



A Touchstone Energy® Cooperative

Central Regional Technical Conference on Environmental Regulations and Electric Reliability, Wholesale Electricity Markets, and Energy Infrastructure  
March 31, 2015 – St. Louis, Missouri  
**Docket No. AD15-4-000**

Good morning and thank you for the opportunity to address the Commission. My name is Michalene Reilly, manager of environmental special projects at Hoosier Energy REC, Inc. Hoosier Energy is a generation and transmission cooperative providing wholesale electric power and services to 18 member distribution cooperatives in central and southern Indiana and southeastern Illinois. Based in Bloomington, Indiana, Hoosier Energy operates coal, natural gas and renewable energy power plants and delivers power through a 1,724-mile transmission network.

Hoosier appreciates that FERC is hearing concerns for potential reliability issues from implementation of the proposed Clean Power Plan (CPP). Although the EPA believes they have considered basic reliability issues, we know that the integrated transmission system is complex and the uncertainty introduced by the CPP may introduce events that are not considered in the current environmental and market constructs. One scenario that could occur is the inability to increase the capacity factors of existing units due to limitations on CO<sub>2</sub> emissions. This action may correspond with independent events that limit other generating options and impact overall reliability.

For example, an Associated Press article on March 21<sup>st</sup> described the current drought conditions in California and how they are being made worse by the lack of snow fall over the winter. The article went on to discuss that CO<sub>2</sub> emission increased eight percent in California in 2014 because the availability of electricity from hydropower was reduced and more power had to come from gas facilities. California expects even greater reduction in available hydro power in 2015.<sup>1</sup>

In addition, the Nuclear Regulatory Commission (NRC) jurisdiction that overlaps the Plan is a concern. The NRC controls the operating profile and lifespan of nuclear units through the licensing procedure and safety requirements. A state that relies on the

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<sup>1</sup> **California first to feel hydro-power crunch of drought**, By Ellen Knickmeyer | Posted: Saturday, March 21, 2015 1:57 pm, San Francisco (AP); Attachment 1

licensing, re-licensing, or compliance abilities of particular nuclear plants cannot reliably plan for when the NRC may make a decision to prevent the plant from operating. Over Half of the country's 99 nuclear reactors are over 30 years old, 33 of which will have their licenses expire by 2030. An additional 33 will expire by 2035 and only 23 units are licensed to 2040 or beyond.<sup>2</sup> This process poses substantial risks for reliability planning, in particular in an environment where existing facilities are limiting their capacity factors based on CO<sub>2</sub> emissions.

Under the Mercury and Air Toxics (MATS) rule, system operators required some facilities to come into compliance and stay one line. The Presque Isle power plant in Marquette, Michigan was required by the Midcontinent Independent System Operator (MISO) to remain operating to insure reliability for Northern Michigan and the Upper Peninsula. In fact, MISO ordered at least seven coal and gas-fired power plants to keep running, after designating them "System Support Resources" (SSR).<sup>3</sup>

The ability of system operators to preserve non-compliant generating resources and to require them to comply with the regulations for reliability purposes was an important part of the MATS rule. That capability is much more complex under the CPP. A safety valve feature would greatly improve the reliability aspect of the proposed rule. A fact sheet developed by the National Rural Electric Cooperative Association on the need for a dynamic safety valve is attached to these comments.<sup>4</sup> A dynamic safety valve in the CPP will aid reliability in unforeseen and unexpected circumstances and is the interest of the EPA, FERC, States and electric utilities.

Many alternatives are being circulated for a reliability safety valve. The federal government should leverage the expertise of its various agencies to ensure that this broad regulation is effectively and reliably implemented. FERC could provide valuable assistance to EPA in determining when an event should warrant a temporary suspension of state limits or other deviation from the CPP in order to maintain reliability. A formal mechanism for FERC to participate in aspects of the CPP is appropriate.

Hoosier appreciates the opportunity to come before the commission and present this information. If you have any questions or need any further information, feel free to contact me directly at (812)935-4711 or [mreilly@hepn.com](mailto:mreilly@hepn.com).

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<sup>2</sup> <http://www.nrc.gov/reactors/operating/map-power-reactors.html> - Open the list of Power reactors for more data on age of individual facilities.

<sup>3</sup> <http://www.midwestenergynews.com/2014/06/16/retiring-plants-placed-on-life-support-to-preserve-reliability/>

<sup>4</sup> Attachment 2

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## **California first to feel hydro-power crunch of drought**

By ELLEN KNICKMEYER | Posted: Saturday, March 21, 2015 1:57 pm

SAN FRANCISCO (AP) — Flying over the Sierra Nevada as California entered its fourth year of drought, the state's energy chief looked down and saw stark bare granite cloaked in dirty brown haze — not the usual pristine white peaks heaped with snow that would run the state's hydroelectric dams for the year.

