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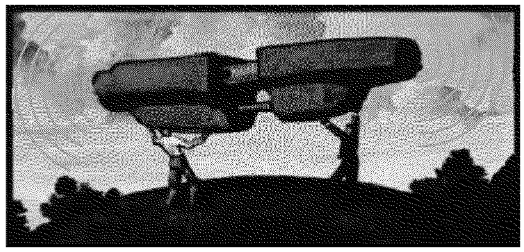

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This Week

Mega PV Projects Face Critter Concerns

Developers are scaling back two massive photovoltaic projects slated for the transmission-rich Carrizo Plain in eastern San Luis Obispo County to mitigate biological impacts. But even if the county approves them they are likely to face legal challenges.

"This is the last bastion of highly threatened and endangered species," said Ileene Anderson, Center for Biological Diversity biologist, speaking of the land slated for the 800 MW of photovoltaic infrastructure.

At issue are First Solar's plan to build a 550 MW thin film photovoltaic plant and SunPower's proposed 250 MW solar tracking project. County approval is expected for both in the weeks ahead. Power from both projects is under contract with Pacific Gas & Electric.

The Carrizo Plain is considered optimal for solar projects because it is flat and one of the sunniest areas of California—with an average 315 days of sunshine a year. In addition, the ready availability of high voltage lines running from the Diablo nuclear power plant make it easy to feed the solar energy into the grid without building new lines.

However, the two projects would impact threatened species, including the San Joaquin fox, giant kangaroo rat, and Blunt-nosed Leopard Lizard. Consequently, the solar developers downsized their project footprints and agreed to set aside thousands of acres for conservation enhancement.

First Solar's Topaz project shrunk from 6,500 acres to 3,500 acres. Three quarters of the project currently is to be built on former cropland, and the rest on grasslands. First Solar also agreed to provide 10,000 acres of offsite mitigation land to protect San Joaquin foxes and other animal and plant species that would be affected by the project, said Alan Bernheimer, First Solar spokesperson.

SunPower's California Valley Solar Ranch tracking project was downsized from 1,966 acres of previously farmed land to 1,500 acres. Acres set aside for conservation increased to 3,185 from 2,400 acres—largely to address concerns about the giant kangaroo rat.

"Our current design impacts less than 9 percent of the [rat] precincts inside the array boundaries," said Ingrid Ekstrom,

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Mega PV vs. Critters . . . *continued from page 1*

SunPower spokesperson.

But the project revisions and fact the land was formerly farmed do not make the solar projects attractive, according to Anderson. Instead, the Center for Biological Diversity wants solar development in that part of the state to be concentrated in the Westlands Water District, according to Anderson. There, selenium contamination makes the "brownfield" area desirable for solar projects because of the dearth of species.

Rat precincts.

The San Luis Obispo County projects are not the only ones in the area. To the northeast, Solargen's 399 MW Panoche solar project in San Benito County won approval after being downsized from 420 MW to mitigate significant environmental impacts. The Panoche site also provides habitat to foxes, rats and lizards.

Because of that, last December the Center for Biological Diversity and a coalition of environmental groups legally challenged the county's approval for Panoche.

In San Luis Obispo County, the Planning Commission is expected to approve the SunPower project by the end of this month, "with construction beginning during the summer and the first 25 MWs online by end of this year," Ekstrom stated.

The planning commission set a formal hearing for First Solar's Topaz project for March 24. "It is expected that whatever they decide, it will be appealed to the county board of supervisors," First Solar's Bernheimer said.

—Elizabeth McCarthy

Sun Sets on 250 MW Solar Thermal Project

Solar Millennium withdrew its permit application for the 250 MW Ridgecrest solar project in Kern County. The California Energy Commission staff's ongoing concern about the solar thermal project's impact on the Mohave ground squirrel, as well as desert tortoise, was said to be the impetus for dropping the project.

"A review of the record strongly suggests California agency's staff is unlikely to be open to a recommendation of approval (assuming the results of the [ground squirrel] study are favorable). In light of these circumstances, it would not be economically viable to continue to pursue either the study or the project," Jim Abbott, Bureau of Land Management California director, wrote in a Feb. 7 letter to the Energy Commission. The BLM and commission joined permitting forces to advance larger renewable projects on public land.

Certifying Solar Millennium's 3,920 acre project on public desert land was previously delayed to 2013 after the Energy Commission urged the company to undertake a $1.5 million, two-year study of the project's impacts on the threatened squirrel.

—E.McC.

LADWP Plans Big Money for Renewables

The nation's largest public power agency laid out a $25 billion, 10-year plan to the Los Angeles City Council this week to modernize its aging power system and reach a 33 percent renewable energy portfolio by 2020.

The comprehensive plan's goal is to achieve a high level of system reliability, meet environmental standards, and offer customers competitive rates, said Mike Webster, Los Angeles Department of Water & Power integrated resource plan manager.

Carrying it out is likely to entail annual power rate increases of 5 percent to 8 percent over the next five years followed by 3 percent to 4 percent annual increases over the next 15 years, Webster told the council's Energy & Environment Committee Feb. 8.

City council documents show that the shift to renewable energy and other elements of the plan could cost as much as $45 billion over the next 20 years for the muni. LADWP supplies power and water to the city's 3.8 million residents.

