REPORT OF THE DEMAND-SIDE RESOURCES & SMART GRID COMMITTEE

This report summarizes a selection of legislative and regulatory developments at the federal and state level in the areas of Smart Grid and demand-side resources during 2011.*

I. SMART GRID DEVELOPMENTS

A. Federal Activity

1. FERC and NIST Smart Grid Activity

In July 2011, the Federal Energy Regulatory Commission (FERC) issued an order[1] finding that there was insufficient consensus to adopt standards to insure smart-grid functionality and interoperability in interstate transmission of electric power from among five "families" of standards under consideration.[2] The FERC decided not to institute a rulemaking proceeding with respect to these standards and terminated the docket, Docket No. RM11-2-000.[3] The five families of standards had previously been "identified as ready for consideration by

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1. *Smart Grid Interoperability Standards*, 136 F.E.R.C. ¶ 61,039 at P 1 (2011) [hereinafter *Smart Grid*] (Smart Grid Interoperability Standards Order).

2. *See generally*, *id.* at P 5 n.7. The five families of standards and their functions are:

- IEC 61970 and IEC 61968: Providing a Common Information Model (CIM) necessary for exchanges of data between devices and networks, primarily in the transmission (IEC 61970) and distribution (IEC 61968) domains;
- IEC 61850: Facilitating substation automation and communication as well as interoperability through a common data format;
- IEC 60870-6: Facilitating exchanges of information between control centers; and
- IEC 62351: Addressing the cyber security of the communication protocols defined by the preceding IEC standards.

NIST Identifies Five "Foundational" Smart Grid Standards, NAT'L INST. OF STANDARDS & TECH. (Dec. 7, 2010), http://www.nist.gov/public_affairs/ releases/smartgrid_ 100710.cfm.

3. *Smart Grid*, *supra* note 1, at P 13.

regulatory authorities by the National Institute of Standards and Technology (NIST)"[4] pursuant to the Energy Independence and Security Act of 2007 (EISA).[5]

The EISA directs the FERC, once it is satisfied that the NIST's work has led to "sufficient consensus" on Smart Grid interoperability standards, to "institute a rulemaking proceeding to adopt such standards and protocols as may be necessary to insure smart-grid functionality and interoperability in interstate transmission of electric power, and regional and wholesale electricity markets."[6] Relying upon "information gathered at technical conferences held on November 14, 2010 and January 31, 2011 in [Docket No. RM11-2-000] and on responses to the Supplemental Notice Requesting Comments issued February 16, 2011 (Supplemental Notice) seeking additional information on [S]mart [G]rid interoperability standards and the standards development process,"[7] the FERC determined that sufficient consensus was lacking to allow such a rulemaking on the standards.[8] The FERC "encourage[d] utilities, [S]mart [G]rid product manufacturers, regulators, and other [S]mart [G]rid stakeholders to actively participate in the NIST interoperability framework process,"[9] "including the work of the [NIST's Smart Grid Interoperability Panel (SGIP)] and its committees and working groups," finding it to be "the best vehicle for developing [S]mart [G]rid interoperability standards."[10]

In October 2011, the NIST released a *NIST Framework and Roadmap for Smart Grid Interoperability Standards, Release 2.0*, "detail[ing] progress made in Phases II and III of the NIST's three-phase plan since the establishment of the Smart Grid Interoperability Panel (SGIP) in November 2009."[11] Among the report's contents were a description of existing standards and emerging specifications applicable to the Smart Grid,[12] including twenty-two new standards, specifications, and guidelines in addition to the seventy-five the NIST had recommended as immediately applicable to the Smart Grid in the first Roadmap.[13] A new chapter, *Framework for Smart Grid Interoperability Testing and Certification*, provides details on an assessment of existing Smart Grid standards testing programs and offers high-level guidance for the development of a testing and certification framework.[14]

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4. *Id.* at P 1.

5. Energy Independence and Security Act of 2007 (EISA), Pub. L. No. 110-140, § 1305, 121 Stat. 1492, 1787 (2007).

6. *Id.* § 1305(d) (codified at 15 U.S.C. § 17,385(d)).

7. *Smart Grid*, *supra* note 1, at P 1.

8. *Id.*

9. *Id.* at P 11.

10. *Id.* at P 10.

11. NIST, U.S. DEP'T OF COMMERCE, NIST FRAMEWORK AND ROADMAP FOR SMART GRID INTEROPERABILITY STANDARDS, RELEASE 2.0 at 6 (2011) [hereinafter RELEASE 2.0], *available at* http://collaborate.nist.gov/twiki-sggrid/pub/SmartGrid/IKBFramework/Draft_NIST_Framework_Release_20_10-17-2011.pdf.

12. *See generally*, *id.* at ch. 4.

13. NIST, U.S. DEP'T OF COMMERCE, NIST FRAMEWORK AND ROADMAP FOR SMART GRID INTEROPERABILITY STANDARDS, RELEASE 1.0 at 50-73 (2010), *available at* http://www.nist.gov/public_affairs/releases/upload/smartgrid_interoperability_final.pdf.

14. *See generally* RELEASE 2.0, *supra* note 11, at ch. 7.

