

REPORT OF THE RENEWABLE ENERGY COMMITTEE

This report covers events that occurred during calendar year 2010. The first part reviews federal and state legislative and regulatory developments that affect renewable energy in a broad sense. The second part deals with developments and issues in three technology-specific areas: offshore wind, solar, and energy storage.*

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I. FEDERAL LEGISLATIVE AND REGULATORY DEVELOPMENTS

A. Federal Legislation and Its Implementation

In 2010, Congress extended¹ certain timelines established in the American Recovery and Reinvestment Act of 2009 (ARRA).² The ARRA itself had extended the Production Tax Credit (PTC) for electricity produced from renewable sources by making it available for wind projects in service by December 31, 2012 and for most other renewable projects through December 31, 2013.³ The ARRA also created an alternative Investment Tax Credit (ITC) and made it available for the same projects.⁴ The ARRA also included a separate section 1603 credit,⁵ and it established a \$6 billion loan guarantee program under sections 1703 and 1705 to be managed by the Department of Energy (DOE).⁶

The section 1603 program has reportedly supported 1,386 different renewable projects through 2010 with an investment of \$5.44 billion.⁷ The

1. Tax Relief Unemployment Insurance Reauthorization and Job Creation Act of 2010, Pub. L. No. 111-312, § 707, 124 Stat. 3296 (2010).

2. American Recovery and Reinvestment Act of 2009 (ARRA), Pub. L. No. 111-5, § 123, 123 Stat. 115 (2009).

3. *Id.* § 1101, 123 Stat. at 319.

4. *Id.* § 1102, 123 Stat. at 319-20.

5. *Id.* § 1603, 123 Stat. at 364-66.

6. *Id.* § 201, 123 Stat. at 140; Energy Policy Act of 2005 (EPAct 2005, as amended), Pub. L. No. 109-58, 119 Stat. 594 (2005), §§ 1703, 1705 (section 406 of the ARRA amended Title XVII of EPAct 2005 to add § 1705).

7. See generally DOE, *The Financing Force Behind America's Clean Energy Economy* (2010), available at http://po.energy.gov/?page_id=45; Kimberly J. Heimert, Attorney Advisor, DOE Loan Guarantee

section 1603 program has been extended for two more years for construction begun prior to the end of 2011.⁸ The DOE loan guarantee program under sections 1703 and 1705 has reportedly supported eight fully negotiated and signed projects now under construction, with 32 additional “conditional commitments” to projects still in the process of due diligence review and final terms negotiation.⁹

By June 2010, the U.S. House of Representatives had passed its version of cap and trade legislation, while the U.S. Senate had a separate version under consideration.¹⁰ Additional draft energy legislation was introduced,¹¹ but, except for the section 1603 program extension, neither cap and trade nor any of the new proposals were adopted. As 2010 came to a close, the renewable energy industry released a series of reports¹² advocating a long-term and more comprehensive federal policy.¹³

B. Federal Regulatory Developments

In 2010, the Federal Energy Regulatory Commission (FERC) issued a series of rulemakings and orders addressed at identifying and removing potential barriers to the delivery of renewable energy.

1. FERC Notice of Proposed Rulemaking: Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities

On June 17, 2010, the FERC issued a Notice of Proposed Rulemaking on Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities.¹⁴ According to the NOPR,

[t]he proposed reforms are intended to correct deficiencies in transmission planning and cost allocation processes so that the transmission grid can better support wholesale power markets and thereby ensure that Commission-jurisdictional

Office, Oral Remarks at the Energy Bar Association Mid-Year Meeting (Dec. 9, 2010); Jeffrey Ryser, Long Odds Seen for Renewable Subsidy Extension, *ELECTRIC POWER DAILY*, Nov. 5, 2010.

8. *See generally* Tax Relief Unemployment Insurance Reauthorization and Job Creation Act of 2010, Pub. L. No. 111-312, § 707, 124 Stat. 3296 (2010).

9. *Supra* text accompanying note 8.

10. American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 101 (2009); American Clean Energy and Leadership Act of 2009, S. 3738, 111th Cong. § 132 (2009).

11. *See generally* Renewable Electricity Promotion Act of 2010, S. 3813, 111th Cong. (2010); Advanced Energy Tax Incentives Act of 2010, S. 3935, 111th Cong. (2010); A Bill to Amend the Internal Revenue Code to Provide Incentives for Clean Energy Manufacturing, to Reduce Emissions, to Produce Renewable Energy, to Promote Conservation and for Other Purposes, S. 3738, 111th Cong. (2010).

12. *See generally* AM. WIND ENERGY ASS’N, *Wind Energy for A New Era – An Agenda for the New President and Congress*, <http://www.newwindagenda.org/> (last visited Mar. 21, 2011); Press Release, Am. Wind Energy Ass’n, Statement from Denise Bode CEO, American Wind Energy Association, on the Restoration of Incentives for Renewable Energy (Dec. 10, 2010), http://www.americanwindenergyassociation.net/rn_release_12-10-10.cfm; *see also*, SOLAR ENERGY INDUS. ASS’N, http://seia.org/cs/federal_issues/treasury_grant_program (follow “Federal Issues” hyperlink); GEOTHERMAL ENERGY ASS’N, *GEA 2011 Policy Priorities*, <http://geo-energy.org/priorities.aspx> (last visited Mar. 21, 2011).