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GUEST JUICE

Clean-Tech Regulatory Nexus

By Arthur O'Donnell

Emerging Clean-Tech companies trying to address climate change need to understand how California Public Utilities Commission actions will directly affect their business plans.

"[W]e want to see investments in new technologies, we want to see new solutions, new approaches and innovation," Jeanne Clinton, CPUC Climate Strategies Program Manager, said at a recent Clean-Tech forum in Los Angeles.

While regulatory policies promise to open new opportunities for entrepreneurs, they also threaten to limit what those opportunities are, who will be able to participate, and the structure of the marketplace.

The question for this new industry is: Exactly how deeply regulators will control these markets? And will that involve direct regulation of new market players?

Regulated entrepreneurs.

For certain sectors of the business, the parameters of regulation are clearly defined. Essentially, if you sell electrons, meters or direct energy services to regulated utilities, you know that your market, your contracts, and possibly the prices you charge are subject to regulatory control—or at least a reasonableness review. If you compete with utilities for customers, you had better be active in every commission proceeding that defines our system of regulated competition.

However, some companies are discovering that even if they do not directly sell to utilities, their market opportunities could well be subject to regulatory oversight. Currently, the lines of such regulation are beginning to be drawn around a new class of entrepreneurs that manage customer energy use with the intent of minimizing peak period costs while aggregating load reductions to bid into new demand markets operated by the California Independent System Operator.

In a little-noticed order last June [D10-060-002], the CPUC asserted its regulatory authority over these demand-response providers.

The order directed participation in the new CAISO pilot program by utilities and allowed bidding by energy service providers, but it barred these negawatt providers from bidding on behalf of utility bundled customers.

Three companies involved in this market, EnerNOC, EnergyConnect, and CPower, challenged the CPUC ruling on the basis that such limits were not called for under law, nor justified in terms of regulatory authority. The joint parties in the complaint asserted that the commission violated their due process rights by "imposing impermissibly vague regulations" and generally treating them as if they were regulated utilities.

When the CPUC finally got around to dismissing the rehearing request as a last order of business at its Dec. 16 meeting, regulators took pains to explain their rationale. "It was never our intent to assert the Commission's general regulatory authority over DRPs as if they were public utilities," regulators wrote [D10-12-060]. However, the broad jurisdiction over energy consumer protection and its policies requiring demand reduction provide ample authority, the CPUC held.

Demand response providers are similar to non-utility energy service providers in that they operate in regulated markets to provide a particular type of energy service to utility customers. In addition, load-reduction "may directly impact energy procurement planning and decisions" made by the utilities and the grid operator, according to the CPUC, and "could affect the safety and reliability" of commission-regulated services.

In clarifying this jurisdiction, the CPUC modified the impact of its previous order, but still limited demand response providers' business until it decides whether specific consumer protections are warranted. "We expect that regulation would be limited to possible registration and/or consumer protections of investor-owned utilities residential and small commercial retail customers that receive demand-response services from demand-response providers," stated the CPUC.

If you are in the business of analyzing prospects for Clean-Tech companies, those words translate to "Regulatory Uncertainty" which is a major red flag for investors. Because as reasonable as the commission's position sounds, it has opened the door to proposals for extensive regulation of demand response firms. Pacific Gas & Electric, for example advocates requirements "to ensure

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GUEST JUICE . . . *continued from page 5*

that demand-response providers are legitimate entities that have the intent and capability to provide demand response, and have reasonable financial capability."

PG&E recommended mandates would include

- Registering with the CPUC;
- Signing direct service agreements with each of the investor-owned utilities before being able to market their services to retail customers;
- Publishing the names and credentials of technical and operational personnel;
- Posting "appropriate collateral" to support services;
- Launching a formal consumer complaint process governing demand response customer interactions; and
- Enacting an analogous set of regulations to the existing Rule 22 requirements governing all load-serving entities.

Seeing this all as a fast track to full regulation, the demand response companies have taken their case to the state appellate court. They are asking a judge to overturn the underlying CPUC order.

This case has serious implications for the emerging Clean-Tech industry. And, it is not difficult to imagine a similar regulatory assertion covering any company that potentially stands in-between utilities and revenues. Electric vehicle charging stations, companies that hope to interface with retail customers via the smart grid, possibly even sellers of battery storage systems, fuel cells or even residential solar installations.

This is a case to watch.

—Arthur O'Donnell is an independent energy & environmental journalist, www.energyoverseer.com.

LADWP's Plan. . . *continued from page 2*

Unlike previous rate hike proposals, council reception for this plan was relatively calm.

Jan Perry, Energy and Environment Committee chair, welcomed the opportunity to discuss the comprehensive plan, contrasting the new long-range view to the muni's "piecemeal triage" approach to spending in recent years.

In hearings last year, the council dramatically trimmed a rate increase the muni proposed to pay for transitioning to renewable energy. At that time, David Freeman was the muni's acting general manager (*Current*, April 9, 2010).

New LADWP general manager Ron Nichols characterized the current estimated price tag for the long-range plan as only "a gross level cut." He promised to refine the estimated cost and present it to the public and council in March. Nichols also promised the plan would never be set in stone, but merely serve as a general road map into the future.

