



Technical Committee Conference Call

December 10, 2008 ✈ 1:30 PM Eastern

Dial-In: **716.517.4400** Meeting ID: **2701**

TENTATIVE AGENDA

- A. Introductions & Antitrust Statement
- B. Review & Approve Draft Minutes of October 15 Conference Call, October 22 Meeting, and November 4 Conference Call (Attachments 1, 2, 3)
- C. Federal Update – Marc Yacker will lead a detailed review of potential energy, environmental and regulatory appointments of President-Elect Obama and a discussion on emerging “green jobs” and energy infrastructure initiatives in proposed economic stimulus bills (Attachments 4, 5, 6)
- D. FERC Update – John Hughes will report on recent actions at FERC on important electricity issues (Attachment 7)
- E. Technical Committee Work:
 - 1. NAESB Standards on Demand Response – John Hughes (Attachment 8, 9)
 - 2. NERC Proposal on Demand Response – John Hughes (Attachment 10)
 - 3. NERC Compliance Registry Interpretations Related to Retail Marketing Affiliates & Behind-the-Meter Generators – John Hughes (Attachment 11)
 - 4. Discussion on ELCON Priorities with the Incoming Obama Administration – John Hughes (Attachment 12)
 - 5. Status of New ELCON Policy Briefs – John Hughes
- F. Status of ELCON Winter Workshop – ELCON staff
- G. 2009 Committee Calendar – Review proposed dates for face-to-face meetings and conference call meetings in 2009 (Attachment 13)
- H. Other Committee or ELCON Business
- I. Adjournment

Attachment 1
Draft Dated December 4, 2008



Minutes of the Technical Committee Conference Call

October 15, 2008 ✈ 1:30 PM Eastern

A special conference call of the ELCON Technical Committee was held on October 15, 2008 beginning at 1:30 PM Eastern time. Members and staff participating on the call were:

| | |
|--------------------|-----------------|
| John Anderson | ELCON |
| Sharon Anderson | Intel |
| John Beall | Chevron |
| Rick Bidstrup | Cleary Gottlieb |
| Theresa Brown | Chevron |
| Steve Castracane | Linde |
| Michelle D'Antuono | Oxy |
| John Hughes | ELCON |
| Gary Kajander | Monsanto |
| Dave Meade | Praxair |
| Chip Millican | Eastman |
| Mike Woytowich | Honeywell |
| Marc Yacker | ELCON |

A. Introductions – Dave Meade (Praxair) chaired the meeting. After participants identified themselves they were instructed to be mindful of ELCON's Antitrust Guidelines.

B. Committee Work:

The purpose of the call was to discuss the preparation of ELCON comments on a proposed standard by a subcommittee of the North American Energy Standards Board (NAESB) on the measurement and verification of demand response in wholesale electricity markets.

The committee recommended comments on the following issues:

- Obligations upon return to "Normal Operation."
- Demand response availability measurement
- Role of System Operator in determining eligibility of aggregators
- Offering one DR service but being dispatched for another
- Maximum baseload definition and eligibility as reserve capacity
- Telemetry – more than one entity should be allowed to provide and/or install the equipment

C. Adjournment – There was no other business and the call ended.

Attachment 2
Draft Dated December 4, 2008



Minutes of the Technical Committee Meeting

October 22, 2008 ✈ 8 AM Eastern

Radisson Hotel National Airport ✈ Arlington VA

A meeting of the ELCON Technical Committee was held on October 22, 2008 after the conclusion of a meeting of the ELCON Board, which began at 8 AM Eastern time. Members and staff participating in the meeting were:

| | |
|--------------------|-------------------|
| John Anderson | ELCON |
| Sharon Anderson | Intel |
| John Beall | Chevron |
| Rick Bidstrup | Cleary Gottlieb |
| Steve Castracane | Linde |
| Michelle D'Antuono | Oxy |
| Jack Flood | Procter & Gamble |
| Tom Flynn | Solutia |
| Tom Gianneschi | Alcoa |
| John Hughes | ELCON |
| Gary Kajander | Monsanto |
| Darren MacDonald | Gerdau Ameristeel |
| Dave Meade | Praxair |
| Mike Miller | Shell |
| Chip Millican | Eastman |
| Mark Odom | Chevron |
| Mary Lee Olsen | Corning |
| Marty Sedler | Intel |
| John Stevens | Praxair |
| Mike Woytowich | Honeywell |
| Marc Yacker | ELCON |

- A. Introductions** – Dave Meade (Praxair) chaired the meeting.
- B. Review & Approve Draft Minutes of September 10, 2008 meeting** – The draft minutes were approved without changes.
- C. Federal Update** – Marc Yacker reported that both Houses of Congress were expected back in Washington for a lame duck session on an economic stimulus bill. No energy-related provisions were expected to be attached to the bill. In the next Congress—the 111th – the prospect for climate-related legislation is increasingly uncertain because of the economic situation. The Democrats with an expected larger majority are nonetheless split within their own ranks on the timing and scope of a climate bill. Senate Energy Committee Chairman Jeff Bingamon (D-NM) is expected to host hearings in 2009 on declining reserve margins in the electric industry.

- D. FERC Update** – Jennifer Morrissey (Clear Gottlieb) reported on recent FERC-related activities including: FERC’s rejection of the RPM Buyers’ complaint that PJM’s transitional capacity auction results were not just and reasonable; new terminations of the PURPA purchase obligation; state PUC protest FERC proposal to exclude them from enforcement investigations; and oral arguments before the DC Circuit in AF&PA v FERC, in which AF&PA disputes FERC’s claim that ISO/RTO markets satisfy statutory requirement that QFs have nondiscriminatory access to such markets.
- E. Committee Work:**
- 1. Draft ELCON Policy Briefs on Energy Efficiency** – The committee directed staff to send out the draft policy brief, “Utility Energy Efficiency Programs: Too Cheap to Meter?” for a final round of clearance. A conference call was proposed to review the second brief, which was renamed, “Financing the Energy Efficiency Investments of Large Industrial Customers: What is the Role of Utilities?” The committee discussed coordinating the release of at least the first document around the NARUC Convention.
 - 2. NAESB Standards on Demand Response** – John Hughes reported on the status of NAESB’s proposed standards on the measurement and verification of demand response in wholesale electricity markets.
 - 3. FERC Policy on Generation Investments** – Jennifer Morrissey (Cleary Gottlieb) reported on efforts at FERC to increase the amount of investment in generation companies before such investments would trigger regulatory review. The current threshold is 10%, and some unregulated generators, hedge funds and private equity firms are attempting to increase it to at least 20%.
 - 4. Smart Grid** – The committee discussed proposals for large investments in so-called Smart Grid technologies and infrastructures. The committee agreed that the next ELCON workshop should introduce the membership to the costs and benefits of Smart Grid.
 - 5. NERC Survey on Generation Operation/Operator-Transmission Owner/Operator Interface** – There was a brief discussion on efforts by NERC to determine what amount of transmission asset ownership by independent generators (including behind-the-meter industrial generation) triggers compliance with TO/TOP reliability standards.
 - 6. Pennsylvania Hearings** – John Hughes announced that he was invited to testify before an en banc PA PUC hearing on wholesale electricity markets. The commission is considering options for changing wholesale market operation in Pennsylvania.
- F. Adjournment** – There was no other business and the meeting ended.

Attachment 3
Draft Dated December 4, 2008



Minutes of the Technical Committee Conference Call

November 4, 2008 ✈ 1:30 PM Eastern

A special conference call of the ELCON Technical Committee was held on October 15, 2008 beginning at 1:30 PM Eastern time. Members and staff participating on the call were:

| | |
|--------------------|-----------------|
| John Beall | Chevron |
| Rick Bidstrup | Cleary Gottlieb |
| Walt Brockway | Alcoa |
| Steve Castracane | Linde |
| Michelle D'Antuono | Oxy |
| Tom Gianneschi | Alcoa |
| John Hughes | ELCON |
| Dave Meade | Praxair |
| Marty Sedler | Intel |
| Mike Woytowich | Honeywell |
| Marc Yacker | ELCON |

A. Introductions – Dave Meade (Praxair) chaired the meeting. After participants identified themselves they were instructed to be mindful of ELCON's Antitrust Guidelines.

B. Committee Work:

The purpose of the call was to review the draft ELCON policy brief, "Financing the Energy Efficiency Investments of Large Industrial Customers."

The draft was reviewed page by page and several suggested editorial changes were recommended. The membership confirmed that one recommendation dealing with capital costs should be clarified as such and confused with internal rate of return.

ELCON staff was directed to send the revised draft out for final member clearance.

The call concluded with a discussion on distribution of the final document.

C. Adjournment – There was no other business and the call ended.

Attachment 4

Barack Obama and Joe Biden: New Energy for America

CHANGE.GOV: The Office of President-Elect
Policy Working Groups & Agency Review Teams Related to Energy and the
Environment



BARACK OBAMA AND JOE BIDEN: NEW ENERGY FOR AMERICA

America has always risen to great challenges, and our dependence on oil is one of the greatest we have ever faced. It's a threat to our national security, our planet and our economy. For decades, Washington has failed to solve this problem because of partisanship, the undue influence of special interests, and politicians who would rather propose gimmicks to get them through an election instead of long-term solutions that will get America closer to energy independence.

Our country cannot afford politics as usual – not at a moment when the energy challenge we face is so great and the consequences of inaction are so dangerous. We must act quickly and we must act boldly to transform our entire economy – from our cars and our fuels to our factories and our buildings.

Achieving this goal will not be easy. Energy independence will require far more than the same Washington gimmicks and continued dependence on costly and finite resources. It will require a sustained and shared effort by our government, our businesses, and the American people. But America has overcome great challenges before. With clarity of direction and leadership, there is no question that we possess the insight, resources, courage and the determination to build a new economy that is powered by clean and secure energy.

Barack Obama and Joe Biden have a comprehensive energy plan that provides immediate relief to struggling families. It also summons the nation to face one of the great challenges of our time: confronting our dependence on foreign oil, addressing the moral, economic and environmental challenge of global climate change, and building a clean energy future that benefits all Americans.

The Obama-Biden comprehensive New Energy for America plan will:

- Provide short-term relief to American families facing pain at the pump
- Help create five million new jobs by strategically investing \$150 billion over the next ten years to catalyze private efforts to build a clean energy future.
- Within 10 years save more oil than we currently import from the Middle East and Venezuela combined
- Put 1 million Plug-In Hybrid cars – cars that can get up to 150 miles per gallon – on the road by 2015, cars that we will work to make sure are built here in America
- Ensure 10 percent of our electricity comes from renewable sources by 2012, and 25 percent by 2025
- Implement an economy-wide cap-and-trade program to reduce greenhouse gas emissions 80 percent by 2050

SHORT-TERM SOLUTIONS: IMMEDIATE RELIEF FROM PAIN AT THE PUMP

Barack Obama and Joe Biden recognize that skyrocketing energy costs are taking a heavy toll on American families. To address the squeeze on Americans, they are calling for an: emergency energy rebate; an aggressive plan to crack down on speculators; and a swap of oil from the Strategic Petroleum Reserve to help provide immediate relief from soaring energy prices.

- ***Immediately Provide Emergency Energy Rebate.*** Barack Obama and Joe Biden will require oil companies to take a reasonable share of their record-breaking windfall profits and use it to provide direct relief worth \$500 for an individual and \$1,000 for a married couple. The relief would be delivered as quickly as possible to help families cope with the rising price of gasoline, food and other necessities. The rebates would be fully paid for with five years of a windfall profits tax on record oil company profits. This relief would be a down payment on the Obama-Biden long-term plan to provide middle-class families with at least \$1,000 per year in permanent tax relief. The Obama-Biden energy rebates will: offset the entire increase in gas prices for a working family over the next four months; or pay for the entire increase in winter heating bills for a typical family in a cold-weather state. In addition, Barack Obama and Joe Biden have proposed setting aside a portion of a second round of fiscal stimulus to ensure sufficient funding for home heating and weatherization assistance as we move into the fall and winter months.
- ***Crack Down on Excessive Energy Speculation.*** Current loopholes in Commodity Futures Trading Commission regulations have contributed to the skyrocketing price of oil on world markets. Barack Obama and Joe Biden will enact simple legislation to close these loopholes and increase transparency on the market to help bring oil prices down and prevent traders from unfairly lining their pockets at the expense of the American people.
- ***Swap Light and Heavy Crude, Release Oil from Strategic Petroleum Reserve to Cut Prices.*** The United States' Strategic Petroleum Reserve (SPR) is there for a purpose: to help Americans in times of crisis. Barack Obama and Joe Biden believe the doubling of oil prices in the past year is a crisis for millions of Americans and the transfer of wealth to oil producing countries, many of them hostile to our interests, is a threat to our national security. With the goal of bringing down prices at the pump, they support releasing light oil from the SPR now and replacing it later with heavier crude more suited to our long-term needs.

MID- TO LONG- TERM SOLUTIONS: NEW ENERGY FOR AMERICA

Our nation is confronted by two major energy challenges –our dependence on foreign oil and global climate change – both of which stem from our current dependence on fossil fuels for energy. Barack Obama and Joe Biden believe we have a moral, environmental, economic, and security imperative to address our dependence on foreign oil and tackle climate change in a serious, sustainable manner.

Tackle Climate Change

As a result of climate change, the polar ice caps are shrinking causing sea levels to rise; extreme weather is wreaking havoc across the globe; droughts are becoming more severe, tropical diseases are migrating north and numerous species are being threatened with extinction.

- ***Implement Cap and Trade Program to Reduce Greenhouse Gas Emissions.*** Barack Obama and Joe Biden support implementation of an economy-wide cap-and-trade system to reduce carbon emissions by the amount scientists say is necessary: 80 percent below 1990 levels by 2050. This market mechanism has worked before and will give all American consumers and businesses the incentives to use their ingenuity to develop economically effective solutions to climate change. The Obama-Biden cap-and-trade policy will require all pollution credits to be auctioned. A 100

percent auction ensures that all industries pay for every ton of emissions they release, rather than giving these valuable emission rights away to companies on the basis of their past pollution. A small portion of the receipts generated by auctioning allowances (\$15 billion per year) will be used to support the development of clean energy, invest in energy efficiency improvements, and help develop the next generation of biofuels and clean energy vehicles – measures that will help the economy and help meet the emissions reduction targets. It will also be used to provide new funding to state and federal land and wildlife managers to restore habitat, create wildlife migration corridors, and assist fish and wildlife to adapt to the effects of a warming climate. All remaining receipts will be used for rebates and other transition relief to ensure that families and communities are not adversely impacted by the transition to a new energy, low carbon economy.

- ***Make the U.S. a Leader on Climate Change.*** Barack Obama and Joe Biden understand that the only real solution to climate change requires all major emitting nations to join in the solution. While it is time for America to lead, developing nations like China and Brazil must not be far behind in making their own binding commitments. To develop an effective and equitable global program, Barack Obama and Joe Biden will re-engage with the U.N. Framework Convention on Climate Change (UNFCCC) – the main international forum dedicated to addressing the climate problem. They will also invigorate the Major Economies (MEM) effort and bring all the major emitting nations together to develop effective emissions reduction efforts.

Invest in Our Secure Energy Future and Create 5 Million New Jobs

Barack Obama and Joe Biden will use a portion of the revenue generated from the cap-and-trade permit auction to make investments that will reduce our dependence on foreign oil and accelerate deployment of low-carbon technologies. The investments will focus on three critical areas: 1) Basic Research; 2) Technology Demonstration and 3) Aggressive Commercial Deployment and Clean Market Creation.