2. New NAESB Standards

Coordinated with the NIST effort to develop interoperability standards in response to the EISA were standards developed by the North American Energy Standards Board (NAESB). The NAESB created two additional interoperability standards in 2011 to complement the suite of NAESB Smart Grid work products. With the support of the National Association of Regulatory Utility Commissioners (NARUC), the NAESB developed the Third Party Access to Smart Meter-Based Information standard, which provides voluntary model business practices for the disclosure of smart meter-based information to third party service providers and the privacy practices that should be employed by those third party service providers and the distribution companies disseminating such information.[15] The standard was finalized on August 8, 2011 and was referenced in the Smart Grid Principles resolution adopted by several standing Committees of NARUC as "a good reference point when developing such rules."[16]

In a parallel effort, the NAESB developed the Energy Services Provider Interface standard.[17] The standard includes model business practices, a data model and an Extensible Markup Language schema that define the mechanisms for the exchange of energy usage information between consumers, third party service providers, and distribution companies.[18] The purpose of the standard is to provide "a consistent and broadly applicable interface" that will enable third party service providers and distribution companies to exchange energy usage information upon authorization by the consumer.[19] The standard was adopted by the NAESB on October 17, 2011 and has received support from the Office of Science and Technology Policy through their Green Button Initiative, which was designed to encourage distribution companies to provide consumers timely access to their energy usage information.[20] In response, several California utilities have developed an application based upon the NAESB standard that will allow consumers to gain access to their usage information through a green button hyperlink provided on the utilities' websites.[21]

3. White House Policy Framework for the 21st Century Grid

In June 2011, the Executive Office of the President of the United States (Administration) issued a report entitled *A Policy Framework for the 21st Century Grid: Enabling Our Secure Energy Future* (Report).[22] This Report

15. NAESB, THIRD PARTY ACCESS TO SMART METER-BASED INFORMATION (2011), *available at* http://www.naesb.org/misc/r10012_rec.pdf.

16. NARUC, RESOLUTION ON SMART GRID PRINCIPLES 3 (2011), *available at* http://www.naruc.org/Resolutions/Resolution%20on%20Smart%20Grid%20Principles.pdf.

17. *See generally* Press Release, NAESB, NAESB Announcement on the ESPI Standard and the Green Button Initiative (Jan. 19, 2012), *available at* http://www.naesb.org/pdf4/011912press_release.pdf.

18. *See generally* NAESB, REQ 21: ENERGY SERVICES PROVIDER INTERFACE STANDARD 2-3 (2011), *available at* http://www.naesb.org/pdf4/r10008_rec_070711.docx.

19. *Id.* at 2.

20. Nick Sinai, Office of Sci. & Tech. Policy, *Empowering Customers with a Green Button*, WHITEHOUSE.GOV (Nov. 21, 2011, 4:53 PM), http://www.whitehouse.gov/blog/2011/11/21/empowering-customers-green-button.

21. *Id.*

22. EXEC. OFFICE OF THE PRESIDENT OF THE UNITED STATES, A POLICY FRAMEWORK FOR THE 21ST CENTURY GRID: ENABLING OUR SECURE ENERGY FUTURE (2011), *available at* http://www.whitehouse.gov/ad

includes a brief summary of progress on improving the United States' electric grid and then discusses enabling cost-effective Smart Grid investments, innovation, customer empowerment, stakeholder cooperation, and security.[23] The Report states the Administration's view that "[a] smarter, modernized, and expanded grid will be pivotal to the United States' world leadership in a clean energy future."[24] The Report states that there are generally three types of Smart Grid technology: (1) "advanced information and communication technologies;" (2) "advanced metering solutions;" and (3) "technologies, devices, and services that access and leverage energy usage information, such as smart appliances."[25] The Report states that the Administration believes that this technology facilitates a clean energy economy, saves consumers money, improves reliability, and leads to innovation and job creation.[26]

The Report explains that building on the policies in the EISA and the American Recovery and Reinvestment Act of 2009, the Administration has identified a four pillar framework to modernize the aging grid.[27] Those four pillars are: (1) Enabling cost-effective Smart Grid investments; (2) Unlocking the potential for innovation in the electric sector; (3) Empowering consumers and enabling them to make informed decisions; and (4) Securing the grid.[28] The Report then examines how these pillars fit together to support a better energy grid. The following actions are described as necessary to support these four pillars:

1. Enabling Cost-Effective Smart Grid Investments:
    a. "[R]egulators should . . . consider strategies to align market and utility incentives" with energy investment, to give utilities "a strong incentive to sell less energy" and increase efficiency.[29]
    b. Federal government investment in research and development. The Report did add, though, that to avoid one utility being overburdened with this research and development responsibility, it seeks to assist facilitation of industry wide innovation and creation of paths to commercialization.[30]
    c. Information sharing, assisted by the Federal government, and creation of centralized, public information repositories on Smart Grid deployments.[31]
2. Unlocking Innovation:
    a. Federal government continued effort to act as a catalyst for "development and adoption of open [Smart Grid] standards."[32]

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ministration/eop/ostp/pressroom/06132011 (providing the materials published in relation to this Report).