"Piecemeal triage."

The plan calls for the muni to repower two major coastal power plants—Haynes and Scattergood—to meet air quality standards and state rules requiring the phase out of once-through cooling. Previously, the muni sought exemption from the once-through cooling policy (*Current*, Oct. 8, 2010).

The two plants are unable to ramp up and down generation and other services like newer facilities, according to the muni. Once started up in summer to meet peak power needs, they can't be shut down even when demand is slack. This results in continual use of fuel, plus ongoing emissions and cooling water use even when power is unneeded.

To avoid the fuel waste and environmental impacts, LADWP plans to replace the old generators with new turbines that start up in as little as 10 minutes, according to Webster. The plan calls for the new units to use dry-cooling.

Webster said the plan also calls for the muni to first secure its current renewable energy level at 20 percent and then strive for a 33 percent renewable level. Part of the alternative power supply is short term and longer term resources are being sought.

The blueprint further outlines the muni's plan to end its long-term interest in the coal-fired Navajo Generating Station in Arizona by 2015, ahead of its current expiration date of 2019. LADWP owns 21 percent of the 2,250 MW plant.

Nichols added the muni is in discussions that could bring early termination of its 45 percent interest in the 1,900 MW coal-fired Intermountain Power Project in Utah. It currently expires in 2027.

LADWP officials noted the plan further calls for up to 360 MW of new solar power—including on customer rooftops and city property—plus investments in energy efficiency—with 10 percent savings as the goal—transmission, and distribution system upgrades.

—William J. Kelly

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Southwest Freeze Crimps SDG&E Natural Gas

The bitter cold weather that enveloped much of Texas last week not only affected the southwestern U.S. but also forced San Diego Gas & Electric to rein in its natural gas use.

SDG&E's largest gas users were impacted, with supplies curtailed to 88 power plants and large commercial and industrial facilities. The curtailment lasted from 3 p.m. on Feb. 3 to noon Feb. 4.

"Physical constraints."

"Physically, we couldn't bring in gas due to problems with the system," SDG&E spokesperson Art Larson explained.

SDG&E temporarily was forced to curtail gas supplies to large users when weather in Texas and the Rocky Mountain area led to the shut down of natural gas fields and processing plants.

Supplies later were bolstered by SoCal Gas, which like SDG&E, is owned by Sempra Energy.

"SoCal Gas has some significant storage facilities in Valencia and Otay Mesa; they were able to send some gas this way," Larson revealed.

Also playing a part in the solution were slightly warmer temperatures and lower demand last weekend in San Diego.

During the shortage, the utility sent out a plea to its customers to conserve gas. But, the supply cutback lasted less than a day-and-a-half instead of from Feb. 3 through the weekend as predicted.

It had been 10 years since SDG&E had to ramp down its customers' natural gas supply. "It was in the spring of 2001, during the energy crisis," Larson said. But it had been 20 years since a shutoff was due to supply problems.

— Mark Edward Nero

Intertie Capacity Increase to Alleviate NW Hydro Glut

Increasing use by utilities of the California-Oregon Intertie to bring Northwest wind power into California is displacing hydropower.

Wind power "is loading up the ties," said Stephanie McCorkle, California Independent System Operator spokesperson. "It's must-take generation."

McCorkle noted that reduced demand for power in California—due to a poor economy and greater energy efficiency—may be prompting utilities to further trim their reliance on Northwest hydropower.

Must-take.

As a result, Bonneville Power Administration got caught with surplus hydropower last spring that it had to give away in the Northwest because it could not be economically transmitted to California.

The glut of hydropower occurred against the backdrop of California utilities that are striving to meet their 20 percent renewable energy standard by increasingly using the intertie to tap Northwest wind energy instead of hydropower. The state's renewables portfolio combined with similar laws in Washington and Oregon has unleashed a proliferation of wind energy projects in the Northwest. Hydroelectricity is not considered renewable—and thus not eligible for the 20 percent portfolio requirement—if it's derived from dams with over 30 MW capacity. Bonneville has over 20,000 MW of capacity.

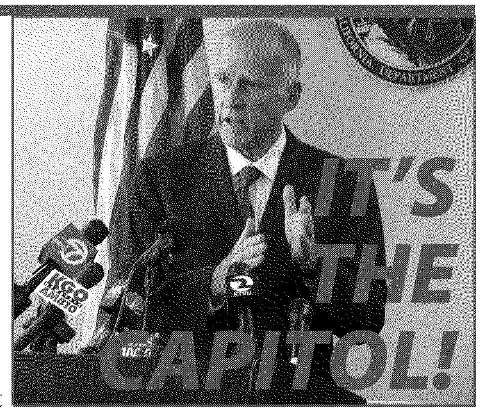
A Northwest Power & Conservation Council report suggests that changes that would allow transmission rights holders on the intertie to more easily release their capacity when not in use could help transfer hydropower to California. In essence, unused capacity results in congestion that could be relieved if transmission rights could be swapped.

"It would be nice if there was more transfer capacity," agreed McCorkle. However, she maintained that CASIO needs to take congestion pricing into account to optimize the grid.

Bonneville spokesperson Michael Milstein said the federal power agency is discussing expanding its capacity. He added that Bonneville already is carrying out some projects along the Oregon portion of the line to upgrade its capacity.