Spring is arriving with the Pacific Northwest measuring near record-low-snowfall, and much of the rest of the West below average. But what California is experiencing is historically low snowpack — a meager accumulation that has serious implications not only for the state but potentially for the entire West if the drought not just of water, but of snow, persists.

Snowpack at 12 percent of average in the Sierra Nevada means there is less runoff to feed rivers and streams that run through dams to generate cleanly produced hydroelectric power. Despite the state's ambitious clean-air goals, officials are turning to dirtier, more costly fossil-fuel plants to fill some of the power gap. They also will seek more hydroelectricity imports in a region expected to have markedly less to offer this summer.

At a minimum, "we'll keep the lights on," said Robert Weisenmiller, chairman of the California Energy Commission. "We're not concerned about not having power."

"What we're concerned about," Weisenmiller said, "is the power is going to come from different sources not as benign" for the health of people and the environment as hydroelectricity.

A study this past week by the nonprofit Pacific Institute think tank in Oakland, California, estimated that three years of waning hydroelectricity during California's drought already have cost utility ratepayers \$1.4 billion, including purchases of power from natural gas-fired plants to make up for reduced hydroelectric power.

The increased reliance on fossil fuel also caused an 8 percent rise in emissions of climate-changing carbon dioxide in California, the Pacific Institute said.

Robert Oglesby, executive director of the state energy commission, said he didn't expect the decline of hydro power— and the boost in gas-fired power— to set back California's goal of generating 33 percent of electricity from renewable energy by 2020. That's because large hydroelectric dams, which are controversial because they block natural river flows, are not officially included with solar, wind and other sources in California's renewable energy equation.

Dams produced 12 percent of the state's electricity in 2013, the most recent year for which figures are available. Natural gas provided 61 percent.

The numbers for hydroelectric power will go down for California in 2015 but not disappear, Oglesby said. That will mean continued higher utility bills for some.

"For the areas of the state that have been able to rely on inexpensive hydro, and then they have to purchase more expensive energy off the grid — those costs are an impact that will be passed along over time," Oglesby said.

Hydroelectricity is even more important for California's northern neighbors, accounting for more than 60 percent of Washington state's power and 45 percent of Oregon's, state officials say.

While California is 14 months into a statewide drought emergency, the governors of Washington and Oregon, where snowpack is hovering at or near record lows, recently declared drought emergencies in sections of their states.

Strong winter rain will make up for poor snow totals when it comes to hydro power in Washington and Oregon, power managers there said.

"We're not anticipating that we're going to have any problem meeting our obligation," said Michael Hansen, spokesman for the Bonneville Power Administration, which serves utilities in Washington, Oregon, Idaho and western Montana.

"We serve the Northwest first," he said. "They get first dibs on surplus power."

The federal nonprofit agency can sell surplus power to utilities in California and other Western states, but it is required by law to serve its customers first, Hansen said.

Around the West, dam operators will be prioritizing customers, placing water for farms and cities ahead of water for power production.

At Lake Mead on the Colorado River, the largest water reservoir in the United States and a vital water source for the Southwest and Mexico, drought by May is expected to nearly halve hydroelectric production compared with mid-2014 levels.

Keeping drinking water running from Las Vegas to Los Angeles, and crops watered along the way, would take priority over keeping the lights on, officials of the power office of the U.S. Bureau of Reclamation's Lower Colorado division said in an email.

"We always have to point out that as important as power production may be, by law it is actually priority No. 3," the officials said.



**A Dynamic Reliability Safety Valve is a Critical Component of EPA's Clean Power Plan**

EPA's Clean Power Plan proposal to regulate greenhouse gas emissions from existing power plants under Section 111(d) of the Clean Air Act threatens the reliability of the nation's electric system. NRECA continues to urge EPA to withdraw the proposal because it exceeds the agency's legal authority under the Clean Air Act and is an imprudent policy that negatively impacts the affordability and reliability of our nation's electricity. If EPA won't withdraw the rule, it must include a dynamic reliability "safety valve" that provides states the flexibility they need to keep the lights on and to keep power affordable even as conditions change on the grid.

