will support a plan that establishes workable caps, invests in the technology we need to decarbonize fossil fuels, and sends the majority of the revenue raised to consumers to offset increases in the price of electricity resulting from the caps." — *Gary Gentile*

Lawmakers ask Salazar to protect lands in Utah while Congress mulls their fate

A group of 89 House members asked Interior Secretary Ken Salazar last week to temporarily protect 9.4 million acres of public land in Utah while Congress and the state figure out how to legislatively shield the land from oil and natural gas production and other uses.

A bill to designate the land as wilderness and afford it pro-

tection from off-road vehicles as well as oil and gas leasing is being considered by the House Natural Resources Committee.

Bill sponsor Maurice Hinchey, Democrat-New York, is heading the effort to ask Salazar to reject a 2003 out-of-court settlement that, Hinchey and others believe, weakened Interior's power to protect the land in the red rock canyons of the Colorado Plateau and the Great Basin Desert in Utah.

The settlement Hinchey referred to was of a lawsuit Utah brought in 2003 after the Clinton administration designated millions of acres as protected wilderness. The state claimed that the executive branch lacked that authority and that only Congress could issue such a designation.

The Bush administration agreed to withdraw the designation and environmentalists claim the settlement removes the federal government's ability to step in and protect huge swaths of public land from certain kinds of development.

The "wilderness" designation triggers tough protection measures barring logging, mining, and vehicles, including mountain bikes.

Getting such restrictions through Congress has proved difficult and environmentalists have urged the Obama administration to step in and keep the land pristine.

Interior's Bureau of Land Management has the power to designate the land as a "wilderness study area," Hinchey said, providing temporary protection until Congress acts.

"Designation of wilderness study areas is a crucial means of interim protection that enjoys the recognition of agency professionals and the laws under which they operate, such as the Federal Onshore Oil & Gas Leasing Act and the National Landscape Conservation System Act," Hinchey wrote in his letter to Salazar on Tuesday.

Specifically, Hinchey and his colleagues, all but two of the Democrats, want BLM to conduct an inventory of the 9.4 million acres, bar oil and gas leasing in the areas that would be designated wilderness if Hinchey's bill becomes law, and prohibit other activities, such as mining, logging and road construction.

Earlier this year, Salazar withdrew dozens of previously-granted oil and gas leases in Utah, saying that the government needed to more thoroughly assess the impact of such activities on the environment, including the impact on scenic vistas (*IE*, 9 February, 1). — *Gary Gentile*

New IPAA leader reiterates group's bid to stop Congress from axing tax breaks

The new chairman of the Independent Petroleum Association of America said last week that opposing Democratic proposals to increase taxes on the industry and impose new regulations on it remains a top priority of the trade group.

"We cannot be silent with this Congress," Bruce Vincent said Wednesday at a joint luncheon meeting in Houston of IPAA and the Texas Independent Producers and Royalty Owners Association.

Vincent, who also is the president and director of exploration-and-production company Swift Energy, said independent producers must weigh in on the energy and climate debates cur-

rently under way in Washington.

"We know we are important to the American way of life," he said.

Vincent noted that the Obama administration has called for the repeal of a number of tax provisions favorable to the energy industry, which he said would amount to "a \$31.5-billion tax increase on producers."

"I get winded going through the list," he said of the proposals opposed by the industry.

Among the tax breaks targeted for elimination are provisions dealing with intangible drilling costs, percentage depletions and marginal well credits.

"In October, when President Obama spoke about climate change at the United Nations summit, he called for a worldwide end to what he termed fossil fuel subsidies, which equates to massive tax hikes on energy producers," Vincent said.

"These aren't subsidies, they're economic incentives and tax-recovery mechanisms, which are also provided to many other industries," he said.

Some of the provisions in question have been part of the federal tax code since the 1930s, Vincent said.

"They're built into the fabric of the industry and make it viable," he said. "We have and will continue to aggressively oppose the tax proposals and educate legislatures about their

adverse consequences."

Congress has not yet acted on the administration's tax proposals, "but that doesn't mean they're off the table," Vincent said.

He added that IPAA also is working to prevent passage of legislation that would authorize federal oversight of hydraulic fracturing, a well-completion technique currently subject to state regulation.

The Fracking Responsibility and Awareness of Chemicals Act pending before the House and the Senate would assign regulation of fracking to the Environmental Protection Agency and would require operators to disclose the chemicals used in fracking fluids. The bills (H.R. 2766, S. 1215) are under consideration by committees.