13. *See generally* Practical Energy and Climate Plan Act of 2010, S. 3464, 111th Cong. (2010).

14. Notice of Proposed Rulemaking, *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, F.E.R.C. STATS. & REGS. ¶ 32,660, 75 Fed. Reg. 37,884 (2010) (to be codified at 18 C.F.R. pt. 35).

services are provided at rates, terms and conditions that are just and reasonable and not unduly discriminatory or preferential.¹⁵

The NOPR is also directed at examining how changes to the transmission planning process could facilitate the integration of renewable generation.¹⁶

a) Transmission Planning Reforms

The FERC proposed new regional transmission planning requirements to address “transmission needs driven by public policy requirements established by state or federal laws or regulations[,] . . . coordination between neighboring transmission planning regions . . . with respect to facilities that are proposed to be located in both regions, as well as interregional facilities,”¹⁷ and removal from FERC-jurisdictional transmission operating documents of a right of first refusal that, according to the FERC, may provide “an incumbent utility with an undue advantage over nonincumbent transmission project developers.”¹⁸

i. Regional Planning Process

In the Transmission Planning and Cost Allocation NOPR, the FERC recognized that the current lack of a requirement for a regional transmission plan could hamper construction of needed new transmission facilities, and may prevent the identification of facilities required to meet the needs of a particular region.¹⁹ The FERC proposed to require each public utility transmission provider to participate in a regional transmission planning process.²⁰ Specifically, the FERC proposed to require regional planning processes to consider and evaluate transmission facilities and non-transmission solutions and develop a plan that identifies what transmission facilities are necessary to meet the needs of transmission customers and other stakeholders in the region.²¹

ii. Public Policy Driven Projects

The FERC proposed requiring each public utility transmission provider to amend the transmission planning processes in its current Open Access Transmission Tariff (OATT) to provide explicitly for consideration of public policy requirements established by state or federal laws or regulations that may drive transmission needs. A public utility transmission provider may also include additional public policy objectives not required by state or federal laws or regulations. The FERC proposed that each public utility transmission provider must specify in its OATT how it will evaluate projects proposed to achieve public policy requirements.

15. *Id.* at P 1.

16. *Id.* at PP 29, 127.

17. *Id.* at P3.

18. *Id.*

19. *Id.* at P 71.

20. *Id.* at P 92.

21. *Id.* at PP 90-93.

iii. Nonincumbent Transmission Developers

The NOPR proposed a series of reforms designed to eliminate perceived opportunities for undue discrimination and preferential treatment against nonincumbent transmission developers, and to encourage participation by nonincumbent developers in the regional transmission planning process. Specifically, the FERC proposed to require: (1) each public utility transmission owner to include in its OATT qualification criteria for determining an entity's eligibility to propose a project in the regional transmission planning process; (2) each public utility transmission provider to include in its OATT a form to be used by prospective project sponsors to provide project information for evaluation in the planning process; and (3) each public utility transmission provider to participate in a planning process that evaluates proposals through a transparent and not unduly discriminatory or preferential process, and to describe the evaluation process in its OATT.²² Additionally, the NOPR proposed to require that any provisions that establish a federal right of first refusal for an incumbent transmission provider be removed from a transmission provider's OATT,²³ and that a nonincumbent transmission developer have an opportunity comparable to that of an incumbent transmission owner to recover the costs associated with developing and constructing a transmission facility.²⁴

b) Cost Allocation Reforms

Recognizing that uncertainty and disagreement about cost allocation constitute barriers to meeting the Commission's transmission planning objectives, the FERC proposed to amend its cost allocation regulations to more appropriately account for the benefits associated with new facilities by more closely aligning transmission planning and cost allocation processes.²⁵ With regard to intraregional cost allocation, the FERC proposed to require (1) that the cost of facilities be allocated to those within the region that benefit from those facilities in a manner at least roughly commensurate with estimated benefits; (2) those that receive no benefit from facilities must not be involuntarily allocated costs of those facilities; (3) any benefit to cost threshold used must not be so high that facilities with significant positive net benefits are excluded from cost allocation; (4) the allocation method for the cost of an intraregional facility must allocate costs solely within that region unless another entity or region voluntarily agrees to assume a portion of the costs; (5) the cost allocation method and data requirements for determining benefits and identifying beneficiaries must be transparent; and (6) a transmission planning region may choose to use different cost allocation methods for different types of transmission facilities.²⁶

The FERC also proposed to require that each public utility transmission provider within a planning region develop a cost allocation method for new interregional transmission facilities between the two neighboring regions in which the facility is located or among beneficiaries in the two regions.²⁷ The

22. *Id.*

23. *Id.* at P 93.

24. *Id.* at P 96.