- ***Invest In A Clean Energy Economy and Help Create 5 Million New Green Jobs.*** Barack Obama and Joe Biden will strategically invest \$150 billion over 10 years to accelerate the commercialization of plug-in hybrids, promote development of commercial scale renewable energy, encourage energy efficiency, invest in low emissions coal plants, advance the next generation of biofuels and fuel infrastructure, and begin transition to a new digital electricity grid. The plan will also invest in America's highly-skilled manufacturing workforce and manufacturing centers to ensure that American workers have the skills and tools they need to pioneer the green technologies that will be in high demand throughout the world. All together these investments will help the private sector create 5 million new green jobs, good jobs that cannot be outsourced.
- ***Create a "Green Vet Initiative".*** The renewable energy economy is exploding in the United States. In terms of venture capital alone, private investment in the sector topped \$2.6 billion dollars in 2007. At the same time, more than 837,000 troops who served in Iraq or Afghanistan are now veterans. Barack Obama and Joe Biden will ensure that more of our veterans can enter the new energy economy. They will create a new "Green Vet Initiative" that will have two missions: first it will offer counseling and job placement to help veterans gain the skills to enter this rapidly growing field; second, it will work with industry partners to create career pathways and educational programs.
- ***Convert our Manufacturing Centers into Clean Technology Leaders.*** America boasts the highest-skilled manufacturing workforce in the world and advanced manufacturing facilities that have powered economic growth in America for decades. Barack Obama and Joe Biden believe that America companies and workers should build the high-demand technologies of the future, and he will help nurture America's success in clean technology manufacturing by establishing a federal investment program to help manufacturing centers modernize and help Americans learn new

skills to produce green products. This federal grant program will allocate money to the states to identify and support local manufacturers with the most compelling plans for modernizing existing or closed manufacturing facilities to produce new advanced clean technologies. This investment will help provide the critical up-front capital needed by small and mid-size manufacturers to produce these innovative new technologies. Along with an increased federal investment in the research, development and deployment of advanced technologies, this \$1 billion per year investment will help spur sustainable economic growth in communities across the country.

- ***Create New Job Training Programs for Clean Technologies.*** The Obama-Biden plan will increase funding for federal workforce training programs and direct these programs to incorporate green technologies training, such as advanced manufacturing and weatherization training, into their efforts to help Americans find and retain stable, high-paying jobs. Barack Obama and Joe Biden will also create an energy-focused youth jobs program to invest in disconnected and disadvantaged youth. This program will provide youth participants with energy efficiency and environmental service opportunities to improve the energy efficiency of homes and buildings in their communities, while also providing them with practical skills and experience in important career fields of expected high-growth employment. Participants will not only be able to use their training to find new jobs, but also build skills that will help them move up the career ladder over time.

Make our Cars, Trucks and SUV's Fuel Efficient

Last year, oil provided more than 96 percent of the energy in our vehicles. It is an economic, national security and environmental imperative that this near-total dependence comes to an end. To achieve this goal, Barack Obama and Joe Biden will implement a strategy that will – within 10 years - allow us to reduce our consumption of oil by more than we currently import from the Middle East and Hugo Chavez's Venezuela combined. In order to do that, he will:

- ***Increase Fuel Economy Standards.*** Barack Obama and Joe Biden will increase fuel economy standards 4 percent per each year while protecting the financial future of domestic automakers. The plan, which will save nearly a half trillion gallons of gasoline and 6 billion metric tons of greenhouse gases, will establish concrete targets for annual fuel efficiency increases while giving industry the flexibility to meet those targets.
- ***Invest in Developing Advanced Vehicles and Put 1 Million Plug-in Electric Vehicles on the Road by 2015.*** As a U.S. senator, Barack Obama has led efforts to jumpstart federal investment in advanced vehicles, including combined plug-in hybrid/flexible fuel vehicles, which can get over 150 miles per gallon of gas. As president, Obama will continue this leadership by investing in advanced vehicle technology with a specific focus on R&D in advanced battery technology. The increased federal funding will leverage private sector funds and support our domestic automakers to bring plug-in hybrids and other advanced vehicles to American consumers. Barack Obama and Joe Biden will also provide a \$7,000 tax credit for the purchase of advanced technology vehicles as well as conversion tax credits. And to help create a market and show government leadership in purchasing highly efficient cars, Barack Obama and Joe Biden will commit to:
 - Within one year of becoming President, the entire White House fleet will be converted to plug-ins as security permits; and
 - Half of all cars purchased by the federal government will be plug-in hybrids or all-electric by 2012
- ***Partner with Domestic Automakers.*** Barack Obama and Joe Biden will also provide \$4 billion retooling tax credits and loan guarantees for domestic auto plants and parts manufacturers, so that the new fuel-efficient cars can be built in the U.S. by American workers rather than overseas.

This measure will strengthen the U.S. manufacturing sector and help ensure that American workers will build the high-demand cars of the future.

- ***Mandate All New Vehicles are Flexible Fuel Vehicles.*** Sustainably-produced biofuels can create jobs, protect the environment and help end oil addiction – but only if Americans drive cars that will take such fuels. Barack Obama and Joe Biden will work with Congress and auto companies to ensure that all new vehicles have FFV capability – the capability by the end of his first term in office.
- ***Develop the Next Generation of Sustainable Biofuels and Infrastructure.*** Advances in biofuels, including cellulosic ethanol, biobutenol and other new technologies that produce synthetic petroleum from sustainable feedstocks offer tremendous potential to break our addiction to oil. Barack Obama and Joe Biden will work to ensure that these clean alternative fuels are developed and incorporated into our national supply as soon as possible. They will require at least 60 billion gallons of advanced biofuels by 2030. They will invest federal resources, including tax incentives and government contracts into developing the most promising technologies and building the infrastructure to support them.
- ***Establish a National Low Carbon Fuel Standard.*** Barack Obama and Joe Biden will establish a National Low Carbon Fuel Standard (LCFS) to speed the introduction of low-carbon non-petroleum fuels. The standard requires fuels suppliers in 2010 to begin to reduce the carbon of their fuel by 5 percent within 5 years and 10 percent within 10 years. The Obama-Biden plan will incentivize increased private sector investment in advanced low-carbon fuels and has a sustainability provision to ensure that increased biofuels production does not come at the expense of environmental conservation. The LCFS is an important mechanism in ensuring that our efforts to reduce our oil dependence also reduce carbon emissions.

Promote the Supply of Domestic Energy

With 3 percent of the world's oil reserves, the U.S. cannot drill its way to energy security. But U.S. oil and gas production plays an important role in our domestic economy and remains critical to prevent global energy prices from climbing even higher. There are several key opportunities to support increased U.S. production of oil and gas that do not require opening up currently protected areas.

- ***A "Use it or Lose It" Approach to Existing Leases.*** Oil companies have access to 68 million acres of land, over 40 million offshore, which they are not drilling on. Drilling in open areas could significantly increase domestic oil and gas production. Barack Obama and Joe Biden will require oil companies to diligently develop these leases or turn them over so that another company can develop them.
- ***Promote the Responsible Domestic Production of Oil and Natural Gas.*** Barack Obama and Joe Biden will set up a process for early identification of any infrastructure obstacles/shortages or possible federal permitting process delays to drilling in:
 - Bakken Shale in Montana and North Dakota which could have as much as 4 billion recoverable barrels of oil according to the U.S. Geological Survey.
 - Unconventional natural gas supplies in the Barnett Shale formation in Texas and the Fayetteville Shale in Arkansas.

- National Petroleum Reserve-Alaska (NPR-A) which comprises 23.5 million acres of federal land set aside by President Harding to secure the nation's petroleum reserves for national security purposes.
- ***Prioritize the Construction of the Alaska Natural Gas Pipeline.*** Barack Obama and Joe Biden will work with stakeholders to facilitate construction of the pipeline. While this pipeline was proposed in 1976, and Congress authorized up to \$18 billion in loan guarantees for this project in 2004, there has been no progress in building this critical energy infrastructure under the Bush Administration. The planned pipeline would have a daily capacity of 4 billion cubic feet of natural gas, or almost 7 percent of current U.S. consumption. Not only is this pipeline critical to our energy security, it will create thousands of new jobs.
- ***Getting More from our Existing Oil Fields.*** Nationally, experts believe that up to 85 billion barrels of technically recoverable oil remains stranded in existing fields. Enhanced oil recovery (EOR) using carbon dioxide offers an immediate- to medium-term opportunity to produce more oil from existing fields. And in the EOR process, large quantities of CO₂ can be sequestered underground, reducing global warming pollution. Under an Obama Administration, we will pass a carbon cap-and-trade bill, which will incentivize emitters to send their CO₂ to old oil fields for EOR, thereby providing economic benefits while also stimulating additional domestic oil and gas production. To speed that process, we will map all stationary CO₂ sources and develop a database to help industry calculate the most cost-effective oil field destination for each source's CO₂.

Diversify Our Energy Sources

There are no silver bullet solutions to our energy crises. Our economy, security and environment will be best served through a sustained effort to diversify our energy sources. Barack Obama and Joe Biden will:

- ***Require 10 Percent of Electricity to Come from Renewable Sources by 2012.*** Barack Obama and Joe Biden will establish a 10 percent federal Renewable Portfolio Standard (RPS) to require that 10 percent of electricity consumed in the U.S. is derived from clean, sustainable energy sources, like solar, wind and geothermal by 2012. Many states are already well on their way to achieving statewide goals and it's time for the federal government to provide leadership for the entire country to support these new industries. This national requirement will spur significant private sector investment in renewable sources of energy and create thousands of new American jobs, especially in rural areas. And Barack Obama and Joe Biden will also extend the federal Production Tax Credit (PTC) for 5 years to encourage the production of renewable energy.
- ***Develop and Deploy Clean Coal Technology.*** Carbon capture and storage technologies hold enormous potential to reduce our greenhouse gas emissions as we power our economy with domestically produced and secure energy. As a U.S. Senator, Obama has worked tirelessly to ensure that clean coal technology becomes commercialized. An Obama administration will provide incentives to accelerate private sector investment in commercial scale zero-carbon coal facilities. In order to maximize the speed with which we advance this critical technology, Barack Obama and Joe Biden will instruct DOE to enter into public private partnerships to develop 5 "first-of-a-kind" commercial scale coal-fired plants with carbon capture and sequestration.
- ***Safe and Secure Nuclear Energy.*** Nuclear power represents more than 70 percent of our non-carbon generated electricity. It is unlikely that we can meet our aggressive climate goals if we eliminate nuclear power as an option. However, before an expansion of nuclear power is considered, key issues must be addressed including: security of nuclear fuel and waste, waste storage, and proliferation. Barack Obama introduced legislation in the U.S. Senate to establish

guidelines for tracking, controlling and accounting for spent fuel at nuclear power plants. To prevent international nuclear material from falling into terrorist hands abroad, Obama worked closely with Sen. Dick Lugar (R-IN) to strengthen international efforts to identify and stop the smuggling of weapons of mass destruction. As president, Obama will make safeguarding nuclear material both abroad and in the U.S. a top anti-terrorism priority. In terms of waste storage, Barack Obama and Joe Biden do not believe that Yucca Mountain is a suitable site. They will lead federal efforts to look for safe, long-term disposal solutions based on objective, scientific analysis. In the meantime, they will develop requirements to ensure that the waste stored at current reactor sites is contained using the most advanced dry-cask storage technology available.

Commitment to Efficiency to Reduce Energy Use and Lower Costs

According to the United Nations, America is only the 22nd most energy efficient country among the major economies in the world, which means we spend more on energy than we need to because our lifestyle and our built environment are wasting too much excess energy. Since 1973, the average amount of electricity each of us uses has tripled. We can do better. An Obama administration will strive to make America the most energy efficient country in the world.

- ***Deploy the Cheapest, Cleanest, Fastest Energy Source--Energy Efficiency.*** The Department of Energy (DOE) projects that demand for electricity will increase by 1.1 percent per year over the next few decades. Cutting this demand growth through efficiency is both possible and economically sound. Barack Obama will set an aggressive energy efficiency goal—to reduce electricity demand 15 percent from DOE’s projected levels by 2020. Implementing this program will save consumers a total of \$130 billion, reduce carbon dioxide emissions by more than 5 billion tons through 2030, and create jobs. A portion of this goal would be met by setting annual demand reduction targets that utilities would need to meet. The rest would come from more stringent building and appliance standards.
- ***Set National Building Efficiency Goals.*** Barack Obama and Joe Biden will establish a goal of making all new buildings carbon neutral, or produce zero emissions, by 2030. They will also establish a national goal of improving new building efficiency by 50 percent and existing building efficiency by 25 percent over the next decade to help us meet the 2030 goal.
- ***Overhaul Federal Efficiency Standards.*** The current Department of Energy has missed 34 deadlines for setting updated appliance efficiency standards, which has cost American consumers millions of dollars in unrealized energy savings. Barack Obama and Joe Biden will overhaul this process for appliances and provide more resources to his Department of Energy so it implements regular updates for efficiency standards. They will also work with Congress to ensure that it continues to play a key role in improving our national efficiency codes.
- ***Reduce Federal Energy Consumption.*** Currently, the federal government is the world’s largest single consumer of energy in the world, spending approximately \$14.5 billion on energy consumption in FY 2008. Barack Obama and Joe Biden believe in the importance of leading by example. They will make the federal government a leader in the green building market, achieving a 40 percent increase in efficiency in all new federal buildings within five years and ensuring that all new federal buildings are zero-emissions by 2025. They will invest in cost-effective retrofits to achieve a 25 percent increase in efficiency of existing federal buildings within 5 years. The Obama-Biden plan will put forward the resources necessary to achieve a 15 percent reduction in federal energy consumption by 2015.
- ***Flip Incentives to Energy Utilities.*** An Obama administration will “flip” incentives to utility companies by: requiring states to conduct proceedings to implement incentive changes; and

offering them targeted technical assistance. These measures will benefit utilities for improving energy efficiency, rather than just from supporting higher energy consumption. This “regulatory equity” starts with the decoupling of profits from increased energy usage, which will incentivize utilities to partner with consumers and the federal and state governments to reduce monthly energy bills for families and businesses. The federal government under an Obama administration will play an important and positive role in flipping the profit model for the utility sector so that shareholder profit is based on reliability and performance as opposed to total production.

- ***Invest in a Smart Grid.*** Achieving these aggressive energy efficiency goals will require significant innovation in the way we transmit electricity and monitor its use. Barack Obama and Joe Biden will pursue a major investment in our national utility grid using smart metering, distributed storage and other advanced technologies to accommodate 21st century energy requirements: greatly improved electric grid reliability and security, a tremendous increase in renewable generation and greater customer choice and energy affordability. They will establish a Grid Modernization Commission to facilitate adoption of Smart Grid practices across the nation's electricity grid to the point of general adoption and ongoing market support in the U.S. electric sector. They will instruct the Secretary of Energy to: (1) establish a Smart Grid Investment Matching Grant Program to provide reimbursement of one-fourth of qualifying Smart Grid investments; (2) conduct programs to deploy advanced techniques for managing peak load reductions and energy efficiency savings on customer premises from smart metering, demand response, distributed generation and electricity storage systems; and (3) establish demonstration projects specifically focused on advanced technologies for power grid sensing, communications, analysis, and power flow control, including the integration of demand-side resources into grid management.
- ***Weatherize One Million Homes Annually.*** In the struggle with higher energy prices low income families are suffering the most and receiving the least attention. Across the nation, poor families this winter will increasingly face the choice between heating and eating as prices for natural gas, heating oil, propane and electricity skyrocket. To address the immediate challenge this winter, we must fully fund LIHEAP and ensure that everyone who needs it has access to heating assistance. Over the longer-term, a significant part of the answer for low income families is home weatherization. By upgrading a home's furnace, sealing leaky ducts, fixing windows, and adding insulation we can cut energy bills by 20 - 40 percent and the substantial savings accrue with summer air conditioning as well as winter heating. And by adding energy efficient appliances and lighting the savings are even greater. While the nation has weatherized about 5.5 million low-income homes since 1976, more than 28 million remain eligible. Barack Obama and Joe Biden will make a national commitment to weatherize at least one million low-income homes each year for the next decade, which can reduce energy usage across the economy and help moderate energy prices for all.
- ***Build More Livable and Sustainable Communities.*** Over the long term, we know that the amount of fuel we will use is directly related to our land use decisions and development patterns. For the last 100 years, our communities have been organized around the principle of cheap gasoline. Barack Obama and Joe Biden believe that we must devote substantial resources to repairing our roads and bridges. They also believe that we must devote significantly more attention to investments that will make it easier for us to walk, bicycle and access other transportation alternatives. They are committed to reforming the federal transportation funding and leveling employer incentives for driving and public transit.

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The Office of the President-Elect

Policy Working Groups

The focus of the Policy Working Groups will be to develop the priority policy proposals and plans from the Obama Campaign for action during the Obama-Biden Administration. The Policy Working Groups will focus on the following areas: Economy, Education, **Energy & Environment**, Health Care, Immigration, National Security, and Technology, Innovation & Government Reform.