—William J. Kelly

Basket of New Energy Bills



A bevy of energy bills—including revivals of legislation from last session—were introduced to increase gas pipeline safety and advance renewable power production, largely by easing the way for permitting.

Two bills by Senator Ellen Corbett (D-San Leandro) and Assemblymember Jerry Hill (D-San Mateo) seek to increase natural gas pipeline operation safety.

AB 56 by Hill, whose district includes the site of the San Bruno blast, directs the California Public Utilities Commission to track gas pipeline repairs and upgrades on sections granted ratepayer-approved financing. Regulators are required to develop safety standards and a state pipeline safety program certification for natural gas pipelines. It also prohibits utilities from recovering from ratepayers any fines, penalties, or costs they have to pay when pipeline accidents occur due to negligence.

Corbett's **SB 44** directs the CPUC to develop pipeline safety standards on par with the federal Pipeline and Hazardous Materials Safety Administration regulations. State regulators also are required to give lawmakers a status report in July 2012.

Other bills also were introduced.

"Unacceptable unemployment."

SB 16 by Senator Michael Rubio (D-East Bakersfield) seeks to expedite and facilitate the permitting of renewable energy and alternative energy transmission projects. "Without a clear deadline and a critical path to approval, renewable energy project construction schedules will continue to be delayed," Rubio stated. He added that the bill would "reduce the unacceptable unemployment levels afflicting" the southern San Joaquin Valley.

SB 35 by Senator Alex Padilla (D-Pacoima) extends for one year the ratepayer-funded energy efficiency and renewables research at the California Energy Commission. Funding for this area of the commission's Public Interest Energy Research program is to be extended from July 2012 to July 2013.

SB 37 by Senator Joe Simitian (D-Palo Alto) requires the Energy Commission to assess the need for liquefied natural gas in California. The lawmaker's previous efforts at mandating LNG "needs" assessment were unsuccessful.

SB 175 by Corbett directs state agencies that contract for photovoltaic systems to pay a 15 percent premium to firms that provide California-made PV panels.

SB 284 by Senator Bill Emmerson (R-Hemet) excludes from the Desert Renewable Energy Conservation Plan solar and other alternative energy projects on public land in the desert area covered by the Coachella Valley Multiple Species Habitat Plan.

AB1x 3 by Assemblymember V. Manuel Perez (D-Indio) extends a developer-friendly mitigation framework for solar projects sited within the deserts in Southeastern California under the Desert Renewable Energy Conservation Plan to wind and geothermal facilities. It also directs developers to pay a maximum $150,000 for agency permits governing threatened species.

AB 15, also by Perez, creates a renewable energy workforce panel to focus on creating training and hiring opportunities in underserved communities. The California Renewable Workforce Readiness Initiative and its Green Collar Jobs Council are to establish the state Workforce Investment and Green Collar Jobs Boards.

AB 232 by Assemblymember Linda Halderman (R-Fresno) exempts biomass equipment and facilities from sales tax.

Feb. 18 is the last day to introduce legislation this session.

—Elizabeth McCarthy

Senate Confirms New CEC Chair

New California Energy Commission chair Bob Weisenmiller won unanimous confirmation Feb. 4 by the Senate. The 36-0 floor vote came a couple of days after the Senate Rules Committee recommended his approval to the post on a 4-0 vote.

Weisenmiller served last year on the Energy Commission but his nomination was withdrawn by Governor Jerry Brown to allow for a reappointment.

The new chair told the Senate his key mission is to "help California address its challenged economic situation through the opportunities of energy efficiency and renewable energy development—both utility-scale and distributed generation." He also mentioned he would strive to ensure the state reaches its renewable and combined heat and power goals.

—E.McC.

SMUD Power Supply Costs Drop

A combination of abundant hydro, low natural gas prices and staff operation cuts led to the Sacramento Municipal Utility District saving $70 million last year, according to the muni's chief financial officer.

"It was kind of a fabulous year," Jim Tracy, SMUD chief financial officer, told the utility's finance committee last week.

"Fabulous year."

SMUD's reduced 2010 expenses were linked to several factors, including $15 million in power purchase savings. Tracy explained that last year SMUD customer revenues dropped by almost $50 million. But, because "we didn't make those sales, we didn't have to buy [power]."

In addition, heavy rain in the spring and winter resulted in above average hydroelectricity. The extra water generation was equivalent to another $11 million of the variance, Tracy added.

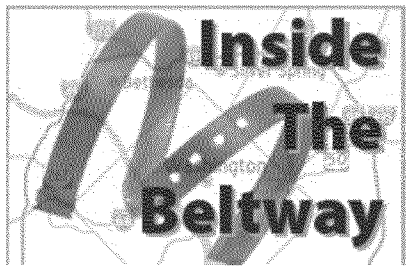
"We ended the year about $25 million better than budgeted. And it's primarily [due to] the power supply costs and the cost reductions staff was able to manage in operations."

SMUD was able to run its power plants about 9,000 MWh less throughout the year than had been anticipated in the budget.

"We could buy power on the market cheaper and then sell the gas that we were going to burn in the power plants at a higher price," he told the committee. "So we were shutting down our power plants a good part of the year and saving money in the process."