23. *Id.* at 1-7.
24. *Id.* at v.
25. *Id.* at 1.
26. *Id.*
27. *Id.* at 2-4.
28. *Id.* at 3-5.
29. *Id.* at 3, 17-20.
30. *Id.* at 3, 20-22.
31. *Id.* at 3, 22-24.

b. "Federal, state, and local officials should strive to reduce generation costs associated with providing power" in peak times and "encourage participation in demand management programs." This action item argues that consumers lack the information or incentive to shift consumption and therefore overlaps with the pillar related to empowering consumers.[33]

c. Monitoring "[S]mart [G]rid and smart energy initiatives to protect consumers . . . and prevent anti-competitive practices."[34]

3. Empowering Consumers and Enabling Informed Decision Making:

a. "State and Federal policymakers should evaluate" means to encourage consumer education about the Smart Grid. The Report notes that "many state regulators are . . . requiring education . . . programs as a condition of authorizing [S]mart [G]rid deployments.[35]

b. State regulators and policymakers should focus on developing means of ensuring timely customer access to and control over machine readable information on their energy consumption. This is geared toward developing a standard, easily readable and accessible method for delivering energy usage data.[36]

c. State and Federal regulators should consider methods to ensure that consumer devices make it easier for users to manage consumption.[37]

d. "State and Federal regulators should . . . [encourage] methods to ensure" data privacy "consistent with Fair Information Practice Principles (FIPP)." The Report states that "[t]he Administration supports legislation that would make FIPPs the baseline for" privacy protection in "sectors not currently under sector-specific Federal privacy statutes.[38]

e. "State and Federal policymakers and regulators should consider . . . updating . . . consumer protection [policies to account] for [S]mart [G]rid technologies." The Report states that this could include regulations relating to bill disputes and health/safety issues associated with disconnection, among other things.[39]

4. Securing the Grid:

a. Federal government efforts to develop "rigorous, open standards and guidelines for cyber-security through public-

32. *Id.* at 4, 25-26.
33. *Id.* at 4, 26-30, 37-40.
34. *Id.* at 4, 35, 46-47.
35. *Id.* at 4.
36. *Id.* at 5, 40-43.
37. *Id.* at 5, 43-46.
38. *Id.* at 5, 46-47.
39. *Id.* 5, 47-49.

private cooperation." The Report adds that this is part of a goal to develop an overall policy framework consistent with cyber-security legislation.[40]

b. Federal government and stakeholder cooperation to create what the Report terms "a rigorous, performance based cybersecurity culture . . . [that] include[es] active risk management, performance evaluations [(meaning simulations to test vulnerabilities)] and ongoing monitoring."[41]

The Report thus includes a mixture of state and regulatory action items that necessitate cooperation with industry stakeholders and consumers to succeed.[42] Smart Grid success stories are sprinkled throughout the Report to demonstrate ways that utilities or consumers benefited from Smart Grid technology or Smart Grid-related addressed challenges.[43] The Report concludes with a note that at the end of 2011, the Department of Energy (DOE) would provide the White House National Science and Technology Council's Committee on Technology with a status report on its implementation of the framework and that the DOE would continue to explore new policy and technology recommendations.[44] That status report has not yet been published.

B. State Activities

1. Northeast

In Connecticut, Public Act 07-242, An Act Concerning Electricity and Energy Efficiency, required each of the two state electric utilities to submit a plan to deploy an advanced metering system.[45] The Connecticut Public Utility Regulatory Authority (CT PURA, then the Department of Public Utility Control) approved The United Illuminating Company's (UI) plan, which proposed to use its existing metering system to support net metering, time-of-use rates, and certain real-time rate structures, along with certain enhancements in communications, billing, and metering.[46] The CT PURA initially rejected the proposal of Connecticut Light & Power Company (CL&P), which would have required more significant up-front investment, opting instead "to have CL&P

40. *Id.* 5, 49-50.

41. *Id.* 6, 50.

42. *See, e.g.*, *id.* at 7, 51-60.

43. *See, e.g.*, *id.* at 9 (on the Salt River Project), at 16 (describing the Naperville Smart Grid Initiative in Illinois), at 22 (Department of Defense Twentynine Palms micro grid installation); at n.43 (describing the National Rural Electric Cooperative Association's statement that demand response programs have saved cooperative members hundreds of millions of dollars); at 42 (on Texas smart meter investment); at 43 (Harker Upper School in San Jose, California's energy usage monitoring); at 52 (Oklahoma Gas & Electric pilot distribution automation systems resulting in reductions in outage times).

44. *Id.* at 64.