"We're working with Congress to help them understand that under the current regulatory environment techniques, such as hydraulic fracturing have been effectively regulated by the states for 60 years," Vincent said

"Congress must understand that environmental regulations should be cost-effective and should be based on managing risk and not false accusations by opposition groups," he said.

Vincent warned that legislators should not pass any laws that would harm the profitability of gas and oil producers, particularly in the current economically depressed climate in which "our industry is one of the few revenue creators left." — *Jim Magill*

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COAL

DOE, Treasury urge court to dismiss green group's suit over coal projects

Lawyers representing the Energy and Treasury departments fired back at an environmental group last week that is trying to revoke or suspend more than \$1 billion in tax credits that the Bush administration awarded for "clean-coal" projects in 2006.

The group, Appalachian Voices, has asked the US District Court for the District of Columbia to force DOE and Treasury to revoke tax credits that were awarded to several clean-coal projects, including Duke Energy's proposed Cliffside project in western North Carolina. But in a motion filed Tuesday, lawyers representing the two departments said the court should throw out the lawsuit because the group has failed to show that the tax credits would cause it irreparable harm.

"Plaintiffs assert that some of their members live near Duke Energy's proposed Cliffside Project, and will be injured by pollutants from operation of that project," the DOE and Treasury attorneys wrote.

"But the project is not scheduled for completion until 2012, long after this case will have been resolved. ... And even if the project were the source of a cognizable injury, plaintiffs challenge the allocation of federal tax credits that represent but a small fraction of the cost of the project, and plaintiffs concede that a preliminary injunction, if granted, would not stop the project."

The DOE and Treasury lawyers also argued that the suit should be thrown out because there is no "reasonably close causal connection" between the issuance of the tax credits and the potential environmental impacts from the Cliffside project.

Boone, North Carolina-based Appalachian Voices filed suit in August 2008, saying DOE and Treasury violated the National Environmental Policy Act by failing to perform required environmental reviews before awarding the \$1 billion in tax credits authorized by the 2005 energy bill to nine clean-coal projects. The group also charged that the agencies violated the Endangered Species Act by not consulting with the US Fish and Wildlife Service before granting the tax credits.

Clean-coal projects involve capturing the carbon dioxide emissions from coal-fired power plants, which proponents have said is an effective way of curbing greenhouse gas proliferation and preserving air quality.

But in their complaint, Appalachian Voices argued that using coal to generate electricity could lead to deforestation, water contamination, toxic sludge and other environmental damage.

"Coal-fueled power plants, including those receiving tax credits pursuant to the Energy Policy Act of 2005, are the principal force driving the market for, and environmental degradation resulting from, mining, processing, transporting, burning and disposing coal," the group's lawsuit said. "Ignoring the significant environmental impacts associated with coal's cradle-to-

grave lifecycle, defendants approved the allocation of the tax credits without preparing a comprehensive environmental impact statement evaluating the individual and cumulative environmental impacts associated with developing these nine experimental coal-fueled projects."

In its lawsuit, Appalachian Voices asked that DOE and Treasury "revoke or suspend" the tax credits already awarded and stop awarding any more of the tax credits, until environmental reviews are performed.

The US Court of Appeals for the District of Columbia Circuit dismissed the suit in November 2008, saying Appalachian Voices failed to demonstrate a connection between the clean-coal projects and direct injury to itself. Moreover, the group did not demonstrate that the tax credits were a central part of the utilities' decision to go forward with their projects, the court ruled.

But in September, the district court ruled that Appalachian Voices could submit an amended complaint, which prompted last week's reply from DOE and Treasury.

In their reply, the DOE and Treasury attorneys say that the Cliffside Project will not cause any direct injury to the plaintiffs because it will decrease or maintain ambient pollution levels.

"When it does become operational, the project will replace existing power-generating units, including four units built in the 1940s, with a modern state-of-the-art clean-coal unit that will reduce or maintain emission levels while generating more electricity," the filing states.

The attorneys also say the departments were not required to conduct environmental reviews for the tax credits because the 2005 energy bill mandated that those credits be awarded as long as a project met performance requirements.