— Mark Edward Nero

Committee Finds Economy Trumps Climate



Making clear a Continental Divide between California politics and much of the nation, Republicans in the House Energy & Commerce Committee Subcommittee on Energy & Power Feb. 9 declared the Environmental Protection Agency's attempt to reduce greenhouse gases too "aggressive."

Vetting *The Energy Tax Prevention Act of 2011* introduced last week by the subcommittee's Republican leadership, Rep. Ed Whitfield (R-KY) claimed EPA is attempting to rid the nation of fossil fuels.

"The legislation is to restore the proper balance in greenhouse gas regulation," he noted.

The proposed legislation includes:

- Overturning the U.S. Supreme Court's finding that EPA has the authority to regulate greenhouse gases under the federal Clean Air Act;
- Prohibiting EPA from requiring stationary sources, like power plants, to reduce greenhouse gas emissions;
- Repealing California's authority to regulate greenhouse gas emissions from motor vehicles;
- Stopping the agency from requiring additional reductions of greenhouse gas emissions from motor vehicles; and
- Preventing EPA from taking impacts on climate change into consideration when approving alternatives to ozone depleting substances under Title VI of the Clean Air Act and the Montreal Protocol.

"Hoax."

"We have to run this machine called 'America' and we can't do it without fossil fuels," said Rep. Fred Upton (R-MI), committee chair

Rep. Henry Waxman (D-CA) alleged the other members of the committee are blind to climate change. "The premise of the bill is that climate change is a hoax," he pointed out.

The Republican move to stop EPA enforcement stems from Congress' inability to pass a climate change protection measure. The Obama administration allowed the agency to pursue greenhouse gas reductions under the nation's Clean Air Act pursuant to the high court's ruling.

Lisa Jackson, EPA administrator, maintains that acting under the Clean Air Act is creating jobs. "The EPA's implementation of the Clean Air Act is one of the reasons for the dramatic growth of the U.S. environmental technologies industry and its workforce. By 2008, that industry was generating approximately $300 billion in annual revenues and directly supporting nearly 1.7 million jobs," she testified.

Greenhouse gas reduction efforts stand in the way of economic recovery, maintain House committee leaders. Whitfield, for instance, claims energy demand in the nation is expected to double by 2035. Fossil fuels should meet that demand, he adds.

"It's about keeping energy affordable," said Upton. He said that allowing the EPA to reduce greenhouse gases through regulation "takes away the choice" of an economically preferable alternative.

—J.A. Savage

Inside The Beltway

San Bruno Blast Goads Federal Legislation

Automatic natural gas pipeline shutoff valves would be required nationwide if federal legislation is enacted.

Senator Frank Lautenberg (D-NJ), chair of the Commerce, Science and Transportation Subcommittee on Surface Transportation, and Senator Jay Rockefeller (D-WV), Commerce, Science, and Transportation Committee chair, introduced the *Pipeline Transportation Safety Improvement Act of 2011* Feb. 3. It aims to address not only the Sept. 9 Pacific Gas & Electric pipeline explosion, but some 40 pipeline incidents a year that cause "a fatality or injury."

Open information.

The senators stated the new legislation addresses gaps in agency mandates by building up the "authority of the Department of Transportation's Pipeline and Hazardous Materials Safety Administration through fiscal year 2014."

In addition to requiring automatic shut-offs, the bills aim to increase enforcement fines and make safety data available to the public on federal web sites.

—J.A. Savage

FERC Finds CA Ahead in Demand-Response

Federal Energy Regulatory Commission nationwide data show the effort to bring about customer demand-response during extreme energy conditions is creeping along with digital meter installations. Many meters reveal real time power prices and are expected to motivate end-users to reduce consumption when power supplies are short and cost more.

58,000 MW.

California is far ahead of the nation in digital meter installation, but the state's ability to cut electrical use during times of crimped supplies is more a function of demand-response aggregators—like EnerNOC and Comverge—than of end-use customer response. In this state, demand-response largely depends on third-party aggregators who offer a discount on rates in return for dropping use when dispatched to do so. While many end-use customers in California have digital meters, they have yet to be connected to real-time pricing. Thus, even though the cost of electricity may be high and coincident demand-response may be called upon, end-use meter users have no direct signals to lessen demand.

The Feb. 3 FERC report notes that 8.7 percent of the nation has digital meters installed.

"The potential demand-response resource contribution from all U.S. demand response programs is estimated to be more than 58,000 MW," about 7.6 percent of peak demand, notes the report.

The federal agency gave a nod to California's foray to protect privacy in association with "smart" meter data. The California Public Utilities Commission began to investigate how to shield consumer information post-meter installation with public workshops in late October 2010. The meters can reveal such details about utility customers as when they are home or on their computer.

—J.A. Savage

Wind Project Bird Guidance Adds Protection

In a breakthrough for wind energy and birds, the U.S. Fish & Wildlife Service Feb. 8 issued voluntary guidelines to bring the industry in California and across the nation into compliance with laws aimed at protecting raptors.

Though voluntary, the federal guidelines are "a big deal," said Nancy Rader, California Wind Energy Association executive director. "They provide a lot more clarity than the state guidelines."

The federal agency announced the draft guidelines—urging the industry to voluntarily follow them immediately—as California stands at the precipice of an explosion in wind power.