45. An Act Concerning Electricity and Energy Efficiency, 2007 Conn. Pub. Acts 242, at § 98.

46. Application of The United Illuminating Company for Approval of Metering Plan, Conn. Dep't of Pub. Util. Control Docket No. 07-07-02 at 16-17 (Mar. 19, 2008), *available at* http://www.dpuc.state.ct.us/dockhist.nsf/eef41f934bd1050c85256b0b005d8923/fe5f4ae7301437458525745600 4da0e1?OpenDocument&Highlight=0,07-07-02.

study the technical capabilities of" advanced metering and customer responses to alternatives to rate design through pilot programs.[47]

The results of these pilot programs were examined by the CT PURA recently in a re-opened proceeding, and the CT PURA again rejected CL&P's plan in a draft decision.[48] Before the final decision was issued, however, the newly formed Department of Energy and Environmental Protection (CT DEEP) requested that the proceeding be suspended while the CT DEEP's Bureau of Energy and Technology Policy establishes the state's smart meter policy, as described in Public Act 11-80.[49] The CT PURA granted that request on September 8, 2011.[50] The CT PURA also granted a similar request made in the UI smart metering docket, which had been closed in March 2008.[51]

In 2010, the Massachusetts Department of Public Utilities (MA DPU) created the Smart Grid Pilot Evaluation Working Group (Working Group) to "to maximize the value of the smart grid pilots as a whole . . . [by] establish[ing] a framework that provides for the ability to compare results across all pilot programs proposed in the state."[52] In March 2011, the Working Group filed with the MA DPU the "evaluation framework" it created for the Smart Grid pilots.[53] The evaluation framework was in the form of three consensus documents: (1) the Common Evaluation Framework, which

> establishes the framework for the collection of data relating to the results of the Smart Grid Pilots, [but] does not intend to establish or quantify whether, or the extent to which, the data gathered from the pilots can be used in isolation to project system wide benefits and costs for a full deployment of Smart Grid technologies;[54]

(2) Appendix A of the Common Evaluation Framework, which contains template tables of information that will be collected and reported by each of the companies participating in pilot programs;[55] and (3) Pre-Pilot Survey Questions to provide a "minimum set of consistent data [to] facilitate post-Pilot cross-utility comparisons" for uniform data collection.[56]

On May 17, 2011, the Maine Public Utilities Commission (Maine PUC) ordered Central Maine Power Company (CMP) to allow customers to "opt out"

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47. Application of the Connecticut Light and Power Company to Implement Time of Use, Interruptible or Load Response, and Seasonal Rates - Review of Metering Plan, Conn. Dep't of Pub. Util. Control Docket No. 05-10-03RE01 at 28 (Dec. 19, 2007), *available at* http://www.dpuc.state.ct.us/dockhist.nsf/eef41f934bd1050c85256b0b005d8923/a24d9ae97c5dbe668525759100621e8c?OpenDocument&Highlight=0,05-10-03RE01.

48. Draft Decision, Application of the Connecticut Light and Power Company to Implement Time of Use, Interruptible or Load Response, and Seasonal Rates - Review of Meter Study, Deployment Plan and Rate Pilot, Conn. PURA Docket No. 05-10-03RE04 at 3 (Aug. 29, 2011).

49. Motion Nos. 2 and 3, filed by the Department of Energy and Environmental Protection in Docket No. 05-10-03RE04 on August 31, 2011 and September 1, 2011, respectively; *available at* http://www.dpuc.state.ct.us/dockcurr.nsf/(Web%20Main%20View%5CAll%20Dockets)?OpenView&Start=118.1.16.

50. Letter Ruling of Kimberley J. Santopietro, Conn. PURA Docket No. 05-10-03RE04 (Sept. 8, 2001), *available at* http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/b5bbf1ac1171611f852579050055dd0f?OpenDocument.

51. Letter Ruling of Kimberley J. Santopietro, Conn. PURA Docket No. 07-07-02 (Sept. 7, 2011), *available at* http://www.dpuc.state.ct.us/dockhist.nsf/8e6fc37a54110e3e852576190052b64d/23f5b418991cd4cc85257904005efd10?OpenDocument.

52. *See generally*, *NSTAR Elec. Co.*, Mass. D.P.U. Docket No. 09-33 at 39-40 (Mar. 15, 2010).

53. MASS. SMART GRID COLLABORATIVE TECHNICAL SUBCOMM., COMMON EVALUATION FRAMEWORK (2011), *available at* http://www.env.state.ma.us/dpu/docs/electric/10-82/32311msfl.pdf.

54. *Id.* at 3.

55. *Id.* at app. A.

56. *Id.* at Pre-Pilot Survey Questions, at 1.

if they do not want a wireless smart meter.[57] More specifically, the Maine PUC ordered that customers will have four options: (1) CMP's standard smart meter (no extra charge); (2) retain existing analog meter (charge associated with this option); (3) CMP's standard meter with the transmitter off (charge associated with this option); or (4) relocate CMP's standard meter.[58] The Maine PUC issued this Order in response to numerous complaints from customers relating to health and privacy concerns.[59]

2. Mid-Western and Western United States

In July 2011, the California Public Utilities Commission (CPUC) adopted rules to protect the privacy and security of customer data generated by Smart Meters.[60] The rules adopted by the CPUC "implement[ed] the protections ordered by Senate Bill 1476 (Chapter 497, Statutes of 2010),"[61] which

> require . . . electrical corporations [to] provide customers with a privacy notice, detailing the purpose for which data is collected and shared, how the data may be used by the utility, how long the data will be retained, how a customer can dispute errors in the data, and how a customer can authorize a third party to access their usage data.[62]

This law also requires electrical corporations to file annual reports detailing all security breaches of customer information.[63]