25. *Id.* at P 156.

26. *Id.* at PP 164-165.

27. *Id.* at P 172.

FERC's proposed interregional cost allocation considerations track those proposed for intraregional cost allocation methodologies.²⁸ The FERC received almost 200 initial comments in Docket No. RM10-23, and it is expected to issue a Final Rule in this proceeding in 2011.

2. FERC Notice of Inquiry and Notice of Proposed Rulemaking to Remove Barriers to Integration of Variable Energy Resources

On January 21, 2010, the FERC issued a Notice of Inquiry on Integration of Variable Energy Resources (VERs),²⁹ that identified the following issues with respect to the bulk power markets:³⁰

Because VERs cannot control or store their fuel source, they have limited ability to control their production of electricity, and the weather-related phenomena that drive VER output levels can be difficult to forecast. Also, the output from some VERs can be negatively correlated with demand, such that a resource's greatest energy output often comes at a time of limited energy demand.³¹ Changes in the rate of output from VERs may also result in substantial ramps, which can require additional resources to allow System Operators to balance generation and demand while maintaining reliability in real time.³²

Recognizing that current market structures and practices, with some exceptions, may not accommodate these characteristics, and recognizing the reliability and efficiency implications of introducing large amounts of such resources on the grid,³³ the FERC requested comments on seven (7) topics as to remedies it believed might be available: improved forecasting, more accurate and flexible scheduling, increasing participation in the day-ahead market and creating an intra-day real-time reliability commitment market, larger balancing areas, new sources of load-following reserves, greater participation in forward capacity markets, and reducing curtailments.³⁴

The FERC received 130 comments in response to its NOI, from a wide variety of interested parties.³⁵ On November 18, 2010, the FERC issued a Notice of Proposed Rulemaking on Integration of Variable Energy Resources.³⁶ The Commission identified three particular areas in which market structures and practices might be leading to undue discrimination and unjust and unreasonable rates for transmission service provided to variable energy resources.³⁷ It

28. *Id.* at PP 174-175.

29. Notice of Inquiry, *Integration of Variable Energy Resources*, F.E.R.C. STATS. & REGS. ¶ 35,563, 75 Fed. Reg. 4,316 (2010) (to be codified at 18 C.F.R. ch. 1). The FERC stated, "[f]or purposes of this proceeding, the term variable energy resource (VER) refers to renewable energy resources that are characterized by variability in the fuel source that is beyond the control of the resource operator. This includes wind and solar generation facilities and certain hydroelectric resources." *Id.* at n.1.

30. *Id.* at P 12.

31. *Id.*

32. *Id.* at P 3.

33. *Id.* at PP 1-7.

34. *Id.* at P 12.

35. Notice of Proposed Rulemaking, *Integration of Variable Energy Resources*, F.E.R.C. STATS. & REGS. ¶ 32,664 at app. A, 75 Fed. Reg. 75,336 (2010) (to be codified at 18 C.F.R. pt. 35).

36. *Id.* at P 1.

37. *Id.*

identified the need to modify transmission scheduling practices,³⁸ require VER³⁹ market participants to provide power production forecast information, and provide transmission providers with a separate rate mechanism for recovering capacity charges associated with providing regulation service to generators.⁴⁰ These three reforms would (1) amend the pro forma Open Access Transmission Tariff (OATT) to require intra-hour transmission scheduling (allowing submission of changes to schedules in 15-minute intervals, up to 15-minutes before the schedule interval);⁴¹ (2) amend the pro forma Large Generator Interconnection Agreement to require interconnection customers whose generators are VERs to provide meteorological and operational data to their transmission providers for the purpose of improving power production forecasting;⁴² and (3) amend the pro forma OATT to add a new generic ancillary service rate schedule, Schedule 10 – Generator Regulation and Frequency Response Service, to provide a specific mechanism for transmission providers to recover the costs of providing regulation service associated with delivering energy from any generator (and particularly a VER generator).⁴³

Finding that requiring hourly scheduling unduly burdens VERs whose output fluctuates beyond their reasonable control, and that requiring VERs to purchase ancillary services to manage intra-hour fluctuations is inefficient, the FERC adopted its intra-hour scheduling proposal to allow generators to lower the incidence of schedule deviations, to avoid unneeded purchases of ancillary services, and to foster greater and more efficient participation of VERs in the day-ahead markets.⁴⁴ The Commission similarly found that better VER power forecasting will reduce the need for reserve products to maintain system reliability, but, recognizing differing regional needs, limited the requirement to provide such data to VER generators to whom transmission providers intend to charge for Generator Regulation Service under the new Schedule 10.⁴⁵ However, a transmission provider will be authorized to separately charge a VER generator under Schedule 10 only where it has previously filed a justification for charging a generator based on a volumetric difference in the amount of regulation service associated with the transmission provider's obligation to provide generator imbalance service under Schedule 9.⁴⁶

38. *Id.*

39. In the *Integration of Variable Energy Resources* NOPR (*supra* note 35), the FERC stated:

For the purpose of this proceeding, the term variable energy resource (VER) refers to an electric generating facility that is characterized by an energy source that: (1) is renewable; (2) cannot be stored by the facility owner or operator; and (3) has variability that is beyond the control of the facility owner or operator. This includes, for example, wind, solar thermal and photovoltaic, and hydrokinetic generating facilities.