Statewide, developers are building 443 MW of new wind energy projects on top of 2,739 MW of existing capacity, American Wind Energy Association data show. California wind power could increase tenfold in the decade ahead, according to CALWEA, in response to the state's 33 percent renewable energy standard.

Already, however, wind turbines in parts of California have killed numerous Golden Eagles, other raptors, and protected birds and long been a source of controversy.

"Golden Eagles and the West are synonymous," said Paul Schmidt, Fish & Wildlife assistant director. The protected

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Inside the Beltway: Wind Power Bird Guidance . . *continued from page 8*

birds live virtually everywhere, he said, including in the Altamont Pass wind resource area where turbines regularly kill 30 to 40 Golden Eagles a year.

Schmidt explained the guidelines are designed to carry out 2009 changes to rules under the Bald & Golden Eagle Protection Act. The change for the first time allowed limited issuance of "take" permits. (A "take" means that a developer can kill a threatened or endangered species.) Prior to that, killing eagles was illegal, though Schmidt admits the prohibition was not systematically enforced.

Voluntary.

The federal Fish & Wildlife Service can pursue both civil and criminal penalties when wind project operators illegally kill or maim—i.e. "take" protected birds—under the Migratory Bird Treaty Act and Bald & Golden Eagle Protection Act, according to agency spokesperson Alicia King.

Under the guidelines, the Fish & Wildlife Service said it plans to press wind project operators and developers to s tudy how their projects affect birds, obtain necessary "take" permits, and address impacts through operational and design changes or other mitigation strategies. Otherwise, wind operators can expect to face stepped-up enforcement action, said federal officials.

Robert Johns, American Bird Conservancy spokesperson, said conservationists like the guidelines, but want them to be mandatory so they are enforceable. The Conservancy, he said, welcomes wind energy, but wants to make sure the industry grows in a way that it doesn't obliterate bird populations.

Rader said that following the federal guidelines would help shield the wind industry from federal legal action when protected birds are killed, an advantage not offered under joint California Energy Commission-Department of Fish & Game guidance.

The Fish & Wildlife Service's emphasis on the many wind operators at Altamont Pass is expected to supplement a recent settlement agreement the state entered with NextEra last December. Under that agreement, the company—the biggest wind operator in the area—is replacing its existing Altamont fleet of 4,000-plus wind turbines with new models that reduce raptor mortality and increase energy production (*Current*, Dec. 10, 2010).

The agency plans to focus on other areas too, because the guidelines apply to all wind projects, according to Schmidt, whether or not they are on public or private land.

Conservationists and the Fish &Wildlife Service are hopeful that new technologies eventually can eliminate wind project bird kills, noted both Schmidt and Johns (see related Cleantech below).

The federal guidelines are based on recommendations of an advisory committee, which included wind energy representatives from California. The wind industry backed the panel's recommendations last year.

A California wind energy company manager said operators are reviewing the guidelines and are not yet ready to comment on them.

The Fish & Wildlife Service may make some modifications to the guidelines after a 90-day comment period, according to King.

—William J. Kelly

What They're Saying . . .

"*The best thing you can say is it's been laxly enforced.*" **Robert Johns**, American Bird Conservancy spokesperson

"*We are interested in any technologies" that reduce bird kills.* **Paul Schmidt**, Fish & Wildlife Service assistant director.

Leakage

Regulators trying to limit greenhouse gas emissions are concerned about preventing "leakage." It occurs when a company moves its operations out of a state, such as California, or to another state or nation, where greenhouse gases don't face similar controls. Leakage also can occur when a factory in a regulated state or nation shuts down and a competitor in an unregulated state or nation picks up its market share, producing the same product and exporting it into the regulated geographic area. In both cases, regulators consider the associated greenhouse gas emissions to have "leaked" outside of their regulatory system.

CARB Rejects Ruling Challenging Scoping Plan

The California Air Resources Board challenged last week's superior court tentative ruling holding the agency's climate protection scoping plan does not satisfy state law.

In a Feb. 8 response, California Attorney General Kamala Harris, on behalf of the Air Board, concluded that Judge Ernest Goldsmith's ruling ignored evidence in the record. That evidence, she maintains, supports the agency's plan laying the groundwork for a state carbon cap-and-trade market to help reach greenhouse gas reduction targets.

The San Francisco Superior Court judge held the Air Board's analysis of **alternatives to a carbon trading scheme** fell short of California Environmental Quality Act requirements (*Current*, Feb. 4, 2011). The attorney general's brief also states Goldsmith's ruling is "ambiguous" and "erroneously dismisses the commitment by CARB to a more detailed analysis of alternatives to a cap and trade" market.

The state further takes issue with the ruling for what the attorney general calls an ambiguous remedy, warning that undermining the Air Board's work could impact existing regulations that reduce carbon emissions, including the state's vehicle tailpipe emissions law, energy efficiency efforts, and air quality improvements

The Association of Irritated Residents, Communities for a Better Environment, and several environmental justice advocates brought the suit.

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SoCal Gas and the city of Escondido Feb. 8 began injecting cleaned-up biogas produced at the municipality's wastewater treatment plant into the utility's pipeline for use in homes and businesses. The two said the new practice would reduce their **carbon footprints** while providing enough gas to serve some 1,200 homes.