Also in 2011, California enacted Senate Bill 674, which focuses on telecommunications but also provides that "[a]n electrical corporation or gas corporation shall not share, disclose, or otherwise make accessible to any third party a customer's electrical or gas consumption data, except [aggregated customer data for reporting or analysis purposes] or upon the consent of the customer."[64] The term "electrical or gas consumption data" is defined as "data about a customer's electrical or natural gas usage that is made available as part of an advanced metering infrastructure, and includes the name, account number, or residence of the customer."[65]

The Colorado Public Utilities Commission recently adopted similar privacy protections, which require utilities in that state to obtain informed customer consent before they can share a customer's Smart Grid data with third parties.[66] At the same time, Colorado's newly adopted rules do grant the utilities,

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57. Order (Part 1), Me. PUC Docket Nos. 2010-345 et al. at 2 (May 19, 2011), *available at* http://mpuc.informe.org/easyfile/easyweb.php?func=easyweb_docview&docid=91516&img_rng=236222&vol_id=1; *see also* Office of the Pub. Advocate, *Smart Grid/Meter Info: PUC Approves Smart Meter Opt Out Program*, MAINE.GOV, http://www.maine.gov/meopa/smartgrid/index.shtml (last visited Feb. 24, 2012).

58. Order (Part 1), *supra* note 57, at 2-3; *see also* Office of the Pub. Advocate, *supra* note 57.

59. Order (Part 1), *supra* note 57, at 2.

60. *See generally* CAL. PUB. UTIL. COMM'N, REPORT TO THE GOVERNOR & THE LEGISLATURE: 2011 SMART GRID REPORT (2011), *available at* http://www.cpuc.ca.gov/NR/rdonlyres/3B475B48-58CF-4541-9ACE-2EEA7B374336/0/SmartGridAnnualReporttotheGovernorandtheLegislature.pdf.

61. *Id.* at 4.

62. *Id.* at 4-5.

63. *Id.* at 5.

64. S.B. 674, 2011-2012 Leg., Reg. Sess. at sec. 3, § 8380(b)(1) (Cal. 2011).

65. *Id.* § 8380(a).

66. Order on Exceptions, Colo. PUC Docket No. 10R-799E at ¶¶ 2-3 (Oct. 17, 2011), *available at* https://www.dora.state.co.us/pls/efi/EFI_Search_UI.Search; *see also* Nicole Friess, *Colorado PUC Holds Hearing on Smart Grid Privacy Rules*, INFOLAWGROUP (Oct. 18, 2012), http://www.infolawgroup.com/2011/10/articles/data-privacy-law-or-regulation/colorado-puc-holds-hearing-on-smart-grid-privacy-rules/.

themselves, with broad discretion to use customer data for a variety of Smart Grid purposes.[67]

In May 2011, Oklahoma enacted the Electric Utility Data Protection Act (Oklahoma Act).[68] The Oklahoma Act establishes standards for access to and use of electric utility usage data, requiring utilities to provide customers with reasonable access to "standard usage information," and *may* provide access, upon written request, to "nonstandard usage data," which would include any customer-specific data that is not provided to all similarly situated customers on a regulatory basis.[69] The Oklahoma Act differs from other recent state meter data privacy acts in that it stipulates that the utility owns usage data, that the utility may provide access to affiliates and third-parties who are assisting the utility in its business purpose without customer consent, so long as the third party agrees to maintain the information in confidence, and that the utility can charge a fee to provide nonstandard usage data to customers.[70]

In October 2011, Illinois lawmakers overrode a veto by Governor Pat Quinn to pass Public Act 097-0616, An Act Concerning Public Utilities (Illinois Act), which, among other things, includes provisions relating to Smart Grid development.[71] The Illinois Act states that "it is the policy of this State that significant investments must be made in the State's electric grid over the next decade to modernize and upgrade transmission and distribution facilities in the State."[72] It authorizes implementation of a ten year, $2.6 billion electric system upgrade and modernization, including deployment of Smart Grid technology within the state and mandates the creation of 2,500 in-state jobs during the peak development period.[73]

II. DEMAND RESPONSE DEVELOPMENTS

A. Federal Activities

In March 2011, the FERC issued a Final Rule amending its regulations to ensure that demand response resources participating in organized wholesale energy markets administered by a Regional Transmission Organization (RTO) or Independent System Operator (ISO) are compensated for service they provide to an energy market at the market price for energy under certain circumstances.[74]

The FERC

67. Order on Exceptions, *supra* note 66 ; *see also* Friess, *supra* note 66.

68. H.B. 1072, 52d Leg., 1st Sess. (Okla. 2011), *available at* http://webserver1.lsb.state.ok.us/cf/2011-12%20ENGR/hB/HB1079%20ENGR.DOC.

69. *Id.* §§ 3(8)-(9), 4(A).

70. *Id.* §§ 5, 6.

71. *Bill Status of SB 1652*, ILL. GEN. ASSEMB., http://www.ilga.gov/legislation/billstatus.asp?DocNum=1652&GAID=11&GA=97&DocTypeID=SB&LegID=57620&SessionID=84 (last visited Feb. 25, 2012).

72. Pub. Act 97-0616, § 16-108.5(a), 2011 Ill. Legis. Serv. P.A. 97-616 (S.B. 1652) (West), *available at* http://www.ilga.gov/legislation/publicacts/97/PDF/097-0616.pdf.