Id. at n.2.

40. *Id.* at P 1.

41. *Id.* at PP 19, 25-44.

42. *Id.* at PP 20, 45-65.

43. *Id.* at PP 21, 66-98.

44. *Id.* at PP 37-44.

45. *Id.* at PP 55-56.

46. Notice of Inquiry, *supra* note 29, at PP 85-87.

3. FERC Cases Involving Integration of Renewables

In 2010, the FERC approved certain RTO-specific revisions to its cost allocation principles,⁴⁷ and it addressed the appropriateness of negotiated rates and dedicated capacity schemes in financing transmission connecting renewable generation to load centers.

a) Tres Amigas LLC

Tres Amigas LLC proposed a “superstation” in New Mexico to link the U.S.’ three asynchronous transmission interconnections and, for the first time, allow significant amounts of power — particularly power from renewable generation — to be transmitted across the three interconnections.⁴⁸ Tres Amigas requested that the FERC grant it negotiated rate authority for this service, noting that its “superstation” is proposed as entirely a merchant operation without captive customers, and that it be permitted to sell up to 50% of the project’s capacity through bilateral agreements with unaffiliated users, the rest being sold through an open season auction.

Applying the four-part standard enunciated in its earlier decision in *Chinook Power Transmission, LLC & Zephyr Power Transmission, LLC*,⁴⁹ and imposing a number of conditions to restrict the applicant’s ability to artificially cause shortage and thus increase prices for the project capacity to be offered in the open seasons, the FERC approved both the use of negotiated rates and the proposal to sell up to 50% of the capacity in bilateral agreements, noting that its policy supported new transmission project development.⁵⁰

Tres Amigas also sought an order disclaiming FERC jurisdiction over entities within the Electric Reliability Council Of Texas (ERCOT) that would interconnect transmission with its proposed “superstation,” arguing that its planned operations – which would transmute electricity from AC to DC and then back to AC in transmitting it among the three U.S. interconnections – prevented the commingling of electricity from the different interconnections in interstate commerce.⁵¹ The FERC denied that request.⁵²

b) SunZia Transmission LLC

In *SunZia Transmission LLC*,⁵³ also applying *Chinook*⁵⁴ and noting the importance of maintaining open-access to merchant transmission, the FERC rejected a request for negotiated rates and authority to permit 100% of line

47. See, e.g., *Midwest Indep. Sys. Operator, Inc.*, 133 F.E.R.C. ¶ 61,221 (2010); compare *Sw. Power Pool*, 131 F.E.R.C. ¶ 61,252 (2010).

48. *Tres Amigas LLC*, 130 F.E.R.C. ¶ 61,207, *order on clarification*, 131 F.E.R.C. ¶ 61,281, *reh’g denied*, 132 F.E.R.C. ¶ 61,233 (2010) (referencing *Tres Amigas LLC* Petition for Declaratory Order filed December 8, 2009).

49. 126 F.E.R.C. ¶ 61,134 (2009), *order on reh’g*, 128 F.E.R.C. ¶ 61,074 (2009). In *Chinook*, the FERC stated that, in deciding rate and capacity dedication issues, it would balance merchant transmission needs to achieve financing against consumer protection mandates such as ensuring just and reasonable rates and avoidance of undue preference.

50. *Tres Amigas LLC*, 126 F.E.R.C. ¶ 61,134 (2009).

51. *Tres Amigas LLC*, 170 F.E.R.C. ¶ 61,205 (2010).

52. *Tres Amigas LLC*, 132 F.E.R.C. ¶ 61,233 (2010) (*reh’g denied*).

53. 131 F.E.R.C. ¶ 61,162 (2010).

54. *Chinook Power Transmission, LLC*, 126 F.E.R.C. ¶ 61,134 (2010).

capacity to be allocated to anchor tenants, where the line's owners did not provide for an open season to allocate any portion of its capacity and did not indicate that capacity would be dedicated to any particular generation then under construction.⁵⁵

c) Midwest Independent Transmission System Operator (MISO)⁵⁶

On July 15, 2010, Midwest Independent Transmission System Operator, Inc. (MISO), and Midwest ISO Transmission Owners proposed to revise the MISO Tariff⁵⁷ to establish:

a new category of transmission projects designated as Multi Value Projects (MVP) for the transmission projects are determined to enable the reliable and economic delivery of energy in support of documented energy policy mandates or laws that address, through the development of a robust transmission system,⁵⁸ multiple reliability and/or economic issues affecting multiple transmission zones.