Energy & Environment

The **Energy and Environment Policy Working Group** crafts the approaches and initiatives that will be the foundation of President-elect Obama's policies in these areas. Specifically, the group focuses on issues surrounding the transformation to a clean energy economy such as creating jobs, stimulating the economy, mitigating climate change, and eliminating our dependence on oil. The group also identifies new opportunities to restore protections for air, water, public lands and wildlife habitat.

Carol M. Browner is the longest serving Administrator of the Environmental Protection Agency serving from 1993 to 2001. Prior to that, she served as Florida Secretary of the Environment. Browner is a founder and principal of The Albright Group LLC, a global strategy firm and of Albright Capital Management, an investment advisory firm that focuses on emerging markets. Browner serves as the chair of the National Audubon Society Board of Directors, and sits on the Board of Directors of APX, the Alliance for Climate Protection, the Center for American Progress and the League of Conservation Voters.

Group Members

Joe Aldy
Shouvik Banerjee
Jason Grumet
Lukas McGowan
Dan Reicher
David Sandalow
Todd Stern
Meridith Webster
Heather Zichal

Obama-Biden Transition: Agency Review Teams

The Agency Review Teams for the Obama-Biden Transition will complete a thorough review of key departments, agencies and commissions of the United States government, as well as the White House, to provide the President-elect, Vice President-elect, and key advisors with information needed to make strategic policy, budgetary, and personnel decisions prior to the inauguration. The Teams will ensure that senior appointees have the information necessary to complete the confirmation process, lead their departments, and begin implementing signature policy initiatives immediately after they are sworn in.

Agency Review Co-Chairs

Melody Barnes

Lisa Brown

Don Gips

Working Group Members

Seth Harris

David J. Hayes

Reed Hundt

Sally Katzen

Tom Perez

Ray Rivera

Sarah Sewall

Louisa Terrell

Michael Warren

Tom Wheeler

Jon Wilkins

Jonathan Molot

Deputy Director, Lisa Ellman

Deputy Director, Joani Walsh

Special Assistant, Liz Fujii

Energy and Natural Resources Team Lead

David J. Hayes is a member of the Obama-Biden Transition Project's Agency Review Working Group responsible for overseeing review of the energy and natural resources agencies.

Department of Agriculture Review Team Leads

Bart Chilton is currently a Commissioner at the Commodity Futures Trading Commission. Previously, he was the Chief of Staff and Vice President for Government Relations at the National Farmers Union and he was a Senior Advisor to Senate Majority Leader Tom Daschle, where he worked primarily on agriculture and transportation policy.

Carole Jett recently left federal service after 33 years to participate on the Obama for America Presidential Campaign's agriculture team in Indiana. Jett served as the Farm Bill Coordinator for

the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) with primary responsibility of conservation policy. Previously, she was the NRCS point person for the implementation of the Conservation Title of the 2002 Farm Bill, served on assignment as Congressional Staff with the House Agricultural Committee, and negotiated and co-authored the USDA-EPA strategy on Animal Feeding Operations. She recently launched Blackwood's Group, LLC, a conservation policy consulting group.

Department of Energy Review Team Leads

Elgie Holstein was a Senior Energy Policy Advisor to the Obama for America Presidential Campaign. Under President Clinton, he was Assistant Secretary of Commerce for the National Oceanic and Atmospheric Administration; Associate Director for Natural Resources, Energy and Science at the Office of Management & Budget; Chief of Staff at the Department of Energy; and Special Assistant to the President for Economic Policy at the National Economic Council. He was also Director of State-Federal Relations for energy and environmental programs for the National Conference of State Legislatures, and worked as a congressional aide.

Elizabeth Montoya is currently a Consultant with Sealaska Corporation in Juneau Alaska where she is an expert in human resource management and strategic planning and advises the CEO and COO. Previously, she was Associate Director of Presidential Personnel in the White House, Deputy Chief of Staff at the Department of Energy, and Associate Director of Management and Administration at the Small Business Administration.

Sue Tierney is a Managing Principal and expert on economics, regulation and policy in the electric and gas industries at Analysis Group. She previously served as Assistant Secretary for Policy at the Department of Energy, under President Clinton; Secretary of Environmental Affairs in Massachusetts under Governor Weld; and Commissioner at the Massachusetts Department of Public Utilities under Governor Dukakis.

EPA Review Team Leads

Cecilia V. Estolano is the Chief Executive Officer of the Community Redevelopment Agency of Los Angeles. Prior to joining CRA/LA, Estolano practiced land use and environmental law at Gibson, Dunn & Crutcher. She has served as a Special Assistant to the City Attorney in the Los Angeles City Attorney's Office, a Senior Policy Advisor to the Assistant Administrator for Air and Radiation at the U.S. Environmental Protection Agency and a member of the California Coastal Commission.

Lisa Jackson was appointed in 2006 by Governor Jon Corzine to lead New Jersey's Department of Environmental Protection (DEP). Her past experience includes management responsibilities at the Environmental Protection Agency.

Robert Sussman is a Senior Fellow at the Center for American Progress (CAP). During the Clinton Administration, Sussman served as Deputy Administrator of the Environmental Protection Agency, where he played a leading role on Superfund, global warming, science policy and the North American Free Trade Agreement.

FERC Review Team Lead

Rose McKinney-James is the Managing Principal of Energy Works Consulting. Previously she served as the President and CEO of the Corporation for Solar Technology and Renewable Resources (CSTRR) and Chair of the Nevada Renewable Energy Task Force. Past positions also include Commissioner with the Nevada Public Service Commission, Director of the Nevada Department of Business and Industry, Chief of Staff for the City of Las Vegas and Project Manager for the Nevada Economic Development Corporation. McKinney-James serves on the Board of Directors of MGM-Mirage, Employers Insurance Group, Toyota Financial Savings Bank, the Energy Foundation, the American Council for an Energy Efficient Economy (ACEEE), and the Nature Conservancy. She is the Board Chair for Nevada Partners.

Department of the Interior Review Team Leads

John Leshy is a professor of law at the University of California, Hastings College of the Law in San Francisco. Previously he was Solicitor (General Counsel) of the U.S. Department of the Interior; Special Counsel to Chairman George Miller of the Resources Committee, U.S. House of Representatives; professor of law at Arizona State University in Tempe, Arizona; Associate Solicitor of Interior for Energy & Resources; and with the Natural Resources Defense Council (NRDC) in California and the Civil Rights Division of the U.S. Department of Justice in Washington.

INTERNATIONAL
Herald Tribune

U.S. economic stimulus plan tied to energy savings

By John M. Broder

Thursday, December 4, 2008

WASHINGTON: President-elect Barack Obama and leaders in Congress are fashioning a plan to pour billions of dollars into a jobs program to jolt the economy and lay the groundwork for a more energy-efficient economy.

The details and cost of the so-called green jobs program are still unclear, but a senior Obama aide, speaking on condition of anonymity to discuss a work in progress, said it would probably include the weatherizing of hundreds of thousands of homes, the installation of so-called smart meters to monitor and reduce home energy use, and billions of dollars in grants to state and local governments for mass transit and infrastructure projects.

The green component of the much larger stimulus plan would cost at least \$15 billion a year, and perhaps considerably more, depending on how the projects were defined, aides working on the package said.

During the campaign, Obama supported a measure to address global warming by capping carbon emissions while allowing emitters to buy and trade pollution permits. He said he would devote \$150 billion of the revenue from the sale of those permits over 10 years to energy efficiency and alternative energy projects to wean the nation from fuels that are the main causes of the heating of the atmosphere.

But the Obama adviser who discussed the green energy project said Obama would not wait for passage of a global warming bill before embarking on the new energy and infrastructure spending. House and Senate supporters of a climate bill said they would continue working on legislative language but did not expect quick action on a cap-and-trade law because of the economic emergency.

That means that the green-jobs program would not be financed with pollution credits bought by power generators and other carbon emitters, but instead would be added to the budget deficit.

Congressional officials working with the Obama administration said the stimulus program was also likely to involve tax breaks or direct government subsidies for a variety of clean energy projects, including solar arrays, wind farms, advanced biofuels and technology to capture carbon dioxide emissions from coal-burning power plants.

The programs would be a part of a larger economic stimulus package whose outlines are faint but which is expected to cost \$400 billion to \$500 billion. Obama has said that his goal is to create or save 2.5 million jobs in the next two years. He has assigned to his economic and environmental

Attachment 5

advisers the task of devising a proposal that is expected to combine a shot of new federal money into existing federal and state programs and the possible creation of new agencies modeled on New Deal public works programs.

"We'll put people back to work rebuilding our crumbling roads and bridges, modernizing schools that are failing our children, and building wind farms and solar panels, fuel-efficient cars and the alternative energy technologies that can free us from our dependence on foreign oil and keep our economy competitive in the years ahead," Obama said in a radio address last month, echoing a campaign promise with a new sense of urgency.

The political climate seems favorable to an economic stimulus plan, but large sums of new money touch off lobbying frenzies, and energy projects provoke debate between conservationists and those who want to more fully exploit domestic sources of oil, natural gas and coal.

Some experts said that the record of government's intervention in energy markets and new technologies is not promising, citing as a spectacular example the Carter-era Synthetic Fuels Corporation, which spent more than \$3 billion without producing any commercially usable amount of coal-based liquid fuel.

Ethanol and other non-oil-based fuels have also not proved their commercial value, in some cases yielding less energy than was needed to produce them, or, in ethanol's case, diverting land to corn and driving up food prices.

The plan could also face resistance from fiscal hawks. In 2004, Senator John McCain, Republican of Arizona, almost single-handedly blocked a \$100 billion energy package, saying that the billions of dollars in subsidies for ethanol and other alternative fuels were little more than a special-interest boondoggle. The bill was revived a year later at half the cost, and much of the money in it has not been spent.

"Now they're talking about some large amount of money - what, \$100 billion? - and spending it on windmills, job training, whatever," said David Kreutzer, who studies energy economics and climate change at the Heritage Foundation, a conservative research group. "But where do you get the \$100 billion in the first place? Are you going to take \$100 billion from some other part of the economy, are you going to tax some people to pay for it? Are you just going to print it or borrow it? The money has to come from somewhere."

The Obama team and congressional leaders say they want a plan ready shortly after Congress reconvenes in January.

Obama has said that, after stabilizing the economy and the markets, putting the nation on the path to a more energy efficient future is his top priority. The House speaker, Nancy Pelosi of California, said this week that rebuilding infrastructure and creating green jobs was "the first order of business that we will have" when Congress reconvenes in January. Several hearings are planned even before Obama takes office Jan. 20.

Attachment 5

State officials say a lack of financing has stalled billions of dollars in projects. Governor Arnold Schwarzenegger of California told Obama this week that the states were ready to break ground with \$136 billion in infrastructure projects that could provide new jobs within two years.

The American Public Transportation Association, which represents local mass transit authorities, said there were \$8 billion in "ready-to-go" projects that could preserve or create thousands of jobs and provide more energy-efficient transportation.

Beverly Scott, chief executive of the Atlanta transit agency and head of the national association, told Congress in October that the projects include diesel-electric hybrid buses for Chicago; a new bus maintenance shop for Eugene, Oregon; and a set of crossover tracks to allow San Francisco's rapid transit trains to turn around more quickly and carry more riders.

The Obama aide said that the residential smart meters were a relatively small project that would not create a large number of jobs, but the aide said that they would be an essential building block for the electric grid of the future. The new grid - a multiyear, multibillion-dollar project - would more efficiently move electricity from its source to its destination and would reward those who saved power or used it during off-peak hours.

Senator Jeff Bingaman, the New Mexico Democrat who heads the Energy and Natural Resources Committee, said that he was sympathetic to Obama's desire to pump up the economy and reduce energy usage. But Bingaman said he was wary of big government spending programs without sufficient oversight or expertise.

"Just buying smart meters for everybody doesn't really move the ball very far," said Bingaman, who will hold a hearing next week to gather ideas for energy-related stimulus spending.

"Realistically speaking, getting money properly spent in a short period of time requires some degree of competence in the government agency doing it. The best plan is to start with existing programs that work, like weatherization, and build on those."

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Renewable Wish Lists for January Stimulus Bills

Stanford Group Company
Washington Energy Bulletin
December 4, 2008



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Washington Energy Bulletin

K. Whitney Stanco / Christine Tezak
202-298-6226

Renewable Wish Lists for January Stimulus Bills

Summary: Advocacy organizations across Washington are drafting their wish lists for what they'd like to see included in the "big" stimulus package Congressional Democrats plan to put before President-elect Obama in January. We caution, however, that just because Congress may be in a giving and "stimulative" mood, not every wish on each list may be granted. When energy tax extensions were proposed on the housing stimulus package last year they were routinely stripped by the House of Representatives for not really being "stimulus." Of course, things may be different this year, but we think there is a possibility that considerable changes to the existing tax incentives programs may not necessarily be a slam dunk.

We also believe that just because an item doesn't make it on to a stimulus bill early in 2009 that investors should necessarily give up hope of enactment later in the year. Enthusiastic federal policy support for renewable energy is consistent with the Obama administration's focus on domestic energy security and domestic green jobs. We think that there are many positive drivers in 2009, and stimulus won't be the only bus leaving the station. On the table below, we highlight some key areas we will be following.

| Solar Industry | Our Prognosis |
|---|---|
| <ul style="list-style-type: none"> Make the solar investment tax credit (ITC) for businesses refundable or fully-transferable. This would allow companies with low tax obligations to receive a cash payment (e.g. a refundable tax credit of \$1 paid against an income tax liability of 50¢ results in a cash payment from the government to the "taxpayer" of 50¢.) | <p><i>While this shouldn't change the estimated Treasury receipts of the recently enacted tax credit extension (since businesses can currently carry-forward unused portions of such tax credits) legislators have seemed a bit reluctant to consider this.</i></p> |
| <ul style="list-style-type: none"> Increase the solar ITC for residential and small-scale commercial projects from 30 to 50 percent, and adjust the administration of the credit so that contributions made by state and local subsidies don't lower the federal ITC. | <p><i>Residential solar installations have only been allowed to claim the full 30% credit with no cap since October. We believe some legislators may be inclined to wait and see the success of that increased incentive before signing on to another. However, if solar advocates can successfully make the case that 30% isn't enough given the economic downturn, we believe the provision may come up for debate.</i></p> |
| <ul style="list-style-type: none"> Supports a renewable portfolio standard (RPS) for electric utilities (and that solar should specifically represent 30% of that standard). | <p><i>We think that an RPS is likely, if not in stimulus than relatively soon thereafter. We are more skeptical of the chances of a single renewable energy technology getting a specific carve out in a national strategy that has generally tended to provide flexibility for compliance in individual states.</i></p> |
| <ul style="list-style-type: none"> Provide \$10 billion in funding for 4,000 MW of solar projects on federal lands. | <p><i>Handing out federal funds is easier said than done. Provisions like these may get bogged down in fights over which states should receive the funding. If that decision is left up to an administrative agency, like the DOE, the review process would likely be time-consuming and not very stimulative in the short run.</i></p> |

| | |
|---|---|
| <ul style="list-style-type: none"> ▪ “Fast track” access to federal lands in the Southwest | <p><i>The Department of the Interior (DOI) under the Bush administration created a similar program for oil and gas leasing, so this type of program is not new to the agency. In addition, the DOI currently has an initiative underway to make 190 million acres of federal land available for geothermal projects. This program could potentially be expanded to other renewable technologies or a new program could be created. We believe a fast-track program would be “low hanging fruit” for the Obama administration and is likely to quickly become a priority at DOI once the new Secretary is confirmed.</i></p> |
| <ul style="list-style-type: none"> ▪ Federal Clean Energy Bank | <p><i>We believe provisions to create a federal clean energy bank similar to the DOE’s advanced technology loan guarantee program will come up next year; most likely in the context of a broader energy bill rather than a stimulus package. However, it is unlikely in our view that the DOE would be the administrator of the program. Instead, the program may create an “independent” government agency similar to the Overseas Private Investment Corporation. Sen. Jeff Bingaman (D-N.M.), Chairman of the Senate Energy and Natural Resources Committee, is a strong advocate for this type of program and we believe he will lead on this issue.</i></p> |
| <ul style="list-style-type: none"> ▪ New office at the White House to coordinate “renewable energy activities” government-wide | <p><i>Many constituencies have advocated a central coordinator for climate change. Whether a renewable office is established as well remains to be seen.</i></p> |