Besides the Cliffside Project, the clean-coal projects named in the lawsuit include Duke Energy's Bituminous IGCC Project in Edwardsport, Indiana; Tampa Electric's Bituminous IGCC Project in Polk County, Florida; Mississippi Power Company's Lignite IGCC Project in Kemper County, Mississippi; E.ON US & Louisville Gas and Electric's Advanced Coal Project in Bedford, Kentucky; Carson Hydrogen Power's Gasification Project in Carson, California; TX Energy's Gasification Project in Longview, Texas; and two gasification projects whose proponents "chose not to have their awards announced." — *Herman Wang*

NATIONAL LABORATORIES

National lab directors make big bucks, but DOE says they're worth every penny

Getting rich is probably not the top reason why up-and-coming scientists would aspire to run an Energy Department national laboratory. But judging from recently released compensation data, DOE's lab directors could do a lot worse.

Reporting requirements under the \$787-billion economic stimulus bill have opened a clearer window into the compensa-

tion of the US nuclear weapons lab directors, one of whom makes more than six times the salary of Energy Secretary Steven Chu.

According to a government web site that tracks spending under the American Recovery and Reinvestment Act, the director of DOE's Sandia National Laboratories, Thomas Hunter, receives just over \$1.7 million per year in compensation. While the information was not secret before, the Recovery Act has made it easier to access.

Executive compensation includes salary as well as company stock options, bonuses, benefits, retirement contributions and other perks. In Hunter's case, his base salary is less than 25% of his total \$1.7 million in annual compensation, according to lab spokesman George Rhyndance. DOE reimburses the labs for part of the directors' salaries, and at Sandia, the department kicks in \$366,119 per year. The remainder of Hunter's compensation — including stock, pension benefits and deferred compensation — comes from the lab contractor, Lockheed Martin.

"Sandia, in conjunction with Lockheed Martin, reviews executive pay surveys annually to ensure that the compensation of its executives is reasonable and competitive," Rhyndance said. "In addition, all executive base-pay compensation actions are reviewed and approved by DOE."

To be sure, Hunter has the resume for the job. Educated as an engineer and rising through the ranks at the lab since 1967, Hunter has managed the nuclear weapons research and development program, as well as the lab's energy and nonproliferation work, before being named director in 2005. In that job he currently manages 8,400 employees and the labs' \$2.2-billion annual budget.

And his employer is not poor. As director, he is also president of the Sandia Corporation, a subsidiary of Lockheed

Martin, which is the largest defense contractor in the world with sales in 2008 of \$42.7 billion. Sandia has two sites, one in California and one in New Mexico.

Hunter did the best by far among the directors of DOE's weapons labs. Michael Anastasio, the director of Los Alamos National Laboratory in New Mexico, a lab that under previous management had been the poster boy for the need for management and security reforms, receives \$800,348 per year in compensation. Until 2005, Los Alamos was managed by the University of California, but after several security breaches, DOE turned over the lab's management and operations contract to a private consortium, including UC and three large private contractors.

Anastasio serves as president of that consortium, called Los Alamos National Security, as well as the director of the lab. He also comes from an engineering background, and started his career at Los Alamos working on weapons designs.

"The compensation is commensurate with the management responsibilities," said Los Alamos spokesman Jeff Berger. "In the case of LANS operating and managing LANL, we are talking about a budget of some \$2 billion. We are talking about facilities that span nearly 40 square miles, we are talking about 10,000 employees. But especially we are talking about the great responsibility and the complexity associated with national security science, including a weapons program."

George Miller, the director of Lawrence Livermore National Laboratory in California, receives about half the compensation of Anastasio: \$442,000 per year. Before becoming director in 2006, Miller spent several decades at the lab working on all aspects of nuclear weapons, including design, testing and arms control. While he is a distant third in pay behind his weapons'

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labs colleagues, Miller still earns 10% more than the guy with access to the nuclear launch codes, President Barack Obama.

The three nuclear weapons labs fall under the jurisdiction of DOE's National Nuclear Security Administration. Most of the other national labs are overseen by the agency's Office of Science, and directors at those labs earn about the same as the lowest-paid of their atomic counterparts. Office of Science labs were not required to report compensation under the Recovery Act, but tax filings reveal some details.

According to a 2007 tax document, Michael Kluse, the director of Pacific Northwest National Laboratory in Washington, made \$620,679 in total compensation; John Grossenbacher, the director of Idaho National Laboratory, made \$494,657; and Thomas Mason, the director of Oak Ridge National Laboratory in Tennessee, made \$373,994. Those labs are all managed by the non-profit research institution Battelle, and those lab directors also serve as senior vice presidents with the non-profit.