The Midwest ISO and the Midwest Transmission Owners advocated that the costs of the MVPs be allocated to all load in, and exports from, Midwest ISO on a postage-stamp (i.e., load-ratio share) basis.⁵⁹

On December 16, 2010, the FERC conditionally accepted the proposed tariff revisions, finding that the “proposed MVP methodology is an important step in facilitating investment in new transmission facilities to integrate large amounts of location-constrained resources, including renewable generation resources, to further support documented energy policy mandates or laws, reduce congestion, and accommodate new or growing loads.”⁶⁰ The FERC also recognized a new class of interconnection projects, Shared Network Upgrades (SNU),⁶¹ that would effectively reduce the financial burden on first-mover interconnection customers.⁶²

The FERC accepted the proposed MVP charge “for export and wheel-through transactions . . . regardless of whether the ultimate point of delivery is to an internal or external load.”⁶³ However, due to existing contractual obligations, including seams elimination, the MVP Usage rate will not apply to exports to PJM, or to grandfathered agreements within Midwest ISO.⁶⁴ The FERC stated it would review MVPs on a portfolio basis, noting that “the D.C. Circuit has found

55. *SunZia Transmission, LLC*, 131 F.E.R.C. ¶ 61,162 (2010).

56. *Midwest Indep. Sys. Operator, Inc. (MISO)*, 133 F.E.R.C. ¶ 61,221 (2010).

57. Midwest ISO, FERC Electric Tariff, Fourth Revised Vol. No. 1.

58. The FERC noted that its action on the MVP proposal preceded any final rule in the pending “Transmission NOPR,” and that MISO, like all jurisdictional entities, would be subject to any future rulemakings. 133 F.E.R.C. ¶ 61,221 at n.5 (citing Notice of Proposed Rulemaking, *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, F.E.R.C. STATS. & REGS. ¶ 32,660, 75 Fed. Reg. 37,884 (2010) (to be codified at 18 C.F.R. pt. 35)).

59. 133 F.E.R.C. ¶ 61,221 (referencing Midwest ISO filing of proposed revisions to Attachment FF of the Midwest ISO Tariff to Comply with the Commission’s directives, Docket No. OA08-53-003 (FERC Apr. 23, 2010)).

60. *Midwest Indep. Sys. Operator, Inc. (MISO)*, 133 F.E.R.C. ¶ 61,221 (Dec. 16, 2010), at P 3.

61. *Id.* at PP 1, 3.

62. *Id.* at P 51.

63. *Id.* at P 439.

64. *Id.* at PP 56, 242.

that the integrated nature of the grid justifies spreading costs broadly.”⁶⁵ By June 1, 2011, MISO and the MISO transmission owners must submit a compliance filing to describe what changes are required to the existing allocation in MISO of Financial Transmission Rights and Auction Revenue Rights in order to reflect the usage-based allocation of MVP costs.⁶⁶

d) California Transmission to Support Renewables Development

Several orders addressing transmission line development to interconnect renewable-rich areas of California to its load centers were also issued during 2010, reflecting implementation of California’s 33% Renewables Portfolio Standard. The California Independent System Operator (CAISO) asked the FERC to approve: (1) harmonization of its large and small generator interconnection procedures through an integrated cluster study process for both small and large generator sizes; (2) tariff revisions establishing standards for the interconnection of asynchronous generators (i.e., wind and solar) to enhance operability and reliability of the grid as larger volumes of these renewables are added; (3) expansions in the scope of data required to be provided from intermittent renewable resources; and (4) revisions to its transmission planning process to facilitate transmission infrastructure development to meet California’s renewable energy and environmental policy goals.⁶⁷

The FERC approved the requested revisions, except for the proposed requirements applicable to large asynchronous generators.⁶⁸ The latter (including requirements for power factor design, voltage regulation, reactive power control requirements and generator power management) were rejected as their need had not been demonstrated.⁶⁹

4. RTO and FERC Studies on Integration of Renewable Resources

In 2010, regional transmission organizations (RTOs) conducted a number of studies to support implementation of state renewable portfolio standards, particularly regarding the ability and methods for integrating sizeable blocks of intermittent resources (mainly wind and solar) into electric grid supply.⁷⁰ Each

65. *Id.* at P 222 (citing *Midwest ISO Transmission Owners v. FERC*, 373 F.3d 1361, 1371 (D.C. Cir. 2004)).

66. *Id.* at P 49.

67. *Cal. Indep. Sys. Operator (CAISO)*, 133 F.E.R.C. ¶ 61,223 (2010); *CAISO*, 133 F.E.R.C. ¶ 61,224 (2010); *CAISO*, 132 F.E.R.C. ¶ 61,196 (2010); *CAISO*, 131 F.E.R.C. ¶ 61,087 (2010).

68. *CAISO*, 132 F.E.R.C. ¶ 61,196 (2010).