73. *Id.* § 16-108.5(b).

74. Order No. 745, *Demand Response Compensation in Organized Wholesale Energy Markets*, F.E.R.C. STATS. & REGS. ¶ 31,322, 76 Fed. Reg. 16,658 (2011) (to be codified at 18 C.F.R. pt. 35), *order on reh'g and clarification*, 137 F.E.R.C. ¶ 61,215 (2011) [hereinafter Order 745-A].

> conclude[d] that when a demand response resource participating in an organized wholesale energy market[75] administered by an RTO or ISO has the capability to balance supply and demand as an alternative to a generation resource and when dispatch of that demand response resource is cost-effective as determined by the net benefits test described [in the Final Rule], that demand response resource must be compensated for the service it provides to the energy market at the market price for energy, referred to as the locational marginal price (LMP).[76]

The FERC said that it "is not requiring the use of this compensation approach when demand response resources do not satisfy the capability and cost-effectiveness conditions noted above."[77]

The FERC said that the

> cost-effectiveness condition, as determined by a net benefits test . . . , recognizes that, depending on the change in LMP relative to the size of the energy market, dispatching demand response resources may result in an increased cost per unit ($/MWh) to the remaining wholesale load associated with the decreased amount of load paying the bill, . . . [which] is the case because customers are billed for energy based on the units, MWh, of electricity consumed.[78]

The FERC

> refer[s] to this potential result as the billing unit effect of dispatching demand response. By contrast, dispatching generation resources does not produce this billing unit effect because it does not result in a decrease of load. To address this billing unit effect, [the FERC's] Final Rule requires the use of the net benefits test to ensure that the overall benefit of the reduced LMP that results from dispatching demand response resources exceeds the cost of dispatching and paying LMP to those resources. When the net benefits test . . . is satisfied and the demand response resource clears in the RTO's or ISO's economic dispatch, the demand response resource is a cost-effective alternative to generation resources for balancing supply and demand.[79]

"To implement the net benefits test, . . . [the FERC] direct[ed] each RTO and ISO to develop a mechanism as an approximation to determine a price level at which the dispatch of demand response resources will be cost-effective."[80]

The "Final Rule also sets forth a method for allocating the costs of demand response payments among all customers who benefit from the lower LMP resulting from the demand response."[81]

The FERC ordered RTOs and ISOs to file compliance filings with

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75. The FERC clarified that "[t]he requirements of [the] Final Rule apply only to a demand response resource participating in a day-ahead or real-time energy market administered by an RTO or ISO." F.E.R.C. STATS. & REGS. ¶ 31,322 at P 2 n.4.

> Thus, the Final Rule does not apply to compensation for demand response under programs that RTOs and ISOs administer for reliability or emergency conditions, such as, for instance, Midwest ISO's Emergency Demand Response, NYISO's Emergency Demand Response Program, and PJM's Emergency Load Response Program. The Final Rule also does not apply to compensation in ancillary services markets.

Id.

76. *Id.* at P 2 (footnotes omitted). The FERC stated that "LMP refers to the price calculated by the ISO or RTO at particular locations or electrical nodes or zones within the ISO or RTO footprint and is used as the market price to compensate generators." *Id.* at P 2 n.5. The FERC stated that the Final Rule was not "intended to change RTO and ISO methods for calculating LMP." *Id.*

77. *Id.* at P 2.

78. *Id.* at P 3.

79. *Id.*

80. *Id.* at P 4.

81. *Id.* at P 5.

> tariff changes needed to implement the compensation approach required in the Final Rule, including the net benefits test, measurement and verification explanation and proposed changes, and the cost allocation mechanism, on or before July 22, 2011, . . . [with the same to] become effective prospectively from the date of the Commission order addressing that filing, and not within 60 days of submission.[82]

The FERC also

> require[d] each RTO and ISO to undertake a study examining the requirements for and impacts of implementing a dynamic approach which incorporates the billing unit effect in the dispatch algorithm to determine when paying demand response resources the LMP results in net benefits to customers in both the day-ahead and real-time energy markets.[83]

The results of this study are to be filed by RTOs and ISOs with the FERC on or before September 21, 2012.[84]

In December 2011, the FERC issued an order denying rehearing of Order No. 745 (the Final Rule), but "grant[ing] in part and deny[ing] in part clarification regarding certain provisions of the [Final Rule]."[85] In the context of the applicability of Order No. 745 to circumstances when it is not cost-effective to dispatch demand response resources, the FERC clarified that "each RTO and ISO must revise its tariff to provide that when the LMP is greater than or equal to the threshold price, all demand resources that qualify for compensation will receive the LMP payment."[86] However, "if the LMP is less than the threshold price, the Final Rule does not apply to determine the payment to a demand response resource, and any payment will be governed by the existing RTO or ISO tariff."[87]

In November 2011, FERC staff issued its sixth annual Staff Report assessing demand response and advanced metering.[88] The Staff Report stated that the FERC "reviewed information from a variety of sources to develop this year's report."[89] The Staff Report

> provides information on demand response and advanced metering with an emphasis on results, activities, and regulatory actions taken over the last year. Based on the information reviewed, [the FERC stated that] it appears that:
>
> - The penetration of advanced meters is up from 8.7 percent in 2009 to 13.4 percent;
> - Demand response potential in organized markets operated by the Electric Reliability Council of Texas (ERCOT), RTOs, and ISOs increased by more than 16 percent since 2009;
> - Demand responded to peak load emergency conditions in ERCOT and the RTO and ISO organized markets; and

82. *Id.* at P 6.