| Wind Industry | Our Prognosis |
|--|--|
| <ul style="list-style-type: none"> ▪ Five-year extension of the renewable energy production tax credit for wind, geothermal and hydro technologies. Argument that it should be included in stimulus to support domestic manufacturing. | <p><i>If included on a stimulus bill, there’d be no need to “pay for” them with offsetting increases in taxes elsewhere. But given that the tax does not expire until the end of 2009 for wind or 2010 for other industries, a near term stimulative impact may be hard to demonstrate. The question is whether such a demonstration would be needed, and it might not be required if Congress isn’t worried about some impacts materializing over time instead of right away.</i></p> |
| <ul style="list-style-type: none"> ▪ Monetization of the current renewable energy production tax credit, similar to the refundability of the solar credit above. This would be helpful given the paucity of tax-equity appetite and the significant | <p><i>While this shouldn’t change the estimated treasury receipts of the recently enacted tax credit extension (since businesses can currently carry-forward unused portions of such tax credits) legislators have seemed a bit reluctant to consider this.</i></p> |
| <ul style="list-style-type: none"> ▪ Supports a RPS of 10% renewables by 2012 and 25% by 2025. | <p><i>We address a national RPS standard in fuller detail below.</i></p> |

| All Renewable Energy Industries | Our Prognosis |
|---|--|
| <ul style="list-style-type: none"> ▪ Support a national RPS. Last year, a 15% renewable portfolio standard for electric utilities by 2020 was narrowly defeated in the Senate. | <p><i>We think it is possible that an RPS could make it into a stimulus bill, however, we also think that it has a very good chance of enactment relatively early (perhaps even first 100 days) if it doesn’t make the stimulus. The key, in our view, is: will the RPS be the lower targets based on last year’s bill, or more aggressive targets consistent with the Obama platform? Until a bill is drafted this is simply not known.</i></p> |

| All Renewable Energy Industries | Our Prognosis |
|--|---|
| <ul style="list-style-type: none"> Obama's campaign platform supported an RPS of 10% by 2012 and 25% by 2025. | <p><i>We believe a 10% RPS target by 2012 may be a difficult bogey for the electric utility industry.</i></p> <p><i>In 2006, only 2% of the nation's electricity was generated from renewables other than conventional hydro. Past House versions of RPS language only allowed incremental hydro placed in service after Jan. 1, 2001 to qualify - thus disqualifying the vast majority of existing renewable generation in the United States.</i></p> <p><i>The difficulty that electric utilities would have meeting a 10% (non-hydro) target by 2012 would often be related to factors outside of their control such as transmission build-out, available financing and component availability (solar panels or wind turbines). As a result, we think the electric utility industry will push back strongly on an interim target of 10% by 2012.</i></p> <p><i>As we said above, until a bill is drafted it is unclear if Congressional leaders will push a 25% by 2025 mandate forward, continue with the 15% target passed in the House or try a new target.</i></p> |
| <ul style="list-style-type: none"> Invest \$30 billion in 2009 for financing options that support new project development and installations for all renewable energy technologies as part of the Administration's commitment to investment of \$150 billion over the next ten years in clean energy technologies. | <p><i>Thus far, we haven't seen a plan as to how these funds would be delivered to the industry. Until a plan is drafted, it's difficult to prognosticate. Unlike the Highway Trust Fund or state revolving loans for water and wastewater infrastructure, there is no existing mechanism to quickly distribute the funds. If the funds are appropriated to the DOE to support its Energy Efficiency and Renewable Energy programs, it may take some time for the DOE to ramp up, for the funding to impact the sector and investment may be more focused on R&D than building infrastructure. If the funds are disbursed in the form of a "clean energy bank" or added to the DOE's existing loan guarantee program, again we would caution that disbursement would likely be time-consuming and not necessarily stimulative in the short run.</i></p> |

As we explained in our bulletin yesterday, a lot of talk is also taking place around **transmission to support renewable energy**, in particular, as a stimulus item. However, if the only language that becomes part of any stimulus is drawn from S. 2076 (introduced in September by Senate Majority Leader Harry Reid (D-Nev.)) we are not sure how much material impact it may have. States and regions are already working to identify areas of renewable resources – whether solar, wind or geothermal – that suit their regional preferences. Reid's bill would establish a federal program to identify resources over 1,000 megawatts (MW). The federal backstop siting authority in the *2005 Energy Policy Act* has proven very contentious, and at this stage, it is not clear to us if new federal provisions would mean more controversy than cooperation, especially where regions are already moving ahead.

Several parts of the country are already planning lines on a regional basis to make them more cost-efficient. Further, the private sector generally finances and constructs these lines, even if a federal entity is a partner. Reid's bill would not change this unless private funding fails to show up after 3 years. That does not portend a significant change from today's current situation in the near term.

Further, the FERC has also approved tariffs for renewable transmission lines that either socializes the upgrade cost over a wide number of consumers in a regional market, or collects the cost across the consumers that would benefit from the alternative resource. Reid's bill, as drafted, provides little incremental change to a situation that we would describe as in place and available under the status quo.

That being said, we are expecting a more substantive debate on transmission in the Senate Energy Committee in the 111th Congress that reconvenes in January beyond the stimulus debate. The possibility of national electric transmission superhighway, (advocated by T. Boone Pickens' and others) may be difficult to achieve as part of a quick moving stimulus discussion. In addition to the thorny issue of jurisdiction (a constant problem between states and the FERC which has been a little better of late), cost allocation and the omnipresent local siting scuffles, we note that there is no current mechanism to put federal dollars in the transmission system that mirrors either the Highway Trust Fund or state revolving loan funds for water and wastewater infrastructure. Even if something like these programs are duplicated for transmission it will take time to establish the federal divisions, set up the parameters for distribution of funding, and the like. Therefore, we may see substantive action on transmission come after the stimulus debate due to the complex jurisdictional issues and lack of current program infrastructure.

In addition to congressional stimulus activities, many renewable advocates are encouraging the incoming administration to take steps on its own to move the agenda forward.

An Executive Order from the White House has been sought to expand federal procurement of renewable energy to meet the government's energy needs. The solar industry in particular is interested in the creation of a solar specific Energy Savings Performance Contract (ESPC). ESPCs are currently used by federal agencies to commit to energy projects without the need for additional appropriations. Under this program an energy service provider guarantees energy savings to pay for an energy project over the term of the contract. Allowing federal agencies to enter into 25 year power purchase agreements would also facilitate federal solar and possibly other renewable installations; however the coal-to-liquids industry has lobbied for this treatment in the past without success and we believe it could continue to be a problematic issue.

* * *

Stanford Group Company, Washington Policy Research Disclaimer

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Attachment 7

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Credit and Capital Issues Affecting
the Electric Power Industry

Docket No. AD09-2-000

NOTICE OF TECHNICAL CONFERENCE

(November 20, 2008)

Take notice that on January 13, 2009, the Commission will convene a technical conference to discuss issues affecting the electric power industry that result from the current situation in the financial markets. Such issues include both the short-term credit issues such as access to capital for normal business operations and credit practices in short-term markets, as well as the effect on long-term capital financing of infrastructure replacement and new project development. The technical conference is designed to provide the Commission and industry stakeholders with current information about the financial health of electric public utilities, the state of wholesale power markets, and the development of infrastructure.

The technical conference will be held in the Commission Meeting Room at the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426. All interested persons are invited to attend. The conference is free with no registration. Further notices with detailed information will be issued in advance of the conference.

A free webcast of this event is available through www.ferc.gov. Anyone with internet access who desires to listen to this event can do so by navigating www.ferc.gov's Calendar of Events and locating this event in the Calendar. The event will contain a link to its webcast. The Capitol Connection provides technical support for the webcasts and offers the option of listening to the meeting via phone-bridge for a fee. If you have any questions, visit www.CapitolConnection.org or call 703-993-3100.

Commission conferences are accessible under section 508 of the Rehabilitation Act of 1973. For accessibility accommodations, please send an email to accessibility@ferc.gov or call toll free 1-866-208-3372 (voice) or 202-208-1659 (TTY), or send a FAX to 202-208-2106 with the required accommodations.

Attachment 8

December 3, 2008

Dear NAESB DSM-EE Distribution Group,

I would like to thank all of you for attending our previous subcommittee meetings, sending in comments or work papers, or for being a part of our distribution list for this effort. At the meeting on December 2, 2008, the recommendation on Wholesale Electric Demand Response measurement and verification programs submitted by work group 5 comprised of ISOs and RTOs was voted out of the Wholesale Electric Quadrant DSM-EE Subcommittee with three amendments made during the meeting. It is now the work product of the WEQ Executive Committee.

A formal 30-day comment period will begin tomorrow, Thursday, December 4, 2008 for the recommendation for measurement and verification business practice standards for Wholesale Electric Demand Response programs. You will, via email, receive a request to comment on the recommended standards proposed by the subcommittee. The recommendation is posted and can be accessed from the following link:

<http://www.naesb.org/pdf4/dsmee120208a2.doc>.

In the next few days, our office will send out a notice of a single topic WEQ Executive Committee review session in mid-January and a single topic WEQ Executive Committee conference call to vote on the subcommittee recommendation in late January. You are welcome to attend these conference call/web casts as the NAESB standards development process takes its next step and the work product of the subcommittee is considered by the Executive Committee.

We should shortly send out a notice scheduling upcoming 2009 DSM-EE meetings to address the development of retail standards and to continue work in the wholesale electric market.

With Thanks,

Cory Galik

Meeting Administration/Project Manager
North American Energy Standards Board
1301 Fannin, Suite 2350
Houston, TX 77002
713-356-0060
cgalik@naesb.org

Attachment 9

Recommendation to the Executive Committee of the North American Energy Standards Board (NAESB) – Wholesale Electric Quadrant (WEQ)

Business Practices for a Framework for Measurement and Verification of Wholesale Electricity Demand Response

December 2, 2008

Requesters: DSM-EE Subcommittee

Request No.: 2008 AP Item 5(a)

Review and Develop Business Practice Standards to Support DR and DSM-EE Programs



RECOMMENDATION TO NAESB EXECUTIVE COMMITTEE
For Quadrant: WEQ

December 2, 2008
Requesters: DSM-EE Subcommittee
Request No.: 2008 AP Item 5(a)

Review and develop business practice standards to support DR and DSM-EE programs

Proposed Standards approved by the subcommittee on December 2, 2008

1. RECOMMENDED ACTION:

- X Accept as requested
Accept as modified below
Decline

EFFECT OF EC VOTE TO ACCEPT RECOMMENDED ACTION:

- X Change to Existing Practice
Status Quo

2. TYPE OF DEVELOPMENT/MAINTENANCE

Per Request:

- X Initiation
X Modification
Interpretation
Withdrawal
X Principle
X Definition
X Business Practice Standard
X Document
Data Element
Code Value
X12 Implementation Guide
X Business Process Documentation

Per Recommendation:

- X Initiation
X Modification
Interpretation
Withdrawal
X Principle
X Definition
X Business Practice Standard
X Document
Data Element
Code Value
X12 Implementation Guide
X Business Process Documentation

3. RECOMMENDATION

SUMMARY:

The standards support the measurement and verification characteristics of Demand Response programs administered for application in the wholesale market and may be the subject of individual tariffs filed with and approved by the Federal Energy Regulatory Commission.

RECOMMENDED STANDARDS:

DISCLAIMER: This document contains draft information on standards for wholesale electricity Demand Response products and services in markets administered by Independent System Operators and Regional Transmission Organizations (hereinafter referred to as "System Operator"). The information contained within this draft is not intended to replace applicable tariff, market rules, operating procedures, protocols or manuals, for wholesale Demand Response, and in the event of a conflict, the latter documents shall have precedence over these standards.

Contact information: Eric Winkler, Ph.D., ISO New England, 413-540-4513, ewinkler@iso-ne.com

WEQ-015 Business Practices for Wholesale Electricity Demand Response Programs - Please see attached documentation.



**RECOMMENDATION TO NAESB EXECUTIVE COMMITTEE
For Quadrant: WEQ**

December 2, 2008

Requesters: DSM-EE Subcommittee

Request No.: 2008 AP Item 5(a)

Review and develop business practice standards to support DR and DSM-EE programs

Proposed Standards approved by the subcommittee on December 2, 2008

4. SUPPORTING DOCUMENTATION

a. Description of Request:

Develop business practices to support demand side management and energy efficiency programs in the wholesale and retail electric markets.

b. Description of Recommendation:

For the first phase, develop business practices to support the measurement and verification aspects of the wholesale market demand response programs.

c. Business Purpose:

The business practices may be used by the administrators of wholesale demand response programs to add market transparency and understanding in the application of the measurement and verification characteristics of those programs.

d. Commentary/Rationale of Subcommittee(s)/Task Force(s):

- **April 11, 2007:** Several representatives of the NAESB WEQ, REQ, and RGQ as well as representatives of the US Department of Energy, US Environmental Protection Agency, FERC, and other industry experts met at the Department of Energy offices in Washington, D.C. to discuss the NAESB effort to draft business practices for Demand Side Management and Energy Efficiency. Ongoing Energy Efficiency and DSM projects and programs by other groups (such as NAPEE) were reviewed by the meeting attendees. The following resolution outlines the scope of the initial effort by NAESB to draft business practice standards for these topics: It was decided that NAESB should begin its standards development focus on measurement and verification of energy savings and peak demand reduction from both a wholesale and retail electric market perspective. A future schedule of meetings for DSM and Energy Efficiency should be posted on the NAESB website shortly.
- **May 24, 2007:** 75 NAESB members, FERC, DOE, EEI, ISO and State regulatory personnel, experts in DSM and energy markets participants (22% more than the first meeting) met in person and by conference telephone at NAESB headquarters in Houston to refine the scope of Phase 1 activities, agreeing on a specific list of tasks and assigning subgroups of volunteers to work on each task. At this meeting, no less than 28 individuals spoke to the group.
- **June 18, 2007:** 51 NAESB members, FERC, DOE, EEI, ISO and State regulatory personnel, experts in DSM and energy markets participants met in person and by conference telephone at BGE offices in Baltimore to further refine the scope of Phase 1 activities by reviewing the initial task list and revising it with more detailed deliverable requirements and dates, and with identification of base documents to support completing each task.
- **July 26, 2007:** 46 NAESB members, FERC, DOE, EEI, ISO and State regulatory personnel, experts in DSM and energy markets participants met in person and by conference telephone at AGA offices in Washington DC to present deliverables of existing demand response measurement and verification protocols and a list of 41 possible topics and subtopics for NAESB model



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business practices. The task force reviewed all 41 possibilities, deciding whether to draft MBPs and which ones can be grouped together.

- **September 14, 2007:** The results of the meeting including possible standards text were sent out for comment including notes, considerations and possible standards text. Comments were requested on each of the nine standards development areas including whether the remarks were directed to wholesale or retail markets, pre program evaluation or post implementation evaluation, or to DSM or EE projects.
- **September 25, 2007:** A DSM-EE meeting was held in Austin, Texas hosted by ERCOT. The purpose of the meeting was to review the comments, determine the level of progress made towards the task list and determine if adjustments to the task, focus or schedule were needed. When reviewing the comments it was determined to focus in five areas specific to demand response programs, and develop business practice standards that would prove helpful – (1) DR programs administered by ISOs and RTOS in the wholesale markets, (2) DR programs administered by utilities in wholesale markets, (3) DR programs administered by utilities in the retail markets, (4) a glossary to support the DR programs, and (5) a preamble to put the business practice standards in context. To focus on the DR programs, each of the three areas outlined will develop a matrix that describes the aspects of the DR programs in effect today, planned, or has been in effect in the past.
- **November 6, 2007:** Several of the NAESB leadership met with Commissioners Kerr and Ervin of NC to gain further understanding of expectations for DSM-EE NAESB activity for electricity for the retail markets.
- **November 11, 2007:** NAESB participated in a panel on DSM-EE at the NARUC Annual Meeting in Anaheim.
- **November 30, 2007:** Meeting hosted by Dominion in Richmond. During the meeting, each of the five groups described the progress made and plans to date. Drafts of the three matrices were reviewed, as was a draft glossary and outline for the preamble. It is possible that the two wholesale matrices will be combined. The calendar for 2008 was also set. The next meeting is scheduled for January 23 in Baltimore hosted by BGE.
- **December 3, 2007:** A meeting was held with Commissioner Mason of Ohio to gain further understanding of expectations for DSM-EE NAESB activity for natural gas for the retail markets.
- **January 23, 2008:** The group met in Baltimore to review progress on the two matrices, the preamble and the glossary. The wholesale matrix for DR programs administered by ISOs and RTOs was reviewed. Data is being placed in five separate categories -Initial Testing and Auditing, Ongoing Testing and Auditing, Triggering; Construction, Statistical Analysis, Performance and Baselines. The matrix for retail DR programs is lagging but several companies have provided or agreed to provide data – including BGE, Dominion, ConEd, Alabama Power and ComVerge. Procedures for how to collect the data was discussed with both interviews online and distributed surveys discussed. Both the preamble and glossary while first drafts are available are dependent on the work of the matrices and cannot be further developed until after more progress has been made on the matrices.