69. *Id.* at PP 45-48, 54-55 & 87-89 (2010). Plans for the development of a number of additional major transmission lines to integrate renewable rich generation areas with load centers were announced in 2010; *see, e.g.*, Ethan Howland, *CMP Starts \$1.4 Billion Grid Upgrade, Seen Aiding Renewables Delivery to New England*, *ELECTRIC UTILITY WEEK*, Oct. 4, 2010, at Transmission Section; Lisa Wood, *New York Begins Review of \$1.9 Billion, 1000-MW Canada to-New York Line*, *ELECTRIC UTILITY WEEK*, Oct. 11, 2010; Ethan Howland, *Underground Power Line to Move Renewables From Nevada to California*, *ELECTRIC UTILITY WEEK*, Oct. 25, 2010, at Transmission Section; Housley Carr, *Pattern Energy Plans ERCOT-to-Mississippi Line to Deliver Wind Power*, *ELECTRIC POWER DAILY*, Sept. 22, 2010, at 1; and Jason Fordney, *Planned \$5 Billion Undersea Line to Serve Wind Faces Regulatory, Financial Hurdles*, *INSIDE FERC*, Oct. 18, 2005, at 5.

70. *See, e.g.*, CALIFORNIA’S ENERGY FUTURE: AN OVERVIEW ON MEETING CALIFORNIA’S ENERGY AND ENVIRONMENTAL GOALS IN THE ELECTRIC POWER SECTOR IN 2020 AND BEYOND (2010), available at <http://www.cacleanenergyfuture.org/2821/282190a82f940.pdf>; CAISO, INTEGRATION OF RENEWABLE RESOURCES: OPERATIONAL REQUIREMENTS AND GENERATION FLEET CAPABILITY AT 20% RPS (2010),

of these studies concluded that integration of the expanded wind and solar resources studied was achievable with reduced energy supply costs, but also noted that significant additional implementation costs would be incurred, and that expansion in transmission would be required.

The New York Independent System Operator (NYISO) concluded that up to 8,000 MW of wind generation could be successfully integrated into its approximately 35,000 MW system, with a 40% increase in required regulation service and an increase in the reliability reserve requirement of 18 to 30%.⁷¹ Maximum ramp events (requiring additional load-following real power) would also be increased by approximately 20% because wind generation output declines and must be replaced during the day when load is increasing.⁷² Existing fossil-based generation would have to remain in service to provide the required additional reliability reserves, but would see its capacity factors reduced by 10 to 30%, raising cost recovery and pricing concerns.⁷³

On January 20, 2011, the FERC posted, and invited comment on, a series of studies designed to identify tools and metrics needed to preserve grid reliability as significant quantities of intermittent, renewable resources are added to the grid.⁷⁴ The main study, commissioned by the FERC's Office of Electric Reliability, has as its purpose the "development of an objective methodology to evaluate the reliability impacts of varying resource mixes including increased amounts of renewable resources."⁷⁵ It focuses on primary frequency response as the leading metric for assessing the adequacy of primary frequency control reserves necessary to ensure reliable operation.⁷⁶ In releasing the report, the FERC requested that the industry and other interested persons provide comments upon it by mid-March.⁷⁷

available at <http://www.caiso.com/2804/2804d036401f0.pdf> (measuring the addition of approximately 2000 MW of solar and 6,000 of wind); NEW ENGLAND IND. SYS. OP., NEW ENGLAND WIND INTEGRATION STUDY (2010), available at http://www.iso-ne.com/nwsiss/pr/2010/2010_newis_backgrounder_final_12152010.pdf (discussing how wind could supply up to 12,000 GWH or 24% of system capacity); N.Y. INDEP. SYS. OPERATOR, INC., GROWING WIND: FINAL REPORT OF THE NYISO 2010 WIND GENERATION STUDY (2010), available at http://www.nyiso.com/public/webdocs/newsroom/press_releases/2010/GROWING_WIND_-_Final_Report_of_the_NYISO_2010_Wind_Generation_Study.pdf; NYISO, BALANCING WIND – EMBRACING THE CHALLENGE (2010), available at http://www.nyiso.com/public/webdocs/newsroom/press_releases/2010/Balancing_Wind_Congressional_Briefing_102710.pdf; CHARLES RIVER ASSOCIATES, SPP WITF INTEGRATION STUDY REGULATION REQUIREMENTS (2010), available at <http://www.spp.org/section.asp?group=1385&pageID=27> (follow the "WITF Integration Study Revised Regulation Requirements" hyperlink).

71. GROWING WIND: FINAL REPORT OF THE NYISO 2010 WIND GENERATION STUDY, *supra* note 70; BALANCING WIND: EMBRACING THE CHALLENGE, *supra* note 70.

72. GROWING WIND: FINAL REPORT OF THE NYISO 2010 WIND GENERATION STUDY, *supra* note 70, at iv to vii.

73. *Id.*

74. Notice Inviting Comments on Report, *Frequency Response Metrics to Assess Requirements for Reliable Integration of Variable Renewable Generation*, No. AD11-8-000 (FERC Jan. 20, 2011).