Paul Alivisatos, the acting director of Lawrence Berkeley National Laboratory in California, is compensated to the tune of \$406,980. Berkeley Lab is managed and operated by the University of California, but DOE reimburses the university \$371,800 to compensate Alivisatos.

DOE does not reimburse each lab at the same level.

"The department's contribution for laboratory directors' base salaries ranges from \$235,000 to \$372,000. The amount varies based on the size and location of the laboratory, laboratory performance and other factors specific to each contract and/or laboratory," said DOE spokeswoman Tiffany Edwards.

Chu himself took a pay cut earlier this year when he stepped out of his position as director of Berkeley Lab and into the corner office on the seventh floor at DOE headquarters. As lab director he had just received a 2.6% raise in 2008, to \$408,400, but now only makes the same as other cabinet secretaries, about \$190,000.

While lab directors make more than most government employees, most take a paycheck from private companies and non-profits. But most lab directors do not make nearly as much as CEOs of Fortune 500 companies, who typically earn more than \$1 million in base salary alone. Of course, there are exceptions. Apple wunderkind Steven Jobs, for example, takes only \$1 in salary every year — although he also has some \$628 million in company stock. — *Derek Sands*

Siemens is headquartered in Germany, but has a US subsidiary that employs some 69,000 people. In a November 6 letter, Siemens asked DOE to eliminate certain ARPA-E restrictions which effectively bar foreign-owned companies from competing for the \$400 million that DOE has to spend on the program.

"Siemens believes those restrictions undermine the effectiveness of the program, and the US historic commitment to non discriminatory environment for foreign investment that ultimately lead to American clean energy jobs," Kathleen Ambrose, a senior vice president at Siemens, wrote in the letter to DOE General Counsel Scott Blake Harris.

ARPA-E, short for the Advanced Research Projects Agency-Energy, received \$400 million under the economic stimulus package earlier this year. It is aimed at supporting research that is risky but has the potential to lead to "transformational" energy-technology breakthroughs. Through the program, individual researchers could receive between \$3 million and \$5 million for several years to develop their ideas.

DOE awarded \$151 million in its first ARPA-E funding round this fall, but did not allow "foreign entities" to act as the "lead organization" in applying for funds. Siemens hopes DOE will make changes to the next solicitation that will allow it and other "US-domiciled companies, regardless of ultimate ownership" to apply.

The stimulus bill contains a so-called "Buy American" provision that requires US-made steel, iron and manufactured goods to be used when building highways, bridges and certain other "public work" projects.

But DOE's ARPA-E office interpreted the provision to mean it should not fund applications from foreign-owned companies. However, while companies headquartered overseas could not act as the lead in the first round, they could apply as part of a group, but were limited to spending only 25% of the total award.

Energy Secretary Steven Chu has said he expects the second solicitation for ARPA-E to go out this fall. He told the Organization for International Investment in July that he is considering relaxing the foreign-ownership provisions in the upcoming solicitation, and is discussing changes with the Department of Commerce and the US Trade Representative (*IE*, 28 September, 1). The Washington-based OFII represents over 100 foreign-owned companies with US subsidiaries, including Shell Oil, Areva, Petrobras and Nestle.

Siemens is a member of OFII, and runs a wind-turbine blade-manufacturing plant in Iowa and is building a wind-turbine nacelle plant in Kansas. It is also involved in wind-turbine research with DOE's National Renewable Energy Laboratory.

Stephanie Mueller, DOE's press secretary, would not say whether the Siemens' request is being considered, only that the next solicitation is expected "soon."

The ARPA-E program office waded through 3,600 applications for its first round of funding, without a formal director and in temporary office space, and in the end chose 37 projects. The Senate last month confirmed the program's first

RESEARCH & DEVELOPMENT

German company urges DOE to relax 'Buy American' restrictions in ARPA-E

Energy and technology giant Siemens is urging the Energy Department to relax the requirements of its new ARPA-E program so that foreign-owned companies like itself could receive more government funds to pursue high-risk, high-reward energy research.

director, Arun Majumdar, just days before the awards were announced.

Limitations on ARPA-E funding has also come under fire from some universities. In an economic climate of declining state budgets and donations, universities have felt the pinch and have less money to spend on research.

In May, the Council on Governmental Relations, a group of research universities including Massachusetts Institute of Technology and the University of California system, asked Chu to waive requirements that applicants provide 20% of the cost of the project.