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- **March 28, 2008:** The group met in Houston to review progress on the two matrices. The wholesale matrix for DR programs administered by ISOs and RTOs was reviewed. The matrix had expanded significantly to provide for more comparability for responses. 45 DR programs have been identified and the data is now being verified. A template for the type of standards to be expected from this effort was reviewed. The retail matrix now has additional data and several interviews were conducted online, with the conclusion that it is the preferred way to gather data. The retail group is to set up a face-to-face meeting in May to review the matrix and make changes before sending it out to utilities for interviews.
- **May 30, 2008** – The group met in Holyoke to continue review progress on the two matrices. The wholesale matrix for DR programs administered by ISOs and RTOs was reviewed. The matrix had expanded significantly to provide for more comparability for responses. With the 45 DR programs identified, the group is now consolidating the data to higher levels from the more specific items collected. With the consolidation, the business practices should be drafted. The outline for the business practices has been prepared. The retail matrix now has contributions from 11 DR programs and the matrix structure is being validated against flow charts of the programs. Once the matrix structure is validated, online interviews will be held. It was determined to concentrate on dispatchable DR programs first.
- **July 30, 2008** – The group met in Carmel, Indiana hosted by ACES Power to review the progress made in the two efforts. With the 45 DR programs identified, the wholesale group has consolidated the data to higher levels and draft language is being developed around four product types, energy, capacity, regulation and reserves which incorporate information from various ISO/RTOs, as well as other entities. For the retail effort, the group is relying on work from AEIC regarding process flow and applying that flow to DR programs in place. From the flows, draft standards are being prepared. Once the draft standards are prepared, efforts will be to collect through interviews information from other utilities, geographically diverse and administering programs different from those already documented. Through the interviews it is expected that we would validate both the matrix and the draft standards. The retail group is initially focusing on dispatchable DR programs. Coordination is also underway with NERC on the development of a DR survey and with the AEIC. Work will soon begin with both groups to include the glossary and the preamble text.
- **October 3, 2008** – The group met in Austin, Texas hosted by ERCOT to review progress made in development of M&V standards for retail and wholesale DR programs. A recommendation of business practice standards for the wholesale market was reviewed by the group. After discussion, it was the intent that the recommendation be distributed for a two week informal comment period. The comments would be discussed at the December meeting including any suggested changes. After discussion on December 2, the recommendation will either be voted out of subcommittee and would proceed to a formal comment period and Executive Committee consideration, or the recommendation would continue to be modified by the subcommittee through another round of informal comments. For retail, the subgroup has collected detailed data on some DR programs underway. After review of the wholesale effort, it was discussed that the retail subgroup would hold a two day session to determine whether to proceed at the level defined in the wholesale recommendation, or proceed to define more prescriptive standards.
- **December 2, 2008** – The group met in Birmingham hosted by Alabama Power to review comments and vote on the recommendation for Wholesale Electric Quadrant standards for M&V



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characteristics for DR products and services. After considerable discussion, and several votes to amend the recommendation the recommendation with the amendments put forward by the ISOs and RTOs and three separate amendments addressing titling, applicability, and additional specificity for the definition of Baseline, the motion to adopt the revised recommendation was approved with significant support. with 86.5 percent approval by balanced vote. All WEQ segments were present and voting. The revised recommendation will go out for a thirty day comment period and is now considered a work product of the WEQ EC. The abbreviated update report was given for the Retail market effort. The Retail group plans to use the WEQ revised recommendation as a foundation for their work.

e. Additional Background documentation

- DSM-EE NAESB page for meetings and materials: <http://www.naesb.org/dsm-ee.asp>
- Presentation of the wholesale recommendation given on October 3: ISO presentation - <http://www.naesb.org/pdf3/dsmee100308w7.pdf>
- Presentation on the NAESB process to be used – given on October 3: <http://www.naesb.org/pdf3/dsmee100308w8.pdf>

[At a later time a supporting document with clarifying information will be provided as a Technical Implementation Business Practice]



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Business Practices for a Framework for Measurement and Verification of Wholesale Electricity Demand Response

Introduction

1. Measurement and Verification Standards

These Measurement and Verification (M&V) standards are intended to facilitate Demand Response in wholesale electricity markets by providing a common framework for the following:

- Transparency: accessible and understandable M&V requirements for Demand Response products;
- Accountability: criteria that will enable the System Operator to accurately measure performance of Demand Response resources; and
- Consistency: standards applicable across all wholesale electricity markets.

2. Applicability of Measurement and Verification Standards:

ISO/RTO Administered Markets

These standards are applicable only to Independent System Operator-Regional Transmission Organization administered markets in North America. The standards reflect business practices applicable to measurement and verification of wholesale market Demand Response services including the following four product/service categories¹:

Energy Service

A type of Demand Response service in which Demand Resources are compensated based solely on Demand reduction performance during a Demand Response event.

Capacity Service

A type of Demand Response service in which Demand Resources are obligated over a defined period of time to be available to provide Demand Response upon deployment by the System Operator.

Reserve Service

A type of Demand Response service in which Demand Resources are obligated to be available to provide Demand reduction upon deployment by the System Operator, based on reserve capacity requirements that are established to meet applicable reliability standards.

¹ The terms Product(s) or Service(s) may be used interchangeably in these standards.



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Regulation Service

A type of Demand Response service in which a Demand Resource increases and decreases Load in response to real-time signals from the System Operator. Demand Resources providing Regulation Service are subject to dispatch continuously during a commitment period. Demand Resources providing Regulation Service automatically respond to changes in grid frequency (similar to the governor action on a generator), and also are subject to continuous dispatch based on instructions from the System Operator (similar to Automatic Generation Control). Provision of Regulation Service does not correlate to Demand Response Event timelines, deadlines and durations.

These standards establish Demand Response M&V criteria. They do not establish requirements related to the compensation, design, operation, or use of Demand Response services. In these regards, System Operators are not required to offer these Services and may not currently offer each of these Services. Terms that are capitalized in these standards have the meanings ascribed to them in the Definitions of Terms section.

For purposes of these Measurement and Verification standards, Demand Response does not include Measurement and Verification of energy efficiency or permanent Load reduction.

Tariff Conflict and NERC Standards:

In the event of a conflict between these business practices and the System Operator's Tariffs, market rules, operating procedures, protocols or manuals, the Tariff, market rules, operating procedures, protocols or manuals shall have precedence. Terms defined in the Definition of Terms do not modify or supersede market rule or tariff definitions that apply to the compensation, design, operation, or use of Demand Response services. Additionally, all entities supplying Demand Response Services shall comply with applicable NERC reliability standards.

Non-ISO/RTO Markets:

These standards do not apply in markets administered by non-ISO/RTOs. Wholesale Demand Response standards applicable to non- ISO/RTO markets will be developed when required.



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3. Overview of the Standards

These M&V standards establish criteria for the use of equipment, technology, and procedures to quantify the Demand Reduction Value delivered. Standards developed may include commonalities among product types. The following outline of standards is applicable to the four Demand Response product categories.

| | |
|--------------------------------|---|
| General | Advance Notification |
| | Deployment Time |
| | Reduction Deadline |
| | Release/Recall |
| | Normal Operations |
| | Demand Resource Availability Measurement |
| | Aggregation |
| | Transparency of Requirements |
| Telemetry | Telemetry Requirement |
| | Telemetry Accuracy |
| | Telemetry Interval |
| | Other Telemetry Measurements |
| | Communication Protocol |
| | Governor Control Equivalent |
| | On-Site Generation Telemetry Requirement |
| After-The-Fact Metering | After-the-Fact Metering Requirement |
| | Meter Accuracy |
| | Details of Meter/Equipment Standards |
| | Meter Data Reporting Deadline |
| | Meter Data Reporting Interval |
| | Clock / Time Accuracy |
| | Validating, Editing & Estimating (VEE) Method |
| | On-Site Generation Meter Requirement |
| Performance Evaluation | Rules for Performance Evaluation |



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Performance Evaluation Methodology

For each Demand Response service, a performance evaluation methodology is used to determine the Demand Reduction Value provided by a Demand Resource. The standards include descriptions of acceptable Baselines and alternative performance measurements that are appropriate for each of the four types of Demand Response services. The table below provides an outline of the applicable criteria for performance evaluation methodologies.

| | |
|-----------------------------|---------------------------------|
| Baseline Information | Baseline Window |
| | Calculation Type |
| | Sampling Precision and Accuracy |
| | Exclusion Rules |
| | Baseline Adjustments |
| | Adjustment Window |
| Event Information | Use of Real-Time Telemetry |
| | Use of After-The-Fact Metering |
| | Performance Window |
| | Measurement Type |
| Special Processing | Highly-Variable Load Logic |
| | On-Site Generation Requirements |

These standards do not specify detailed characteristics of performance evaluation methodologies, but rather provide a framework that may be used to develop performance evaluation methodologies for specific Demand Response services. This approach is believed to be most appropriate at this time as development of performance evaluation methodologies and baseline calculations continues to mature. The following methodology types are applicable to wholesale Demand Response Services:

Maximum Base Load: A performance evaluation methodology based solely on a Demand Resource's ability to reduce to a specified level of electricity demand, regardless of its electricity consumption or demand at Deployment.

Meter Before / Meter After: A performance evaluation methodology where electricity consumption or demand over a prescribed period of time prior to Deployment is compared to similar readings during the Sustained Response Period.

Baseline Type-I: A Baseline performance evaluation methodology based on a Demand Resource's historical interval meter data which may also include other variables such as weather and calendar data.

Baseline Type-II: A Baseline performance evaluation methodology that uses statistical sampling to estimate the electricity consumption of an Aggregated Demand Resource where interval metering is not available on the entire population.



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Metering Generator Output: A performance evaluation methodology, used when a generation asset is located behind the Demand Resource’s revenue meter, in which the Demand Reduction Value is based on the output of the generation asset.

| Performance Evaluation Type | Valid For Service Type | | | |
|-----------------------------|------------------------|----------|----------|------------|
| | Energy | Capacity | Reserves | Regulation |
| Maximum Base Load | ✓ | ✓ | ✓ | |
| Meter Before / Meter After | ✓ | ✓ | ✓ | ✓ |
| Baseline Type-I | ✓ | ✓ | ✓ | |
| Baseline Type-II | ✓ | ✓ | ✓ | |
| Metering Generator Output | ✓ | ✓ | ✓ | ✓ |



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Definition of Terms

DEMAND RESPONSE EVENT TERMS

Illustration of Timing of a Demand Response Event

The illustration below represents the terms for timing events and time durations applicable to the characteristics of a Demand Response Event. The definitions of the ten elements in the illustration are the basis for describing the Timing of a Demand Response Event. The applicability of these elements to a Demand Response Service is dependent on the Service type. The System Operator shall specify whether any or all of the elements illustrated in the Timing Demand Response Event figure are applicable. In some cases, some elements will not be applicable; the inclusion of the elements establish a requirement for said elements.

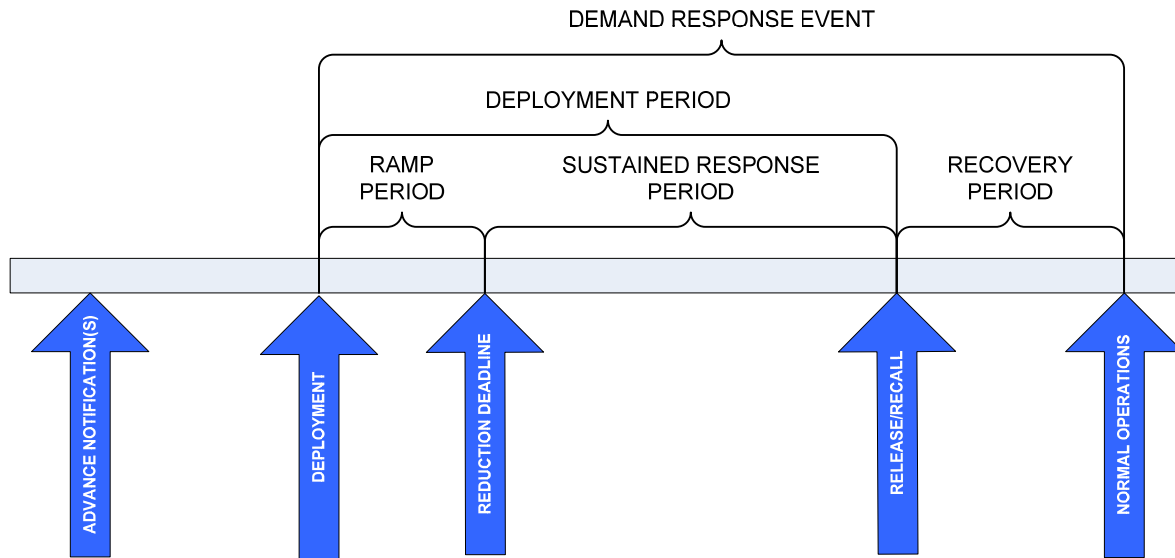


Figure 1. Timing of a Demand Response Event

The following terms refer to the above Figure 1.

Advance Notification(s)

One or more communications to Demand Resources of an impending Demand Response Event in advance of the actual event.

Demand Response Event

The time periods, deadlines and transitions during which Demand Resources perform. The System Operator shall specify the duration and applicability of a Demand Response Event. All deadlines,



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time periods and transitions may not be not applicable to all Demand Response products or services.

Deployment

The time at which a Demand Resource begins reducing Demand on the system in response to an instruction.

Deployment Period

The time in a Demand Response Event beginning with the Deployment and ending with the Release/Recall.

Normal Operations

The time following Release/Recall at which a System Operator may require a Demand Resource to have returned its Load consumption to normal levels, and to be available again for Deployment.

Ramp Period

The time between Deployment and Reduction Deadline, representing the period of time over which a Demand Resource is expected to achieve its change in Demand.

Recovery Period

The time between Release/Recall and Normal Operations, representing the window over which Demand Resources are required to return to their normal Load .

Reduction Deadline

The time at the end of the Ramp Period when a Demand Resource is required to have met its Demand Reduction Value obligation.

Release/Recall

The time when a System Operator or Demand Response Provider notifies a Demand Resource that the Deployment Period has ended or will end.

Sustained Response Period

The time between Reduction Deadline and Release/Recall, representing the window over which a Demand Resource is required to maintain its reduced net consumption of electricity.

GENERAL TERMS

Adjustment Window

The period of time prior to a Demand Response Event used for calculating a Baseline adjustment.

After-the-Fact Metering

Interval meter data separate from Telemetry that is used to measure Demand Response. May not apply to Demand Resources under Baseline Type II (Non-Interval Meter).

Aggregated Demand Resource



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A group of independent Load facilities that provide Demand Response services as a single Demand Resource.

Baseline

A Baseline is an estimate of the electricity that would have been consumed by a Demand Resource in the absence of a Demand Response Event. The Baseline is compared to the actual metered electricity consumption during the Demand Response Event to determine the Demand Reduction Value. Depending on the type of Demand Response product or service, Baseline calculations may be performed in real-time or after-the-fact. The System Operator may offer multiple Baseline models and may assign a Demand Resource to a model based on the characteristics of the Demand Resource's Load or allow the Demand Resource to choose a performance evaluation model consistent with its load characteristics from a predefined list. A baseline model is the simple or complex mathematical relationship found to exist between Baseline Window demand readings and Independent Variables. A baseline model is used to derive the Baseline Adjustments which are part of the Baseline, which in turn is used to compute the Demand Reduction Value. Independent variable is a parameter that is expected to change regularly and have a measureable impact on demand. Figure 2. below illustrates the concept of Baseline relative to a Demand Response Event.