75. *Id.*

76. *Id.*

77. *Id.*

The FERC has also taken action on feed-in tariffs (FITs). A FIT requires utilities to purchase power produced by a generator at specified rates.⁷⁸ In October 2010, the FERC issued an order concerning California's proposed FIT.⁷⁹ The order found that a state-adopted FIT would not be preempted by federal law as long as the tariff price was not higher than the avoided-cost rates set pursuant to PURPA for the same energy.⁸⁰ The FERC noted that states have extensive flexibility to set avoided-cost rates and may do so by including various externalities, such as transmission cost avoidance, in its calculations.⁸¹ The FERC also held that a state could establish avoided costs with respect to a particular class of generators.⁸²

II. DEVELOPMENTS AND ISSUES IN OFFSHORE WIND, SOLAR, AND ENERGY STORAGE

A. *Developments and Issues in Offshore Wind Power*

Individual offshore wind projects made significant advances this past year, and there were several important new developments affecting the regulatory environment for offshore wind.

1. Federal Developments

a) BOEMRE Regulations

On June 18, 2010, the Minerals Management Service (MMS) was abolished, and its functions were divided among three new Interior agencies: the Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE); the Bureau of Safety and Environmental Enforcement (BSEE); and the Office of Natural Resources Revenue (ONRR).⁸³ The purpose of the reorganization was to separate functions that reflected conflicting interests. The reorganization responded to the Inspector General's report on alleged corruption in the MMS under the Bush Administration, and also to deficiencies highlighted by the *Deepwater Horizon* disaster. The BOEMRE inherited the primary resource management functions of the MMS.

On November 9, 2010, the BOEMRE invited bids for offshore wind projects in a 277 square-nautical-mile area off the coast of Maryland.⁸⁴

78. KARLYNN CORY, ET AL., FEED-IN TARIFF POLICY: DESIGN, IMPLEMENTATION, AND RPS POLICY INTERACTIONS, NAT'L RENEWABLE LAB, at 2 (Mar. 2009), available at <http://www.nrel.gov/docs/fy09osti/45549.pdf>.

79. *Cal. Pub. Utils. Comm'n*, 132 F.E.R.C. ¶ 61,047, order on clarification, 133 F.E.R.C. ¶ 61,059 (2010), order denying reh'g, 134 F.E.R.C. ¶ 61,044 (2011). In its July 2010 Order, as clarified in October, the FERC had further held that, to avoid preemption, application of the FIT must be limited to PURPA-defined "qualified facilities" (QFs) that are entitled to receive "avoided costs" under federal law. 132 F.E.R.C. ¶ 61,047 at PP 65, 67. The FERC also stated that it was not making a determination under PURPA that California's proposed rate met its avoided cost determination standards, as it lacked a sufficient record to do so. *Id.* at P 68.

80. 132 F.E.R.C. ¶ 61,047 at P 68.

81. 133 F.E.R.C. ¶ 61,059 at P 31.

82. *Id.* at P 29.

83. Ken Salazar, Secretary of the Interior, Secretarial Order No. 3299 (May 19, 2010), available at <http://www.doi.gov/deepwaterhorizon/loader.cfm?csModule=security/getfile&PageID=32475>.

84. Commercial Leasing for Wind Power on the Outer Continental Shelf (OCS) Offshore Maryland — Request for Interest (RFI), 75 Fed. Reg. 68,824-28 (2010).

Responses to the solicitation were due on January 10, 2011. To be considered a qualified bid, a bidder must include: (1) the BOEMRE Protraction name, number, and specific whole or partial Outer Continental Shelf (OCS) blocks or areas within the areas; (2) a description of the bidder's objectives and the facilities that would be used to achieve those objectives; (3) a schedule of proposed activities, including those leading to commercial operations; (4) available and pertinent data and information concerning renewable energy resources and environmental conditions in the proposed lease area; (5) and documentation demonstrating that the bidder is legally, technically and financially qualified to hold a lease, in detail sufficient to demonstrate that the bidder is capable of constructing, operating, maintaining, and decommissioning the proposed facilities.⁸⁵ BOEMRE explained that, depending on responses to its solicitation, it would determine whether or not to follow competitive bidding procedures. Only if two or more bidders submit qualifying proposals that are geographically overlapping are competitive procedures required.⁸⁶ If the BOEMRE determines that competitive bids have been submitted, it must then follow a more cumbersome 6-step process, starting with a call for nominations published in the Federal Register.

On November 17, 2010, addressing industry complaints that the regulations adopted by the MMS in April 2009 would require a ten-year leasing process for offshore wind projects, the BOEMRE announced its "Smart from the Start" initiative to streamline the application and approval process for the Atlantic OCS region.⁸⁷ The BOEMRE reported that it had worked with the Atlantic Offshore Wind Energy Consortium and state task forces in developing its Smart from the Start initiative. Streamlining, which could reduce leasing times to two years, is to be accomplished by eliminating a second notice period for competing bids, identifying Wind Energy Areas (WEAs) in advance, and initiating environmental baseline studies, assessments, and reviews for WEAs prior to receipt of applications to shorten the EIS process. The BOEMRE also pledged to process offshore transmission applications on a parallel track. The BOEMRE pledged to identify WEAs within sixty days for the OCS off the states of Virginia, Maryland, Delaware, New Jersey, Rhode Island, and Massachusetts. The BOEMRE pledged to coordinate with other federal agencies to identify in advance potential conflicts due to shipping lanes, critical habitat for endangered whales, and Department of Defense training areas.

b) NREL Study of Offshore Wind Potential

In June 2010, the National Renewable Energy Laboratory (NREL) issued a report estimating that there could be four times as much energy potential in offshore wind resources as there was generating capacity in all of the United

85. *Id.* at 68,827-28.