The letter from Siemens comes in the midst of other questions that have been raised over the Buy American provision of the stimulus bill. Two weeks ago, New York Democratic Senator Charles Schumer voiced concerns that a \$1.5-billion wind project in Texas would use wind turbines manufactured in China. DOE said it had not yet received an application for a cash grant, but said it may be forced to issue one if the project meets pre-determined criteria. — *Derek Sands*

material disposition and energy research.

More than 800 subcontractor employees work on the site.

In its report, the IG office recommended that Savannah River Site management ensure contractors establish a method to notify all subcontractors of the federal requirements related to employment verification, including the federal E-verify system.

In its response to the IG report, SRS manager Jeffrey Allison concurred with the findings and agreed to implement the recommendations.

He wrote in his response letter that his office has sent letters “to the appropriate contractors informing and emphasizing their obligations to ensure compliance with all applicable employment laws and regulations, including employment verification for both prime contract and any subcontracts.”

The report (INS-O-10-01) is available at www.ig.energy.gov.

— *Herman Wang*

INSIDE DOE

Failure to check SRS workers' papers could have opened door to illegals: IG

Some Energy Department subcontractors at the Savannah River Site in South Carolina failed to verify their workers' employment eligibility, which could have allowed illegal immigrants to work at the site, according to a new report by DOE's inspector general.

Under federal law, US employers, including federal contractors, are required to examine employee identification documents, ensure they are genuine and certify that the individuals are eligible to work in the US.

But the IG report released Tuesday found that four DOE subcontractors failed to use the “Employment Eligibility Verification Form” (I-9 form) as required.

The IG's office also found that 22% of the 600 I-9 forms obtained from a sample of 21 site subcontractors from July to December 2008 were missing key information, including verification that the identity documents were authentic and employees' signatures to affirm that the information provided was correct.

“This condition allowed the possibility that individuals who are not eligible to work in the United States could be employed by department subcontractors and potentially access the site,” the report said.

In addition, the investigation found that 16 subcontractor employees may have Social Security numbers used by people outside the department, though the report notes that investigators found no evidence that the subcontractors were using fraudulent numbers.

SRS houses DOE's Savannah River Operations Office and the National Nuclear Security Administration. Primary activities there include environmental management and cleanup, nuclear

Yucca Mountain backers galvanized by leaked DOE memo ... (from page 1)

funding for Yucca Mountain in fiscal 2011 is \$46.2 million, a fraction of the \$196.8 million the program received this fiscal year. Fiscal 2011 begins October 1, 2010.

Of that \$46.2 million, \$25 million would be used to support the archiving of data associated with the Yucca Mountain program; the remaining \$21.2 million would be used for site remediation and worker transition. The document also shows that no funds would be sought for the program from fiscal years 2012 to 2015.

Though the budget request is considered a working draft, Isakowitz wrote that “we do not expect the information to change.”

DOE Press Secretary Stephanie Mueller declined to confirm any of the memo's contents.

2009 date a typo?

But some Nevada officials who oppose Yucca Mountain said they believe the December 2009 date for cutting off license-defense activities might be a typographical error.

“It makes more sense if funding for the LA [license application] were to continue through the fiscal year” and that work be terminated in December 2010, Bruce Breslow, executive director of the Nevada Agency for Nuclear Projects, said in an interview.

Several proponents of the Yucca Mountain project, who include nuclear industry officials, also questioned the reasoning for any halt in the licensing work next month, noting that President Barack Obama recently signed the fiscal 2010 energy and water funding bill that specified the bulk of the \$196.8 million allocation would be spent on activities associated with Nuclear Regulatory Commission's review of DOE's Yucca Mountain license application. Obama signed that bill into law on October 28, five days after the date on the Isakowitz memo.

The DOE license application seeks authorization from NRC to construct a repository at Yucca Mountain, about 100

miles north of Las Vegas, that would be used to dispose of 70,000 metric tons of utility spent nuclear fuel and of high-level radioactive waste from the department's nuclear weapons program.

Without an alternate path forward, that waste will be stranded at commercial and DOE sites in 39 states where it is now stored. DOE's repository license application has been under NRC review since last fall.

More lawsuits coming?

Norris, with the NWSA, said if DOE does go through with shutting down Yucca Mountain, the department could open itself to further litigation over the Nuclear Waste Fund, which has amassed \$30 billion.