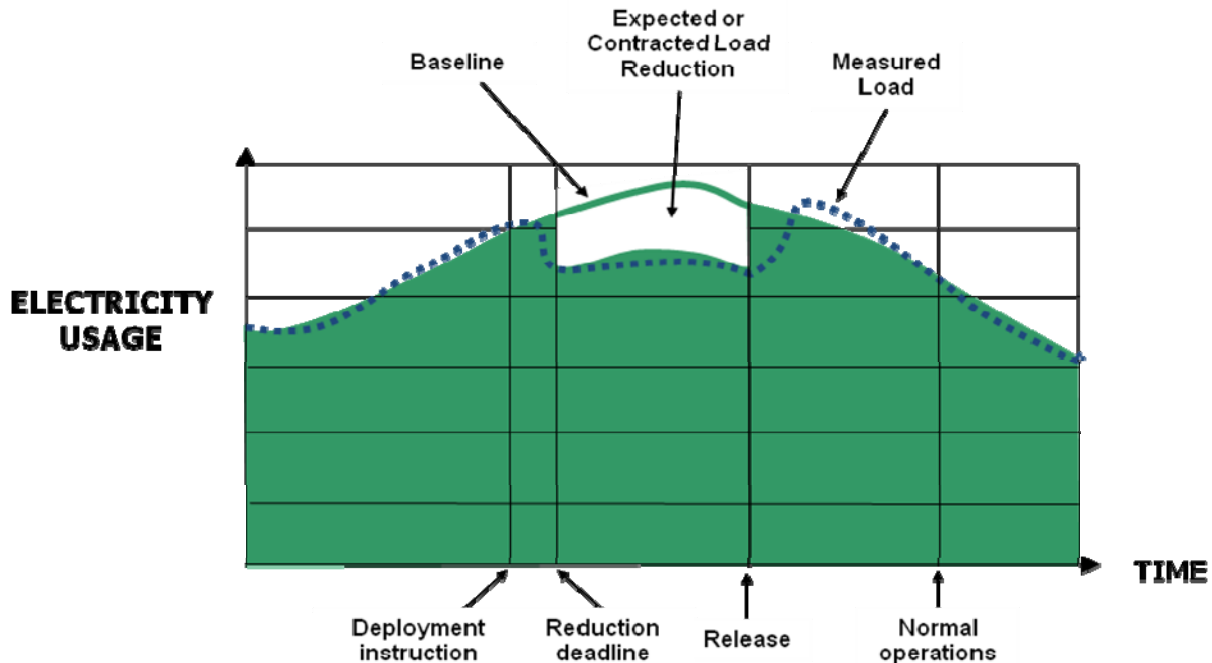


Figure 2. Illustration of Baseline Concept.



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Baseline Adjustment

An adjustment that modifies the Baseline to reflect actual conditions immediately prior to or during a Demand Response Event to provide a better estimate of the energy the Demand Resource would have consumed but for the Demand Response Event. The adjustments may include but are not limited to weather conditions, near real time event facility Load, current Demand Resource operational information, or other parameters based on the System Operator's requirements.

Baseline Type-I (Interval Metered)

A Baseline performance evaluation methodology based on a Demand Resource's historical interval meter data which may also include other variables such as weather and calendar data.

Baseline Type-II (Non-Interval Metered)

A Baseline performance evaluation methodology that uses statistical sampling to estimate the electricity consumption of an Aggregated Demand Resource where interval metering is not available on the entire population.

Baseline Window

The window of time preceding and optionally following, a Demand Response Event over which the electricity consumption data is collected for the purpose of establishing a Baseline. The applicability of this term is limited to Meter Before/Meter After, and Baseline Type-I and Type-II.

Capacity Service

A type of Demand Response service in which Demand Resources are obligated over a defined period of time to be available to provide Demand Response upon deployment by the System Operator.

Demand Response Provider

The entity that is responsible for delivering Demand reductions from Demand Resources and is compensated for providing such Demand Response products in accordance as specified by the System Operator.

Demand

The rate at which electric energy is delivered to or by a system or part of a system, generally expressed in kilowatts or megawatts, at a given instant or averaged over any designated interval of time; and the rate at which energy is being used by the customer (NERC Definition).

Demand Reduction Value

Quantity of reduced electrical consumption by a Demand Resource, expressed as MW or MWh.

Demand Resource

A Load or aggregation of Loads capable of measurably and verifiably providing Demand Response.



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Demand Response

A temporary change in electricity consumption by a Demand Resource in response to market or reliability conditions. For purposes of these standards, Demand Response does not include energy efficiency or permanent Load reduction.

Energy Service

A type of Demand Response service in which Demand Resources are compensated solely based on their performance during a Demand Response Event.

Highly-Variable Load

A Load with a fluctuating or unpredictable electricity consumption pattern.

Load

An end-use device or customer that receives power from the electric system (NERC Definition).

Maximum Base Load

A performance evaluation methodology based solely on a Demand Resource's ability to reduce to a specified level of electricity Demand, regardless of its electricity consumption or Demand at Deployment.

Meter Before / Meter After

A performance evaluation methodology where electricity Demand over a prescribed period of time prior to Deployment is compared to similar readings during the Sustained Response Period.

Meter Data Recording Interval

The time between electricity meter consumption recordings.

Meter Data Reporting Deadline

The maximum allowed time from the end of a Demand Response Event (Normal Operations) to the time when meter data is required to be submitted for performance evaluation and settlement. The Meter Data Reporting Deadline may be either relative (a number of hours/days after Normal Operations) or fixed (a fixed calendar time, such as end-of-month).

Metering Generator Output

A performance evaluation methodology, used when a generation asset is located behind the Demand Resource's revenue meter, in which the Demand Reduction Value is based on the output of the generation asset.

Performance Window

The period of time in a Demand Response Event analyzed by the System Operator to measure and verify the Demand Reduction Value for a Demand Resource.



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Ramp Rate

The rate, expressed in megawatts per minute, that a generator changes its output. (NERC Definition) Demand Resource ramp rate is the rate, expressed in megawatts per minute, that a Demand Resource changes its Load.

Regulation Service

A type of Demand Response service in which a Demand Resource increases and decreases Load in response to real-time signals from the System Operator. Demand Resources providing Regulation Service are subject to dispatch continuously during a commitment period. Provision of Regulation Service does not correlate to Demand Response Event timelines, deadlines and durations as depicted in Figure 1.

Reserve Service

A type of Demand Response service in which Demand Resources are obligated to be available to provide Demand reduction upon deployment by the System Operator, based on reserve capacity requirements that are established to meet applicable reliability standards.

System Operator

A System Operator is a Balancing Authority, Transmission Operator, or Reliability Coordinator whose responsibility is to monitor and control an electric system in real time (based on NERC definition). The System Operator is responsible for initiating Advance Notifications, Deployment, and Release/Recall instructions.

Telemetry

Real-time continuous communication between a Demand Resource or Demand Response Provider and the System Operator.

Telemetry Interval

The time unit between communications between a Demand Resource or Demand Response Provider and a System Operator.

Validation, Editing and Estimation

The process of taking raw meter data and performing validation and, as necessary, editing and estimation of corrupt or missing data, to create validated data. (VEE guidelines are published in the Edison Electric Institute's Uniform Business Practices for Unbundled Electricity Metering, Volume Two, Published 12/05/00, http://www.naesb.org/REQ/req_form.asp)

Business Practice Requirements:

Provision of Wholesale Electric Demand Response Energy Products

Applicability

The Standard applies to any entity that administers wholesale Demand Response Energy Products.



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Purpose

The purpose of this Standard is to ensure that participants in wholesale electric markets in which these Products are administered receive uniform access to information that will enable them to participate in said markets.

015-1.0 GENERAL

- **Advance Notification**

The System Operator shall specify any requirements for the Advance Notification instruction.

- **Deployment Time**

The System Operator shall specify the time at which Demand Resources must begin reducing Demand on the system.

- **Reduction Deadline**

The System Operator shall specify the Reduction Deadline.

- **Release/Recall**

The System Operator shall specify the time at which Demand Resources shall be instructed to begin restoring Load.

- **Normal Operations**

The System Operator shall specify Normal Operations.

- **Demand Resource Availability Measurement**

Not applicable to Energy Service unless otherwise specified by the System Operator.

- **Aggregation**

The System Operator shall specify any requirements for aggregated Demand.

- **Transparency of Requirements**

Any specific requirements shall be defined in a System Operator's tariff, market rules, operating procedures, protocols or manuals and shall be posted in a publicly accessible location.

015-1.1 TELEMETRY

- **Telemetry Requirement**

The System Operator shall specify any requirements for real-time Telemetry, including, but not limited to: the use of real-time Telemetry, the entity or entities responsible for installing and maintaining Telemetry equipment and collecting and communicating Telemetry data.

- **On-Site Generation Telemetry**

If on-site generation is present behind the primary Telemetry point, real-time Telemetry data shall be required to measure performance of the generator unless otherwise specified by the System Operator.



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- **Telemetry Accuracy**

The System Operator shall specify the accuracy of the real-time Demand measurement to be expressed as a percentage of full scale, not to exceed 3.0% .

- **Telemetry Interval**

The System Operator shall specify the Telemetry Interval at a value not to exceed 5 minutes.

- **Other Telemetry Measurements**

The System Operator shall specify any additional Telemetry data requirements.

- **Communication Protocol**

The System Operator shall specify the Telemetry communication protocol.

- **Governor Control Equivalent**

Not applicable to Energy Service unless otherwise specified by the System Operator.

015-1.2 AFTER-THE-FACT METERING

- **After-the-Fact Metering Requirement**

After-the-Fact Metering is required unless otherwise specified by the System Operator.

- **Meter Accuracy**

The System Operator shall specify the accuracy of the After-the-Fact Metering not to exceed 3% of full scale.

- **Details of Meter/Equipment Standards**

Meter/Equipment standards shall meet or exceed industry standards equivalent to ANSI C12 unless otherwise specified by the System Operator.

- **Meter Data Reporting Deadline**

The System Operator shall specify the Meter Data Reporting Deadline.

- **Meter Data Reporting Interval**

The System Operator shall specify the Meter Data Reporting Interval at a value not to exceed 1 hour.

- **Clock / Time Accuracy**

The System Operator shall specify the clock and time accuracy. Clock and time meter/equipment standards shall meet or exceed industry standards equivalent to ANSI C12 unless otherwise specified by the System Operator.

- **Validating, Editing & Estimating (VEE) Method**

The System Operator shall specify VEE requirements.



**RECOMMENDATION TO NAESB EXECUTIVE COMMITTEE
For Quadrant: WEQ**

**December 2, 2008
Requesters: DSM-EE Subcommittee
Request No.: 2008 AP Item 5(a)**

Review and develop business practice standards to support DR and DSM-EE programs

Proposed Standards approved by the subcommittee on December 2, 2008

- **On-Site Generation Meter Requirement**

The System Operator shall specify additional metering requirements if on-site generation is present behind the primary metering point.

015-1.3 PERFORMANCE EVALUATION

- **Rules for Performance Evaluation**

Performance shall be evaluated through the use of one of the following methods unless otherwise specified by the System Operator:

- Maximum Base Load
- Meter Before / Meter After
- Baseline Type-I
- Baseline Type-II
- Metering Generator Output

Business Practice Requirements:

Provision of Wholesale Electric Demand Response Capacity Products

Applicability

The Standard applies to any entity that administers the wholesale Demand Response Capacity Products.

Purpose

The purpose of this Standard is to ensure that participants in wholesale electric markets in which these Products are administered receive uniform access to information that will enable them to participate in said markets.

015-1.4 GENERAL

- **Advance Notification**

The System Operator shall specify any requirements for the Advance Notification instruction.

- **Deployment Time**

The System Operator shall specify the time at which Demand Resources must begin reducing Demand on the system.

- **Reduction Deadline**

The System Operator shall specify the Reduction Deadline.

- **Release/Recall**

The System Operator shall specify the time at which Demand Resources shall be instructed to begin restoring Load.

- **Normal Operations**

The System Operator shall specify Normal Operations.



**RECOMMENDATION TO NAESB EXECUTIVE COMMITTEE
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Review and develop business practice standards to support DR and DSM-EE programs

Proposed Standards approved by the subcommittee on December 2, 2008

- **Demand Resource Availability Measurement**

The System Operator shall specify any requirements for measuring the capability of a Demand Resource to meet its obligation.

- **Aggregation**

The System Operator shall specify any requirements for aggregated Demand Resources.

- **Transparency of Requirements**

Any specific requirements shall be defined in a System Operator's tariff, market rules, operating procedures, protocols or manuals and shall be posted in a publicly accessible location.

015-1.5 TELEMETRY

- **Telemetry Requirement**

The System Operator shall specify any requirements for real-time Telemetry, including, but not limited to: the use of real-time Telemetry, the entity or entities responsible for installing and maintaining Telemetry equipment and collecting and communicating Telemetry data.

- **On-Site Generation Telemetry**

If on-site generation is present behind the primary Telemetry point, real-time Telemetry data shall be required to measure performance of the generator unless otherwise specified by the System Operator.

- **Telemetry Accuracy**

The System Operator shall specify the accuracy of the real-time Demand measurement to be expressed as a percentage of full scale, not to exceed 3.0% .

- **Telemetry Interval**

The System Operator shall specify the Telemetry Interval at a value not to exceed 5 minutes.

- **Other Telemetry Measurements**

The System Operator shall specify any additional Telemetry data requirements.

- **Communication Protocol**

The System Operator shall specify the Telemetry communication protocol.

- **Governor Control Equivalent**

Not applicable to Capacity Service unless otherwise specified by the System Operator.

015-1.6 AFTER-THE-FACT METERING

- **After-the-Fact Metering Requirement**

After-the-fact Metering is required unless otherwise specified by the System Operator.



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Proposed Standards approved by the subcommittee on December 2, 2008

- **Meter Accuracy**

The System Operator shall specify the accuracy of the After-the-Fact Metering not to exceed 3% of full scale.

- **Details of Meter/Equipment Standards**

Meter/Equipment standards shall meet or exceed industry standards equivalent to ANSI C12 unless otherwise specified by the System Operator.

- **Meter Data Reporting Deadline**

The System Operator shall specify the Meter Data Reporting Deadline.

- **Meter Data Reporting Interval**

The System Operator shall specify the Meter Data Reporting Interval at a value not to exceed 1 hour.

- **Clock / Time Accuracy**

The System Operator shall specify the clock and time accuracy. Clock and time meter/equipment standards shall meet or exceed industry standards equivalent to ANSI C12 unless otherwise specified by the System Operator.

- **Validating, Editing & Estimating (VEE) Method**

The System Operator shall specify VEE requirements.

- **On-Site Generation Meter Requirement**

The System Operator shall specify additional metering requirements if on-site generation is present behind the primary metering point.

015-1.7 PERFORMANCE EVALUATION

- **Rules for Performance Evaluation**

Performance shall be evaluated through the use of one of the following methods unless otherwise specified by the System Operator:

- Maximum Base Load
- Meter Before / Meter After
- Baseline Type-I
- Baseline Type-II
- Metering Generator Output



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Request No.: 2008 AP Item 5(a)

Review and develop business practice standards to support DR and DSM-EE programs

Proposed Standards approved by the subcommittee on December 2, 2008

Business Practice Requirements:

Provision of Wholesale Electric Demand Response Reserve Products

Applicability

The Standard applies to any entity that administers the wholesale Demand Response Reserve Products.

Purpose

The purpose of this Standard is to ensure that participants in wholesale electric markets in which these Products are administered receive uniform access to information that will enable them to participate in said markets.

015-1.8 GENERAL

- **Advance Notification**

The System Operator shall specify any requirements for the Advance Notification instruction.

- **Deployment Time**

The System Operator shall specify the time at which Demand Resources must begin reducing Demand on the system.

- **Reduction Deadline**

The System Operator shall specify the Reduction Deadline.

- **Release/Recall**

The System Operator shall specify the time at which Demand Resources shall be instructed to begin restoring Load.

- **Normal Operations**

The System Operator shall specify Normal Operations.

- **Demand Resource Availability Measurement**

The System Operator shall specify any requirements for measuring the capability of a Demand Resource to meet its obligation.

- **Aggregation**

The System Operator shall specify any requirements for Aggregated Demand Resources.

- **Transparency of Requirements**

Any specific requirements shall be defined in a System Operator's tariff, market rules, operating procedures, protocols or manuals and shall be posted in a publicly accessible location.