83. *Id.* at P 7.

84. *Id.*

85. Order No. 745-A, *supra* note 74, at P 1.

86. *Id.* at P 131 (footnote omitted).

87. *Id.*

88. FERC, 2011 ASSESSMENT OF DEMAND RESPONSE AND ADVANCED METERING: STAFF REPORT (2011). The report fulfills a requirement of the Energy Policy Act of 2005, Pub. L. No. 109-58, § 1252(e)(3), 119 Stat. 594 (2005) (EPAct 2005, section 1252(e)(3)), which mandates that the FERC prepare and publish an annual report, by appropriate region, that assesses electricity demand response resources, including those available from all consumer classes. *See generally*, *id.* at 1, n.1.

89. *Id.* at 1 (footnote omitted).

- Federal and state regulators and others continue to focus on demand response, taking actions to remove barriers to wholesale demand response and develop policies to address the Smart Grid.[90]

The Staff Report found that "potential resource contribution by demand response in [RTO] and [ISO] markets operat[ing] in the U.S. increased by more than 16 percent from 27,189 megawatts (MW) in 2009 to 31,702 MW in 2010."[91]

The Staff Report noted that the FERC

> continues to ensure that demand resources are provided comparable treatment and that Order No. 1000, issued July 2011, reaffirms Order No. 890's requirement for public utility transmission providers to consider all types of resources, including demand response and energy efficiency, on a comparable basis in transmission planning. Order No. 1000 requires the comparable consideration of transmission and non-transmission alternatives in the regional transmission planning process.[92]

On July 5, 2011, FERC staff together with DOE staff sent a comprehensive proposal to implement the National Action Plan on Demand Response (Implementation Plan) to Congress.[93] As directed by section 529 of the EISA, the Implementation Plan reaffirms the need for action identified in the National Action Plan[94] and identifies the appropriate roles and leadership required to accomplish action in three areas: (1) technical assistance to states; (2) a national communications program; and (3) the identification or development of tools and materials for use by customers, states, and demand response providers.[95]

A key aspect of the Implementation Plan is the reliance on non-federal organizations.[96] The lead responsibility for implementing many of the activities has been left primarily to the private sector, ideally through a broad coalition of demand response stakeholders (such as the National Action Plan Coalition), or any private or non-federal governmental organizations that coordinate and cooperate to implement the National Action Plan.[97] The Implementation Plan also identifies areas where FERC staff and the DOE can leverage existing initiatives and public programs related to demand response to accomplish the actions identified in the National Action Plan.[98]

B. State Activities

In an order issued on August 22, 2011,[99] the Maryland Public Service Commission (MD PSC) ordered that demand response service providers, or "Curtailment Service Providers ('CSPs') operating within [the State] qualify as 'electricity suppliers' under PUA § 1-101(j) and shall be licensed as electricity

90. *Id.*

91. *Id.* at 9.

92. *Id.* at 12 (footnote omitted).

93. FERC & DOE, IMPLEMENTATION PROPOSAL FOR THE NATIONAL ACTION PLAN ON DEMAND RESPONSE (2011) [hereinafter IMPLEMENTATION PLAN], *available at* http://www.ferc.gov/legal/staff-reports/07-11-dr-action-plan.pdf.

94. FERC, NATIONAL ACTION PLAN ON DEMAND RESPONSE (2010), *available at* http://www.ferc.gov/legal/staff-reports/06-17-10-demand-response.pdf.

95. IMPLEMENTATION PLAN, *supra* note 93, at 1.

96. *Id.* at iii.

97. *Id.* at ii-v.

98. *Id.* at iii, 17.

99. Order No. 84,275, *In re an Investigation of the Regulation of Curtailment Service Providers*, Md. PSC Case No. 9241 (Aug. 22, 2011).

suppliers as a condition of doing business in this State."[100] The MD PSC ordered staff to propose amendments to the supplier license application to make it applicable to CSPs and required all CSPs operating in the state to file license applications within ninety days of approval of the amended application form.[101]

In late 2008, the Indiana Utility Regulatory Commission (IURC) initiated a generic investigation into the issues surrounding end-user participation in the demand response programs of the two RTOs (MISO and PJM) in which its jurisdictional utilities participate.[102] Among the focal points of this investigation were: (1) whether end users should be permitted to participate *directly* in RTO programs; and (2) the potential need to modify the retail tariffs of these state-jurisdictional utilities to coordinate such end user participation.[103] This enquiry culminated in a July 28, 2010 order concluding that, particularly in light of Indiana's reliance on the traditional vertically integrated regulatory model, end users should *not* be permitted to participate directly in RTO demand response programs and that, to fully involve the retail utilities in end user participation in these programs, each such utility should file an enabling tariff rider with *pro forma* participation agreements.[104] This directive led to the filing of demand response tariff riders by five Indiana-franchised utilities: four participating in MISO (Northern Indiana Public Service Co. (NIPSCO); Indianapolis Power & Light Co (IPL); Duke Energy Indiana, Inc.; and Vectren Energy Delivery of Indiana) and one in PJM (Indiana Michigan Power Co.).[105] Each of these companies saw their proposed demand response tariff rider approved in 2011. NIPSCO, Duke Energy Indiana, Vectren, and IPL went further than the generic July 28 order required and explicitly included participation by Aggregators of Retail Consumes (ARCs), as well as individual end users, in order to facilitate involvement by medium and smaller users.[106] The approved riders addressed participation in both the RTO's energy (sometimes referred to as "economic"

100. *Id.* at 10.