- EPA's proposed Section 111(d) rule has an unprecedented scope and degree of complexity requiring sweeping changes to the nation's electric generating resources.
  - For the first time in any clean air rule, EPA has gone "beyond the fence." The rule does not merely require upgrades to individual power plants or improvements in plant operations.
  - EPA has established the "Best System of Emissions Reduction" on which each state's emissions targets are set based on the EPA's assumptions as to the best resource mix for each state, including coal, natural gas, nuclear, and renewable energy and EPA's determination as to how much electric energy consumers should be permitted to use.
  - To reach its targets, EPA looked in part at the generation resources it believed were available to each state in 2012, the level of additional renewable resources it believed each state could add based on the renewable energy targets established by at least some of the states in each region, and the level of energy efficiency that the most aggressive states intended to pursue.
- Because of the breadth of the proposed guidance, states and electric generating units' ability to comply with the Proposed Rule depends on a broad range of conditions that are completely beyond their control.
  - States' ability to reach the targets set by EPA, are dependent on the accuracy of EPA's evaluation of the availability of different resources in each state in 2012, and the continuing validity of those assumptions going forward.
  - EPA's assumptions did not and could not take into account a number of common industry risks:

- A state implementation plan (SIP) that relies heavily on efficiency improvements at existing coal plants could find compliance stymied by changes that undermine those efficiencies, such as new environmental requirements that impose parasitic loads on the plant, or changes in plant dispatch as a result of market rules that reduce the efficiency of the plant.
- A SIP that relies heavily on the completion of a new nuclear unit could find compliance stymied by changes in NRC regulations, changes in the availability of financing, changes in the market value of the new nuclear unit, or an accident that significantly delays completion of the nuclear plant.
- A gas, nuclear generator, or other low-emitting resource on which a SIP relies could suffer a severe breakdown that requires months or years to fix, forcing the state to rely more heavily on higher-emission resources in the meantime. This is what happened when the San Onofre Nuclear Generating Station suffered a major breakdown, and subsequently never reopened.
- A gas generator on which a SIP relies could lose access to gas needed to operate due to a major breakdown in the pipeline that serves it that could take months to fix, forcing the state to rely more heavily on higher-emission resources.
- Transmission congestion caused by damage to an element of the transmission system, changes in the locations of major generation and load on the transmission grid, or changing transmission loading patterns resulting from significant changes in dispatch of generation resources could force a non-state regulated owner of a gas generator, nuclear generator, or other low-emitting resource to reduce its input. States would be forced to rely more heavily on higher emitting resources until the congestion is relieved, which could take months or years.
- Increases in fuel prices, increases in fuel transportation costs, loss of a major customer, decreases in competing higher emitting fuel prices, or a range of other changes in wholesale market design and market outcomes could cause non-state regulated owners of gas, nuclear, or other low-emitting generators to shut down the generator. The state would be forced to rely more heavily on higher-emission resources until a new lower-emitting resource could be built. However, if the market fundamentals are not there to support the lower-emitting generator that shut down, they may not be there for a new resource.
- Market prices for power could drop to such a degree, or the uncertainty of cost recovery could rise to such a degree, that the financial community might be unwilling to provide financing for new low-emitting resources on which a SIP relies.

- A state with a mass-based SIP could experience significant economic growth and thus significant load growth. That state would be forced to dispatch more power from emitting resources to meet the new demand reliably.
- New plug loads that increase per capita energy demand, such as electric vehicles or new high-demand consumer electronics, could force states to dispatch more power from emitting resources in order to meet the new demand.
- The effect of energy efficiency and renewable energy on other resources is likely to change over time due to the physics of the system or the operation of the wholesale market. A SIP that relies heavily on displacing higher emitting resources with energy efficiency or renewable investments could find its compliance hindered if those higher emitting resources are not displaced as expected.
- Most industry experts have called for a reliability safety valve.
  - Consideration or adoption of a reliability safety valve is supported by FERC and the ISO/RTOs.
  - All of the FERC Commissioners who have spoken publicly concerning the Proposed Rule have supported consideration or adoption of a reliability safety valve.
  - The ISO/RTO Council proposes incorporating a rolling process to assess system reliability on a prospective basis at multiple states both prior to implementation plans being finalized and approved, and at various steps during its implementation.
- To take into account the sweeping nature of the proposed guidance, the safety valve must be dynamic.
  - Because compliance with the proposed rule cannot be achieved with one-time installations of discrete technological fixes to specific power plants, a safety valve that provides more time for state plans to be drafted, approved, and implemented is necessary, but will not be adequate to preserve reliability.
  - Unless EPA permits states to amend their state implementation plans and their compliance goals dynamically as the system changes, EPA could force states to choose between compliance, unacceptably high power costs, and reliability.

NRECA wants to point out that adding a safety valve does nothing to alter the fundamentally flawed approach taken in the proposal, or the flawed assumptions underlying the proposal. It only serves as a safety net to help deal with changes in the grid that no one sees 5, 10, or 15 years down the road.