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Review and develop business practice standards to support DR and DSM-EE programs

Proposed Standards approved by the subcommittee on December 2, 2008

015-1.9 TELEMETRY

- **Telemetry Requirement**
- The System Operator shall specify any requirements for real-time Telemetry, including, but not limited to: the use of real-time Telemetry, the entity or entities responsible for installing and maintaining Telemetry equipment and collecting and communicating Telemetry data
- **On-Site Generation Telemetry**

If on-site generation is present behind the primary telemetry point, real-time Telemetry data shall be required to measure performance of the generator unless otherwise specified by the System Operator.
- **Telemetry Accuracy**

The System Operator shall specify the accuracy of the real-time Demand measurement to be expressed as a percentage of full scale, not to exceed 3.0% .
- **Telemetry Interval**

The System Operator shall specify the Telemetry Interval at a value not to exceed 5 minutes.
- **Other Telemetry Measurements**

The System Operator shall specify any additional Telemetry data requirements.
- **Communication Protocol**

The System Operator shall specify the Telemetry communication protocol.
- **Governor Control Equivalent**

Not applicable to Reserve Service unless otherwise specified by the System Operator.

015-1.10 AFTER-THE-FACT METERING

- **After-the-Fact Metering Requirement**

After-the-fact Metering is required unless otherwise specified by the System Operator.
- **Meter Accuracy**

The System Operator shall specify the accuracy of the After-the-Fact Metering not to exceed 3% of full scale.
- **Details of Meter/Equipment Standards**

Meter/Equipment standards shall meet or exceed industry standards equivalent to ANSI C12 unless otherwise specified by the System Operator.
- **Meter Data Reporting Deadline**

The System Operator shall specify the Meter Data Reporting Deadline.



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Proposed Standards approved by the subcommittee on December 2, 2008

- **Meter Data Reporting Interval**

The System Operator shall specify the Meter Data Reporting Interval at a value not to exceed 1 hour.

- **Clock / Time Accuracy**

The System Operator shall specify the clock and time accuracy. Clock and time meter/equipment standards shall meet or exceed industry standards equivalent to ANSI C12 unless otherwise specified by the System Operator.

- **Validating, Editing & Estimating (VEE) Method**

The System Operator shall specify VEE requirements.

- **On-Site Generation Meter Requirement**

The System Operator shall specify additional metering requirements if on-site generation is present behind the primary metering point.

015-1.11 PERFORMANCE EVALUATION

- **Rules for Performance Evaluation**

Performance shall be evaluated through the use of one of the following methods unless otherwise specified by the System Operator:

- Maximum Base Load
- Meter Before / Meter After
- Baseline Type-I
- Baseline Type-II
- Metering Generator Output

Business Practice Requirements:

Provision of Wholesale Electric Demand Response Regulation Products

Applicability

The Standard applies to any entity that administers the wholesale Demand Response Regulation Products.

Purpose

The purpose of this Standard is to ensure that participants in wholesale electric markets in which these Products are administered receive uniform access to information that will enable them to participate in said markets.

015-1.12 GENERAL

- **Advance Notification**

Not applicable to Regulation Service unless otherwise specified by the System Operator.



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Proposed Standards approved by the subcommittee on December 2, 2008

- **Deployment Time**
Not applicable to Regulation Service unless otherwise specified by the System Operator.
- **Reduction Deadline**
Not applicable to Regulation Service unless otherwise specified by the System Operator.
- **Release/Recall**
Not applicable to Regulation Service unless otherwise specified by the System Operator.
- **Normal Operations**
Not applicable to Regulation Service unless otherwise specified by the System Operator.
- **Demand Resource Availability Measurement**
Not applicable to Regulation Service unless otherwise specified by the System Operator.
- **Aggregation**
The System Operator shall specify any requirements for aggregated Demand Resources.
- **Transparency of Requirements**
Any specific requirements shall be defined in a System Operator's tariff, market rules, operating procedures, protocols or manuals and shall be posted in a publicly accessible location.

015-1.13 TELEMETRY

- **Telemetry Requirement**
The System Operator shall specify any requirements for real-time Telemetry, including, but not limited to: the use of real-time Telemetry, the entity or entities responsible for installing and maintaining Telemetry equipment and collecting and communicating Telemetry data.
- **On-Site Generation Telemetry**
If on-site generation is present behind the primary Telemetry point, real-time Telemetry data shall be required to measure performance of the generator unless otherwise specified by the System Operator.
- **Telemetry Accuracy**
The System Operator shall specify the accuracy of the real-time Demand measurement to be expressed as a percentage of full scale, not to exceed 3.0% .
- **Telemetry Interval**
The System Operator shall specify the Telemetry Interval at a value not to exceed 5 minutes.
- **Other Telemetry Measurements**
The System Operator shall specify any additional Telemetry data requirements.



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Proposed Standards approved by the subcommittee on December 2, 2008

- **Communication Protocol**

The System Operator shall specify the Telemetry communication protocol.

- **Governor Control Equivalent**

Demand Resources providing Regulation Service shall automatically respond to grid frequency deviations, similar to governor action provided by generation resources, unless otherwise specified by the System Operator.

015-1.14 AFTER-THE-FACT METERING

- **After-the-Fact Metering Requirement**

After-the-fact Metering is required unless otherwise specified by the System Operator.

- **Meter Accuracy**

The System Operator shall specify the accuracy of the After-the-Fact Metering not to exceed 3% of full scale.

- **Details of Meter/Equipment Standards**

Meter/Equipment standards shall meet or exceed industry standards equivalent to ANSI C12 unless otherwise specified by the System Operator.

- **Meter Data Reporting Deadline**

The System Operator shall specify the Meter Data Reporting Deadline.

- **Meter Data Reporting Interval**

The System Operator shall specify the Meter Data Reporting Interval at a value not to exceed 1 hour.

- **Clock / Time Accuracy**

The System Operator shall specify the clock and time accuracy. Clock and time meter/equipment standards shall meet or exceed industry standards equivalent to ANSI C12 unless otherwise specified by the System Operator.

- **Validating, Editing & Estimating (VEE) Method**

The System Operator shall specify VEE requirements.

- **On-Site Generation Meter Requirement**

The System Operator shall specify additional metering requirements if on-site generation is present behind the primary metering point.

015-1.15 PERFORMANCE EVALUATION

- **Rules for Performance Evaluation**

Performance shall be evaluated using telemetry data and additionally through the use of one of the following methods unless otherwise specified by the System Operator:



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Proposed Standards approved by the subcommittee on December 2, 2008

- Meter Before / Meter After
- Metering Generator Output



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Proposed Standards approved by the subcommittee on December 2, 2008

Business Practice Requirements

Maximum Base Load Evaluation

015-1.16 BASELINE INFORMATION

There are no Baseline calculations defined for Maximum Base Load evaluations. The Maximum Base Load Evaluation methodology shall be associated with a demand reduction obligation compared to the Demand Resource's average Load or as specified by the System Operator.

015-1.17 EVENT INFORMATION

• **Use of Real-Time Telemetry**

The System Operator shall specify if real-time Telemetry data is to be used to measure performance.

• **Use of After-The-Fact Metering**

After-the-fact metering shall be used to measure performance, unless otherwise specified by the System Operator.

• **Performance Window**

The Performance Window shall be the Sustained Response Period (Reduction Deadline through Release/Recall) unless otherwise specified by the System Operator.

• **Measurement Type**

During the Performance Window, the Demand Resource must maintain its electricity consumption at or below the Maximum Base Load. The criteria used to evaluate performance shall be one of the following unless otherwise specified by the System Operator:

- a) Peak Demand
- b) Average Demand

015-1.18 SPECIAL PROCESSING

The System Operator shall specify any special processing rules.

Business Practice Requirements

Meter Before / Meter After

015-1.19 BASELINE INFORMATION

• **Baseline Window**

The System Operator shall specify the Baseline Window.



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- **Calculation Type**

During the Baseline Window, the energy consumption or Demand of the Demand Resource shall be evaluated using one of the following measurements unless otherwise specified by the System Operator:

- a) Instantaneous
- b) Maximum
- c) Average

- **Sampling Precision and Accuracy**

Sampling is not permitted for this performance evaluation type, unless otherwise specified by the System Operator.

- **Exclusion Rules**

The System Operator shall specify any exclusion rules.

- **Baseline Adjustments**

The System Operator shall specify any event-day adjustments.

- **Adjustment Window**

No Adjustment Window is used for this model unless otherwise specified by the System Operator.

015-1.20 EVENT INFORMATION

- **Use of real-time Telemetry**

The System Operator shall specify if real-time Telemetry data is to be used to measure performance.

- **Use of After-The-Fact Metering**

After-the-fact metering shall be used to measure performance, unless otherwise specified by the System Operator.

- **Performance Window**

The Performance Window shall be the Sustained Response Period (Reduction Deadline through Release/Recall) unless otherwise specified by the System Operator.

- **Measurement Type**

During the Performance Window, the Demand Resource shall be evaluated using one of the following measurements unless otherwise specified by the System Operator:

- a) Instantaneous
- b) Maximum
- c) Average



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015-1.21 SPECIAL PROCESSING

- **Highly-Variable Load Logic**

The System Operator shall specify any performance evaluation requirements for Highly-Variable Loads.

- **On-Site Generation Requirements**

The System Operator shall specify any performance evaluation requirements for on-site generation.

Business Practice Requirements

Baseline Type-I (Interval Meter)

015-1.22 BASELINE INFORMATION

- **Baseline Window**

The System Operator shall specify the Baseline Window.

- **Calculation Type**

The System Operator shall specify the method of developing the Baseline value using, but not limited to, the following calculation types:

- a) Maximum
- b) Average
- c) Regression

- **Sampling Precision and Accuracy**

Sampling is not permitted for this Performance Evaluation type, unless otherwise specified by the System Operator.

- **Exclusion Rules**

The System Operator shall specify any rules for excluding data from the Baseline Window. Exclusion rules may be based on, but are not limited to the following:

- a) Historical Demand Response Events
- b) Testing/Audit Periods
- c) Calendar data
- d) Outages
- e) Weather emergencies or force majeure events
- f) Usage threshold
- g) Known, discrete load additions or reductions that have occurred during the Baseline Window

- **Baseline Adjustments**

The System Operator shall specify any rules for Baseline Adjustments. Adjustment rules may be based on, but are not limited to the following:

- a) Temperature



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- b) Humidity
- c) Calendar data
- d) Sunrise/Sunset time
- e) Event day operating conditions

- **Adjustment Window**

The System Operator shall specify the Adjustment Window.

015-1.23 EVENT INFORMATION

- **Use of Real-Time Telemetry**

The System Operator shall specify if real-time Telemetry data is to be used to measure performance.

- **Use of After-The-Fact Metering**

After-the-fact metering shall be used to measure performance, unless otherwise specified by the System Operator.

- **Performance Window**

The System Operator shall specify the Performance Window.

- **Measurement Type**

During the Performance Window, the Demand Resource shall be evaluated using one of the following measurements unless otherwise specified by the System Operator:

- a) Maximum
- b) Average
- c) Regression

015-1.24 SPECIAL PROCESSING

- **Highly-Variable Load Logic**

The System Operator may specify performance evaluation requirements for Highly-Variable Loads.

- **On-Site Generation Requirements**

The System Operator may specify performance evaluation requirements for on-site generation.

Business Practice Requirements

Baseline Type-II (Non-Interval Meter)

015-1.25 BASELINE INFORMATION

- **Baseline Window**

The System Operator shall specify the Baseline Window.



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- **Calculation Type**

The System Operator shall specify the method of developing the Baseline value using, but not limited to, the following calculation types:

- a) Maximum
- b) Average
- c) Regression

- **Sampling Precision and Accuracy**

The System Operator shall specify sampling precision and accuracy requirements.

- **Exclusion Rules**

The System Operator shall specify any rules for excluding data from the Baseline Window. Exclusion rules may be based on, but are not limited to the following:

- a) Historical Demand Response Events
- b) Testing/Audit Periods
- c) Calendar data
- d) Outages
- e) Weather emergencies or force majeure events
- f) Usage threshold
- g) Known, discrete load additions or reductions that have occurred during the Baseline Window

- **Baseline Adjustments**

The System Operator shall specify any rules for Baseline Adjustments. Adjustment rules may be based on, but are not limited to the following:

- a) Temperature
- b) Humidity
- c) Calendar data
- d) Sunrise/Sunset time
- e) Event day operating conditions

- **Adjustment Window**

The System Operator shall specify the Adjustment Window.

015-1.26 EVENT INFORMATION

- **Use of Real-Time Telemetry**

The System Operator shall specify if real-time Telemetry data is to be used to measure performance.

- **Use of After-The-Fact Metering**

After-the-fact metering or other energy measurement technology shall be used to measure performance, as a supplement to real-time Telemetry unless otherwise specified by the System Operator.

- **Performance Window**



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The System Operator shall specify the Performance Window.

- **Measurement Type**

During the Performance Window, the Demand Resource shall be evaluated using one of the following measurements unless otherwise specified by the System Operator:

- a) Maximum
- b) Average
- c) Regression

015-1.27 SPECIAL PROCESSING

The System Operator shall specify any special processing rules.

Business Practice Requirements

Metering Generator Output

015-1.28 BASELINE INFORMATION

The System Operator shall specify Baseline calculations for Metering Generator Output.

015-1.29 EVENT INFORMATION

- **Use of Real-Time Telemetry**

The System Operator shall specify if real-time Telemetry data is to be used to measure performance.

- **Use of After-The-Fact Metering**

After-the-fact metering on the generator and optionally on the associated Load shall be used to measure performance unless otherwise specified by the System Operator.

- **Performance Window**

The System Operator shall specify the Performance Window.

- **Measurement Type**

During the Performance Window, the Demand Resource shall be evaluated using the total measured generation output unless otherwise specified by the System Operator.

015-1.30 SPECIAL PROCESSING

The System Operator shall specify any special processing rules.

Attachment 10

North American Electric Reliability Corporation (NERC)

Proposed Additions to NERC Functional Model:

Demand Resource Operations/Operator
Demand Resource Ownership/Owner

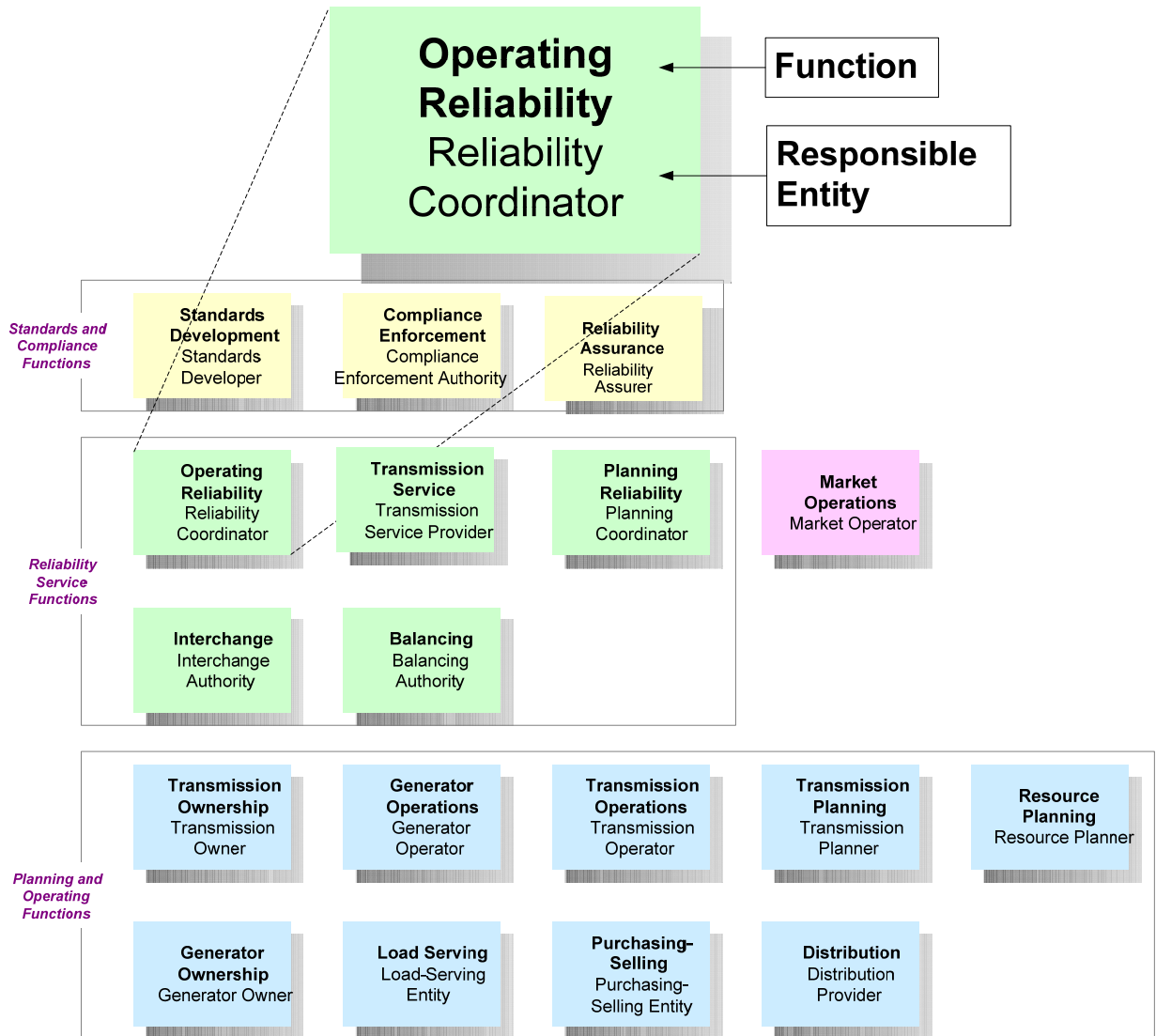


Figure 3 – Function and Responsible Entity

Function – Demand Resource Operations

Definition

Operate demand resource(s) to provide reductions in load.