The fund was established in 1982 by the Nuclear Waste Policy Act to help finance the development of a waste repository. Ratepayers of utilities that generate electricity from nuclear reactors contribute to the fund about \$750 million per year.

After the government missed its 1998 mandated deadline to start collecting nuclear waste, utilities began suing for damages. Those lawsuits continue today.

"These are binding legal agreements that are going to be a liability for DOE if it stops everything," Norris said. "If they're going to cut off the funding for the license application, which is being reviewed in a proper manner by the NRC, then the payments into the Nuclear Waste Fund should stop."

David Cherry, a spokesman for Democratic Representative Shelley Berkley, whose district includes the Yucca Mountain site, said his boss has not seen the DOE memo, but welcomes the news, if true. He said it coincides with promises made by Obama that he would shut down Yucca Mountain, a goal long shared by Nevada lawmakers.

"It's long past time for the nuclear industry to come to the table with a solution that doesn't involve dumping waste in Yucca Mountain," Cherry said. "Whether this year or next year, Yucca Mountain is gone. For another year, this thing will fumble forward, while the industry sits there with their heads in the sand, as if the political fortunes will suddenly swing."

But Yucca Mountain supporters say the fight is far from over. Representative John Shimkus, an Illinois Republican, said Yucca is needed to consolidate nuclear waste in a secure location, and that abandoning it would waste millions of dollars spent on the site's development and licensing application so far. Illinois has 11 nuclear reactors that provide about 45% of the state's electricity, and the state is the largest contributor to the Nuclear Waste Fund.

"Where does this administration propose we store nuclear waste?" Shimkus said. "Their energy policies are pushing us toward more nuclear-fueled electricity production, not less. I would support another location, but that will take another 10 years, while we continue with 121 nuclear waste sites instead of one. This does not make sense to me."

The DOE memo, which has a subject line of "Second round of Program Decision Memoranda," reflects the outcome

of back-and-forth discussions between the department and the White House Office of Management and Budget on DOE's proposed budget request for fiscal 2011.

If DOE is to halt the license activities next month, as the document states, the department would have to formally request a reprogramming of its fiscal 2010 appropriation, which would require approval from the House and Senate appropriations subcommittees overseeing DOE. One source, who did not want to be identified, said the unspent balance of the fiscal 2010 allocation is about \$150 million.

A Democratic aide with the House Energy and Water Development Subcommittee said DOE has yet to formally request the reprogramming. Several lawmakers on the House and Senate appropriations subcommittees could not be reached for comment.

There is no indication how some of the other expenses DOE is likely to face will be paid, including the cost of terminating the five-year, \$2.5 billion contract DOE signed with USA Repository Services in October 2008 to manage the Yucca Mountain project, and of breaking leases on the program's office space in Las Vegas.

One former DOE official said he believed it would be difficult for a combination of the unspent fiscal 2010 funds and the suggested allocation for fiscal 2011 to cover all of the program's shutdown costs.

It was unclear last week how much work DOE would have to do to remediate the Yucca Mountain site, or whether the department already has a remediation plan in place. Under the federal law governing the program, the site would have to be returned to its original condition, Breslow said.

DOE ceased all work at Yucca Mountain in January 2008, putting the site in what it called "indefinite standby mode," after being hit with a 21% budget cut for fiscal 2008.

The DOE memo puts the termination of the Yucca Mountain project roughly nine months ahead of the timetable Senate Majority Leader Harry Reid of Nevada announced in July when he said the White House and Energy Secretary Steven Chu had agreed not to seek any fiscal 2011 funds for the licensing of a Yucca Mountain repository.

Former DOE waste program official Lake Barrett last week said that if the department does terminate all Yucca licensing activities next month, "it would be illegal, immoral, irresponsible and a crime against science." Barrett was the program's principal deputy director from 1993 to 2002 and its acting director several times during his career with the department.

Aby Mohseni, NRC's deputy director of repository safety and licensing, said last week that the agency has not received any notice from DOE about a potential termination of the licensing proceeding on a Yucca Mountain repository. However, applicants are not required to issue such notice, he said, though potential licensees often do.

In the meantime, NRC plans to continue its licensing review. NRC was appropriated \$29 million for that work in fiscal 2010, Mohseni said, adding, "there are 29 million reasons why we should be focusing on what's before us."

— Elaine Hiruo, Herman Wang

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