The utility characterized the project as a test of new technology that uses a multi-stage process to filter out impurities in the gas that normally make it unfit for customer use. Because of the contaminants, raw gas from sewage treatment facilities usually is flared.

The $2.7 million demonstration project of up to 12 months seeks to prove that the purification technology can cost-effectively produce renewable natural gas that meets California standards. If it works, the equipment will be kept in place and used on an ongoing basis.

The demonstration project is funded by the utility's research and development group.

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California defended its goal of working with the federal government to set aggressive **greenhouse gas emissions standards for cars** beginning with the 2017 model year amid charges by the Auto Alliance that the California Air Resources Board is rushing to go it alone. The standards are expected to propel electric cars into the market, requiring utilities to expand vehicle charging infrastructure.

In a letter to automakers Feb. 7, Air Board chair Mary Nichols said correspondence sent by the Auto Alliance to House Republican leaders last month mischaracterizes the agency's actions.

"For the Alliance to suggest we are no longer committed to cooperative effort is disingenuous at best, and incorrect," Nichols wrote. The disagreement broke into public view after the Air Board and federal agencies late last month announced they plan to jointly propose standards in September. The standards would ratchet up fuel efficiency from the 35.5 miles per gallon fleet average required under existing rules by 2016 to a yet unspecified level.

The Auto Alliance stated the "best way" to achieve additional greenhouse reductions "is for the [Obama] administration to continue the single national program."

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The *Orange County Register* wants **Representative Darrel Issa (R-CA)** to launch a House Oversight and Government Reform Committee probe that re-examines "to what degree human activities are creating catastrophic global warming." The paper, in an editorial late last month, called on Issa to bring in "scientists untainted by advocacy and uncompromised through receiving taxes or private funding."

The newspaper said Issa, who chairs the panel, should start by critically examining what it called suspect temperature data that show warming over the past 100 years. It noted some scientists criticize the temperature data as highly inaccurate and uncertain.

—William J. Kelly & Elizabeth McCarthy

CLEANTECH

Radar 'DeTects' Birds

New technology aims to help the wind energy industry dramatically reduce—or even eliminate—its impacts on birds and bats.

DeTect, Inc., produces a radar system that tracks birds and bats. It allows wind energy operators to shut down turbine blades ahead of feathery collisions. The company initially developed the technology for the U.S. Air Force, according to Gary Andrews, DeTect general manager.

The Air Force uses DeTect equipment to track the path of birds around its bases to allow pilots to take evasive action as needed.

Collisions with wind turbine blades kill birds, but when avian life collides with aircraft it can cause planes to crash.

The growth of wind energy—and the impact of turbines on birds and bats—is creating yet another opportunity for DeTect's technology.

Its system tracks the height, direction, and speed of birds and bats as far as six to eight miles from wind projects, plus provides information about visibility that can be crucial in the ability of birds to see turbines. The information is displayed on a screen in control centers used to operate wind turbines.

Currently, the company has two installations along the Texas Gulf Coast near Corpus Christi. They track migratory birds at wind projects operated by Pattern Energy and Iberdrola, said Andrews. Thousands of migratory birds regularly pass through the area and could be killed by the wind turbines, he explained.

To get a handle on the potential impact, before the companies installed their projects they used the DeTect system to study the patterns of migratory birds to predict how often and when they would need to shut down turbines to prevent collisions. Andrews said the companies found they would need to curtail operations an average of 42 hours a year, based on the data collected. The companies factored these curtailment hours into their economic analyses and power sales agreements, according to Andrews. Since opening in 2009, he added, actual curtailment has averaged 36 hours a year.

Once wind facilities are up and running, DeTect's system displays information to project operators on screens that tells them when they need to shut down turbines. When the radar picks up clear skies, operators see a green bar indicating bird interference is unlikely.

"Situation red."

When birds or bats move into an area on a trajectory that could result in collision, the bar changes to yellow. When collisions are imminent, the bar changes to red—or as Andrews likes to say to "situation red." Then operators immediately shut down turbines until the birds or bats have passed.

DeTect is busy installing its system at a wind project in Spain and has sold two systems to the U.S. Fish & Wildlife Service to study the potential impact of a proposed wind project in the Great Lakes area. They cost between $500,000 and $1 million.

A Fish & Wildlife Service official voiced hope that such technologies could minimize wind power impacts on birds and bats as it potentially grows tenfold in the decade ahead.

The DeTect system comes on a trailer that can be moved right into place. The company also is perfecting a system that tracks insects. By studying the patterns of insects around wind projects—including whether they typically fly below or at the level of turbine blade sweep—DeTect hopes to be able to better predict the flight paths of bats, which follow bugs.

—William J. Kelly

SHORTS

SDG&E signed 441 MW in renewable contracts. It entered into a wind deal with Pattern Energy for 316 MW from a proposed wind farm in Ocotillo, near El Centro. The 20-year agreement for the plant output was announced Feb. 3. A few days later, SDG&E revealed it signed a 25-year contract with NRG Solar for 26 MW of solar energy from a proposed facility in San Diego County.