Tasks

1. Formulate daily demand resource plan.
2. Report operating and availability status of demand resources.
3. Develop annual maintenance plan for demand resources and perform the day-to-day maintenance.
4. Operate demand resources generators to provide load reductions per contracts or arrangements.
5. Monitor the status of facilities classed as demand resources.

Responsible Entity – Demand Resource Operator

Introduction to the Demand Resource Operator

The Demand Resource Operator is responsible for the implementation, operation and maintenance of demand resources under its purview within a Balancing Authority Area. The Demand Resource Operator has the authority to take certain actions to ensure that its demand resources operate reliably.

Relationships with Other Responsible Entities

Ahead of Time

1. Provides demand resource commitment plans to the Balancing Authority.
2. Provides Balancing Authority and Transmission Operators with requested amount of reliability-related demand resources.
3. Provides operating and availability status of demand resources to Balancing Authority and Transmission Operators for reliability analysis.
4. Reports annual maintenance plan for demand resources to Reliability Coordinator, Balancing Authority and Transmission Operators.
6. Provides operational data to Reliability Coordinator.
7. Revises demand resource maintenance plans per directive of Reliability Coordinator.
8. Receives reliability analyses from Reliability Coordinator.
10. Receives reliability alerts from Reliability Coordinator.

Real Time

11. Provides real-time operating information on demand resources to the Transmission Operators and the required Balancing Authority.
12. Adjusts load reductions as directed by the Balancing Authority and Transmission Operators.

Function – Demand Resource Ownership

Definition

Owns and provides for maintenance of demand resources.

Tasks

1. Establish demand resource load reduction ratings, limits, and operating requirements.
2. Authorize maintenance of owned facilities classified as demand resources.
3. Provide verified performance characteristics / data on demand resources.

Responsible Entity – Demand Resource Owner

Introduction to the Demand Resource Owner

Owns and provides for maintenance of demand resources.

Relationship with Other Responsible Entities

1. Coordinates with Transmission Planners and the Planning Coordinator, Distribution Providers, Load-Serving Entities, Balancing Authority, to implement demand resources with the bulk power system.
2. Develops agreements or procedures with the Balancing Authority.
3. Develops operating agreements or procedures with the Balancing Authority, Reliability Coordinators and Distribution Providers.
4. Provides demand resource expansion plans and changes to the Planning Coordinator and Balancing Authority.
5. Provides demand resource ratings and performance characteristics to Transmission Operators, Reliability Coordinators, Transmission Service Providers, Distribution Providers, Transmission Planners, and Planning Coordinator.
6. Provides demand resource construction plans and schedules to the Balancing Authority.
7. Provides demand resource maintenance plans and schedules to the Balancing Authority.
8. If appropriate for the demand resource, develops interconnection agreements with the Distribution Providers for connecting to the bulk power system.

Changes to Sections for Planning Coordinator, Transmission Planner, Resource Planner

Relationships with Other Responsible Entities:

Collects information including:

- a. Transmission facility characteristics and ratings from the Transmission Owners, Transmission Planners, and Transmission Operators.
- b. Demand and energy forecasts, capacity resources, and demand response programs from Load-Serving Entities, and Resource Planners.
- c. Generator unit performance characteristics and capabilities from Generator Owners.
- d. Demand Resource performance characteristics and capabilities from Demand Resource Owners, Load-Serving Entities, and Distribution Providers.
- d. Long-term capacity purchases and sales from Transmission Service Providers.

Changes to Sections for Balancing Authority

Tasks

1. Control any of the following combinations within a reliability area:
 - a. Load and generation (an isolated system)
 - b. Load and scheduled Interchange
 - c. Generation and scheduled Interchange
 - d. Generation, load, and scheduled Interchange
2. Calculate area control error within the reliability area.
3. Operate in the reliability area to maintain load-interchange-generation balance.
4. Review generation [and demand resource](#) commitments, dispatch, and load forecasts.
5. Formulate an operational plan (generation [and demand resource](#) commitment, outages, etc.) for reliability evaluation.
6. Approve, Interchange Transactions from ramping ability perspective
7. Implement Interchange schedules by incorporating those schedules into its ACE calculation.
8. Operate the reliability area to support Interconnection frequency.
9. Monitor and report control performance and disturbance recovery.
10. Provide balancing and energy accounting (including hourly checkout of Interchange schedules and actual interchange), and administer inadvertent energy paybacks.
11. Determine needs for reliability-related services.
12. Deploy reliability-related services.
13. Implement emergency procedures.

Relationships with Other Responsible Entities:

Ahead of Time

1. Receives operating and availability status of generating [and demand resource](#) units and operational plans and commitments from Generator Operators, [Demand Resource Operators, Load-Serving Entities, and Distribution Providers](#). (including annual maintenance plans) within the Balancing Authority Area.
2. Receives reliability evaluations from the Reliability Coordinator.

3. Receives approved valid, and balanced Interchange Schedules from the Interchange Authorities.
4. Compiles load forecasts from Load-Serving Entities.
5. Develops agreements with adjacent Balancing Authorities for ACE calculation parameters.
6. Submits integrated operational plans to the Reliability Coordinator for reliability evaluation and provides balancing information to the Reliability Coordinator for monitoring.
7. Confirms Interchange Schedules with Interchange Authorities.
8. Confirms ramping capability with Interchange Authorities.
9. Implements generator and demand resource commitment and dispatch schedules from the Load-Serving Entities, Demand Resource Operators, Distribution Providers and Generator Operators who have arranged for generation within the Balancing Authority Area.
10. Acquires reliability-related services from Generator Operator and Demand Resource Operator.
11. Receives dispatch adjustments from Reliability Coordinators to prevent exceeding limits.
12. Receives generator information from Generator Owners including unit maintenance schedules and retirement plans.
13. Receives demand resource information from Demand Resource Owners, Load Serving Entities and Distribution Providers including resource maintenance schedules and retirement plans.
13. Receives information from Load Serving Entities on self-provided reliability-related services.
14. Coordinates system restoration plans with Transmission Operator.
15. Provides generation and demand resource dispatch to Reliability Coordinators.
16. Receives final approval or denial of Interchange Schedules from Interchange Authority.

Real Time

17. Coordinates use of controllable loads with Demand Resource Operators, Distribution Providers and Load-Serving Entities (i.e., interruptible load that has been bid in as a reliability-related service or has agreed to participate in voluntary load shedding program under resource/reserve deficiency situations).
18. Receives loss allocation from Transmission Service Providers (for repayment with in-kind losses).
19. Receives real-time operating information from the Transmission Operator, adjacent Balancing Authorities, ~~and~~ Generator Operators and Demand Resource Operators.
20. Receives operating information from Generator Operators and Demand Resource Operators.

Attachment 11

ELCON INFO MEMO

Date: November 24, 2008

To: Member Representatives & Technical Committee

From: John Hughes, Email: jhughes@elcon.org

Subject: NERC Compliance Registry

FERC has issued two decisions that may impact future application of NERC's Statement of Compliance Registry Criteria to industrial entities such as retail marketing affiliates and behind the meter generators.

Retail Marketing Affiliates

On October 16, FERC approved NERC's second attempt to resolve the registration of retail power markets. It did so by requiring Distribution Providers (DPs)--the utility-owners of the T&D systems used to physically deliver power to end users--to also register as NERC-defined Load-Serving Entities (LSEs). The DPs will be required to account for all power deliveries whether or not they or their affiliates actually sell the power to end-users served by such facilities. Last year, NERC and the Reliability First Corporation (RFC) attempted to require the registration of three retail power marketers (Direct Energy Services, LLC; Sempra Energy Solutions, LLC; and Strategic Energy, LLC) as Load-Serving Entities (LSEs). The three marketers had agreed to registration as Purchasing-Selling Entities (PSEs), which by definition do not own utility-like assets. FERC agreed with the marketers that the threshold determinant for registration as an LSE was asset ownership and the three marketers did not own the requisite assets.

NERC's application of the term LSE is not to be confused with the same term as might apply in restructured states. Several ELCON members with direct access rights have established a retail marketing affiliate (often referred to as "load-serving entities" under state restructuring policies or ISO/RTO business practices). Absent the ownership of assets used to physically deliver power to end-use loads, such entities should be registered as PSEs, not as NERC-defined LSEs. One ELCON member is presently trying to correct this inadvertent mis-registration and ELCON staff has provided the company with guidance needed for re-registration. Note that the most onerous aspects of compliance with mandatory NERC reliability standards deal with asset ownership.

The October 16 Order on Compliance Filing is in FERC Docket Nos. RC07-4-003, RC-7-6-003 and RC07-7-003. Contact ELCON staff if you would like a copy of the order.

Behind-the-Meter Generation

On November 20, FERC remanded to NERC a decision in which NERC found that ERCOT's Regional Entity registered a power marketer as a Generator Operator (GO). The marketer, Constellation Energy Commodities Group, Inc., has a Tolling Agreement with Power Resources, a generation owner. Constellation is also registered with the ERCOT ISO as a "Level 4 Qualified Scheduling Entity," which is responsible for communicating the generator's schedule to the ISO. At issue is the degree to which Constellation exercises "generation operator" responsibilities and therefore may share the responsibilities for complying with NERC standards (for the Generation Operator or GOP function) with Power Resources. FERC remanded the decision back to NERC because "the record in this proceeding is insufficient for a complete decision on the merits." Based on similar FERC remands in the last two years, NERC will likely engage its stakeholder process in amending the Statement of Compliance Registry Criteria and/or modifying the NERC Functional Model, which defines the specific utility-like functions that require registration. If any ELCON member believes that they may be in a similar situation as Constellation, I urge them to contact me at jhughes@elcon.org.

The November 20 Order Remanding Compliance Registry Determination to the Electric Reliability Organization is in FERC Docket No. RC08-7-000. Contact ELCON staff if you would like a copy of the order.

Energy Washington Week

exclusive news on national energy policy

Wednesday, December 03, 2008

Broad Coalition Shaping Grid Upgrade Plan Aimed At Congress, Obama

A broad group of environmentalists, labor, electric utilities, renewable energy companies and others is developing a major consensus proposal for delivery to Congress and President-elect Barack Obama's administration on upgrading the U.S. electric grid, including a likely recommendation for a high-voltage federal backbone grid to move renewable energy and various "smart grid" technologies. Energy Department experts -- including FERC officials -- have provided technical expertise to the effort.

If adopted, the proposals would have significant implications for FERC and state public utility commissions, given the overlapping jurisdictional issues, cost allocation and recovery, and the multitude of policy questions the groups is tackling.

The effort -- managed by the influential Energy Future Coalition (EFC), which is known for bringing together disparate interests to find consensus on energy policy issues -- comes at a time of growing interest in a "21st century grid" to help the U.S. achieve greater energy independence and deal with climate change issues, key priorities of the Obama administration. Building a higher-level grid is also linked to jobs creation efforts through a "green energy economy" that many environmentalists and a growing number of political leaders -- including Obama -- have been touting. EFC believes in the current political climate there is a strong emphasis on finding areas of agreement and moving forward.

"You can't have a green energy economy without substantial upgrades to the transmission grids," to make transmission available for wind, solar, plug-in hybrid electric vehicles, energy efficient appliances in homes and offices, and other clean technologies, says an EFC source.

The source says EFC's effort builds on the group's long-standing interest in upgrading the grid and, over the last several months, has brought together representatives from PG&E, the Center for American Progress, labor unions such as the AFL-CIO, Intel, GridWise, large individual investors such as T.Boone Pickens and other organizations and individuals active in energy policy to have "intensive discussions" on persuading Congress and the Obama administration to upgrade the grid.

The effort has focused on two main areas. First, "There's a whole set of things we need to do to make the grid smart," to enable it to have the capacity for metering people's electricity in a sophisticated way in their homes, to have two-way communications, to handle plug-in electric vehicles, and other such things, the source says.

Second, “We need to look at how we're going to deliver renewable energy, typically produced in rural areas, to the metropolitan areas where the electricity is used.” This will require investing in electricity transmission corridors, which “likely” will mean a federal high-voltage transmission system, the source says. Both federal and state governments will have to be involved in the planning, siting, and funding issues such a transmission system would involve, the source adds.

While there isn't agreement yet among all the groups EFC has involved in its discussions, the goal is to determine if there is consensus among a broad group for action on upgrading the grid,

At a Nov. 18 Hill briefing sponsored by the NDN, “a progressive think tank and advocacy organization,” EFC's executive director Reid Detchon commented that “this is a topic ready to go” and anticipated 90 percent consensus and 10 percent issues that will be “bitterly fought over.”

In most places today, the grid is incapable of handling the variety of advanced “smart grid” technologies needed to achieve the kind of integrated, two-way system many experts are discussing, the EFC source says. “We see the opportunity for a pretty major revolution in the way that we use the grid if we can get it upgraded,” saving “tons of money, tons of energy, reducing greenhouse gases, creating jobs -- there's a broad set of benefits,” the source adds.

Once the consensus policy recommendations are completed -- EFC hopes “before the [Christmas] holiday season,” though it has set no formal deadline -- the plan is to take them to Congress and the Obama administration because discussions on energy policy are moving fast. Obama is talking about a \$500 billion stimulus package, which is being considered in the EFC discussions, but some aspects of the proposals will require longer time frames. EFC is looking to influence what is expected to be rapidly moving energy legislation. Senate energy committee chairman Sen. Jeff Bingaman (D-NM) has said grid upgrade issues will be a priority in the committee.

Among the most important issues the group has been reviewing is what jurisdiction FERC has today and what gaps exist in its authority -- “what FERC can and can't do today,” the source says. “Clearly, that's going to be a critical set of issues to advancing this [grid upgrade],” including sorting out the roles of states and the federal government. “On the one hand, there's a national interest in trying to move this forward,” in part because most of the renewable energy markets “aren't even in the states that generate the electricity so at least regional, if not national, transmission is needed,” the source says, noting that previous Congresses have acted on the issue through “national interest electric transmission corridor” provisions in the 2005 energy law. But states also zealously guard their jurisdiction.

In addition, the 2007 energy law calls for smart grid demonstration projects but none have happened yet. The key is to figure out which technologies are ready to go. On the issue of transmission to move renewable energy, the questions include how to develop a plan for deciding where high-voltage transmission is needed, how to site the lines, and how to ensure cost recovery for investors.

Attachment 13



Proposed 2009 Dates for Technical Committee Meetings & Conference Calls

January 7 Conference Call
February 3-4 Workshop and Annual Meeting
March 3 Meeting with FERC/Hill Visits
April 1 Conference Call
May 13 Conference Call
June 2-3 Workshop and Member Meetings
September 9 Meeting with FERC/Hill Visits
October 20-21 Workshop and Member Meetings
November 11 Conference Call
December 9 Conference Call

Note: All dates except March 3rd meeting are on a Wednesday. March, June and October meetings may be combined with Board/Member meetings.