101. *Id.*

102. Final Agenda, *In re Commission's Investigation into any and all Matters Related to Commission Approval of Participation by Indiana End-Use Customers in Demand Response Programs Offered by the Midwest ISO and PJM Interconnection*, Ind. Util. Regulatory Comm'n Cause No. 43,566 (Oct. 8, 2008), *available at* http://www.in.gov/iurc/files/a100808f.htm. The state's enquiry took cognizance of the FERC's Order No. 719, in which the Commission required RTOs/ISOs to take steps to facilitate the participation of demand response providers, on a "comparable" basis, in a region's energy, capacity, and ancillary services markets. *See generally* Order No. 719, *Wholesale Competition in Regions with Organized Electric Markets*, F.E.R.C. STATS. & REGS. ¶ 31,281, 73 Fed. Reg. 64,100 (2008), *order on reh'g*, Order No. 719-A, F.E.R.C. STATS. & REGS. ¶ 31,292 74 Fed. Reg. 37,776 (2009) (codified at 18 C.F.R. pt. 35).

103. Order, Ind. Util. Regulatory Comm'n Cause No. 43,566 at 2-3 (July 28, 2010)

104. *Id.* at 51-52.

105. *See generally* Demand Response Tariff Compliance Filing of NIPSCO, Ind. Util. Regulatory Comm'n Cause No. 43,566-MISO-1 (Dec. 10, 2010, *approved* Mar. 2, 2011); Respondent IPL's Initial Tariff Filing and Request for Approval of Rider 23, Ind. Util. Regulatory Comm'n Cause No. 43,566-MISO-2 (Dec. 13, 2010, *approved* Mar. 2, 2011); Respondent Duke Energy Indiana, Inc.'s Initial Tariff Filing and Request of Approval of Rider, Ind. Util. Regulatory Comm'n Cause No. 43,566-MISO-3 (Dec. 13, 2010, *approved* Mar. 2, 2011); Respondent Vectren Energy Delivery of Indiana, Inc.'s Initial Tariff Compliance Filing and Request for Approval of Rider DR, Ind. Util. Regulatory Comm'n Cause No. 43,566-MISO-4 (Dec. 13, 2010, *approved* Mar. 2, 2011); Respondent Indiana Michigan Power Company's Initial Tariff Compliance Filing and Request for Approval of Rider D.R.S. 1, Ind. Util. Regulatory Comm'n Cause No. 43,566-PJM-1 (Oct. 18, 2010, *approved* Apr. 27, 2011 for Phase I, May 18, 2011 for Phase II, & Oct. 5, 2011 for Phase III).

106. *See generally* Compliance Filings in Cause Nos. 43,566-MISO-1, 43,566-MISO-2, 43,566-MISO-3, and 43,566-MISO-4, *supra* note 105.

demand response) and capacity (*i.e.*, emergency demand response) markets.[107] The IURC also required all the utilities to submit a report evaluating their experience with the new riders by October 31, 2012.[108]

The Missouri Public Service Commission adopted a series of rules in 2011 to implement the provisions of the Missouri Energy Efficiency Investment Act, which was passed in 2009.[109] These rules provide a new framework to govern the state's demand-side programs and demand-side programs investment mechanisms.[110]

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107. *See generally* Orders in Cause No. 43,566-PJM-1, *supra* note 105.

108. *See generally* Orders in Cause No. 43,566-MISO-1, *supra* note 105, at 4; Cause No. 43,566-MISO-2, *supra* note 105, at 7; Cause No. 43,566-MISO-3, *supra* note 105, at 5; Cause No. 43,566-MISO-4, *supra* note 105, at 6.

109. Press Release, Mo. Pub. Serv. Comm'n, PR-11-121 -- PSC Adopts New Energy Efficiency Investment Rules (Feb. 10, 2011), *available at* http://psc.mo.gov/press-releases/electric/pr-11-121-psc-adopts-new-energy-efficiency-investment-rules/?searchterm=Case%20No.%20EX-2010-0368; *see also* S.B. 376, 95th Gen. Assemb., 1st Reg. Sess. (Mo. 2009).

110. Final Order of Rulemaking, *In re the Consideration and Implementation of Section 393.1075, the Missouri Energy Efficiency Investment Act*, Mo. PSC Case No. EX-2010-0368 (Feb. 9, 2011), *available at* https://www.efis.psc.mo.gov/mpsc/commoncomponents/view_itemno_details.asp?caseno=EX-2010-0368&attach_id=2011014184.