Edison agreed to buy 250 MW of photovoltaic power from First Solar. The solar company seeks 2,500 acres of public land near Primm, Nevada, for its ground-mounted PV systems. It would interconnect with Edison's proposed Eldorado-Ivanpah 220 kV transmission line. The project is estimated to be online in 2014.

PG&E seeks CPUC approval of four qualifying facility deals extending to 2016. The contracts are extensions of existing QF deals, including with the Mid-Set Cogeneration 46 MW plant, the 50 MW Salinas River Cogeneration facility, the 50 MW Coalinga Cogeneration plant, and the 48.5 MW Sargent Canyon facility. The agreements should be contingent on implementation of the qualifying settlement before the CPUC, recommends a proposed commission ruling.

CPUC audits of PG&E natural gas pipelines found delayed pipe inspections, improper leak surveys, and potential pressure rating problems in some outlet valves. Annual audits by the CPUC safety division released Feb. 9 stated that PG&E "diluted its inspections efforts." It also noted that PG&E employees violated some standards, which led to a survey chief being replaced and corrective action initiated. The latter included providing leak surveyors with GPS units on phones that automatically record the survey findings in real time, in place of manual entries. Regulators raised concerns about the use of valves without pressure ratings and the potential of subjecting them to excess pressure.

DOE awarded funding to four solar firms in CA under the department's PV Solar Incubator Program. The program aims to improve the commercial potential of new manufacturing processes and products and slash costs. Caelux in Pasadena won $1 million to help develop a flexible solar cell manufacturing process and design that minimizes the amount of semiconducting material used. Also winning $1 million was San Jose-based Solexant to assist in developing a new thin film material from non-toxic and common elements, rather than rare substances. The third recipient of DOE funds was San

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Feed-in Tariff

This oddly named "tariff" is not a dairy trough. It sets payments for renewable energy project output over several years. It is akin to fixed mortgage rates for power plants, but can include a subsidy. This tariff also includes publicly available, standard, contract terms. It avoids closed-door negotiations between utilities and solar, wind, and other alternative energy developers. With the "tariffs," renewable energy developers can present a lender with the assurance they can get a certain amount of money over a set number of years to help assure financial institutions they have lower risk.

SHORTS . . . *continued from page 12*

Jose-based Stion, which is developing a thin film technology to allow high-efficiency thin film solar devices to be stacked to improve light absorption and power generation. A larger grant was awarded to Crystal Solar in Santa Clara for developing single crystal silicon wafers that are four times thinner than standard cells.

CPUC headquarters won't be sold. The property at 505 Van Ness Ave. in San Francisco has 271,000 square feet and room for 235 vehicles. It is "Leadership in Energy & Environmental Design" (LEED) certified. However, it was part of a sale-leaseback idea promoted by former Gov. Schwarzenegger. Gov. Brown nixed the idea Feb. 9. According to Web realty accounts, the property could be worth up to $150 million.

The grid operator's nascent derivatives market was suspended outside state boundaries Feb. 8. The market, called "convergence" bidding by the California Independent System Operator, was curtailed due to unnamed software problems, according to a CAISO spokesperson. The market remained in operation within the state.

Dynegy remains sans suitor through Valentines Day. Ichan Enterprises extended its $665 million bid for a second proposal to the power producer until the end of Feb. 14. Rival suitor Seneca poisoned its sweet "pill" for the company at the end of last month. Dynegy owns the 1,000 MW Morro Bay plant, the 2,529 MW Moss Landing facility, the 165 MW plant at the Port of Oakland, and the 700 MW South Bay plant.

San Francisco Feb. 8 approved a policy to slash energy use in commercial buildings. The San Francisco Board of Supervisors' new "Existing Commercial Building Energy Performance Ordinance" requires commercial property owners to measure and benchmark the energy performance of their buildings and make the energy savings findings public. Owners also are required to conduct energy audits every five years. "Benchmarking building energy performance is widely regarded as the critical first step that owners can take to start taking control of energy use and costs," states San Francisco.

Switching 500,000 small business customers from flat to fluctuating rates became an issue Feb. 8 when the Division of Ratepayer Advocates and the California Small Business Association asked state regulators to reconsider allowing Pacific Gas & Electric to switch to a dynamic pricing program beginning November 2011. Dynamic pricing, made possible by "smart meters," they warn, is complex "and will likely lead to disruption and higher costs to small businesses.

Radioactive Waste

Uranium is mined and enriched as feedstock for nuclear power. Fissionable uranium creates steam to turn turbines. Once the uranium's spent, the main waste byproduct is plutonium. That element is highly radioactive and fatal in the smallest amounts. Scientists predict that 24,000 years must pass before half of the element is rendered inert ("half life"). Complete denature is expected to take 240,000 years.

Old School

Current briefly thought to try podcasts, but that was *so* five years ago. There's tweets, but it's challenging to fit complex energy information in 140 characters. Facebook finds friends, not technology. Blogs and bloggers—few have decades of experience in energy journalism. We could be wrong, and if so, please email us. We believe our high-level policy audience wants clear, easily accessible information that best serves our subscribers' jobs as well as the public. Graphic PDF downloads are available from our website as well as intra-office distribution. You can print it out and take it with you on a train, a carpool, or a plane. You can also read our articles and editorials online. It's solid information in a solid form. ***We thank you for supporting media with integrity.***