86. *Id.* at 68,825.

87. Press Release, U.S. Dep't of Interior, Salazar Launches "Smart from the Start" Initiative to Speed Offshore Wind Energy Development off the Atlantic Coast (Nov. 23, 2010), *available at* <http://www.doi.gov/news/pressreleases/Salazar-Launches-Smart-from-the-Start-Initiative-to-Speed-Offshore-Wind-Energy-Development-off-the-Atlantic-Coast.cfm>.

States in 2008.⁸⁸ According to the Energy Information Agency (EIA), generating capacity from all sources in 2008 was 1,010 gigawatts, while the potential for wind generated power in all offshore areas is 4,150 gigawatts.⁸⁹ The study's total does not account for areas that would be eliminated for technical, environmental, or use-conflict reasons, but the report underlines the vast potential of offshore wind resources. The study indicates that the Atlantic Seaboard, with extensive wind resources located on the relatively shallow (less than 30 meters) Outer Continental Shelf close to major population centers, is particularly promising for wind generation development.⁹⁰

c) Offshore Transmission

Google and a New York financial firm announced on October 12, 2010 that they were investing \$5 billion in a backbone transmission system planned by Trans-Elect for placement on the Outer Continental Shelf and stretching 350 miles from offshore Virginia to New Jersey.⁹¹ The system would have a capacity of 6,000 MW and would lie 15 to 20 miles offshore, where it would collect power feeds from various offshore wind projects.⁹² Four connection points in southern Virginia, Delaware, southern New Jersey, and northern New Jersey would bring power to the grid.⁹³

In December, the project filed a Petition for Declaratory Order at the FERC seeking incentive rate treatment and request for approval of a return on equity for its investment.⁹⁴ The project has requested, among other things, the following from the FERC: (i) inclusion of 100% of Construction of Work in Progress (CWIP) in rate base; (ii) approval for 100% recovery of prudently-incurred abandonment costs; (iii) an incentive-based ROE of 13.58%; and (iv) approval for use of a cost of service formula rate structure.⁹⁵ The filing is silent on how costs for the project would be allocated to customers.⁹⁶ The project has requested expedited treatment of its request, and comments, some opposing the request for incentive rate treatment, were submitted on January 31, 2011.⁹⁷

88. MARK SCHATZ, DONNA HEIMILLER, STEVE HAYMES & WALT MUSIAL, NAT'L RENEWABLE LAB., TECHNICAL REPORT NREL/TP-500-45889: ASSESSMENT OF OFFSHORE WIND ENERGY RESOURCES FOR THE UNITED STATES (2010), available at <http://www.nirs.org/alternatives/nreloffshorewindrpt.pdf>.

89. *Id.*

90. *Id.*

91. Matthew L. Wald, *Offshore Wind Power Line Wins Backing*, N.Y. TIMES, Oct. 12, 2010, <http://www.nytimes.com/2010/10/12/science/earth/12wind.html>; Juliet Eilperin, *Google Backing Offshore Wind Power Network*, WASH. POST, Oct. 13, 2010, <http://post-gazette.com/pg/10286/1094699-84.stm>.

92. Wald, *supra* note 91; Eilperin, *supra* note 91.

93. Wald, *supra* note 91; Eilperin, *supra* note 91.

94. Petition for Declaratory Order, *Atlantic Grid Operations A LLC*, Nos. ER11-13-000, EL11-13-000 (FERC 2010), available at http://www.atlanticwindconnection.com/ferc/2010-12-filing/Petition_for_Declaratory_Order.pdf.

95. *Id.* at 12, 76.

96. *Id.*

97. Motion to Intervene and Protest, *Atlantic Grid Operations A LLC*, No. EL11-13-000 (FERC 2011), available at <http://www.state.nj.us/rpa/docs/Intervention%20and%20Protest.pdf>.

2. State Developments

a) Rhode Island

i. Deepwater Wind Offshore Small Scale Wind Farm Project PPA

On April 2, 2010, the Rhode Island Public Utilities Commission (RIPUC) rejected a long-term power purchase agreement (PPA) between National Grid and Deepwater Wind for power to be produced by a small scale wind farm to be constructed near Block Island, finding that the PPA had not been shown to be “commercially reasonable.”⁹⁸ The RIPUC concluded that the rate impacts from the small scale project covered by the PPA were not offset by public benefits such as increased employment. Also, the rates under the PPA were found to be much higher than rates obtainable from other renewable energy sources, without taking into account the cost of constructing and maintaining a marine cable to connect the wind farm to Block Island and, in turn, to the Rhode Island mainland.⁹⁹

In response to the RIPUC’s order, the Rhode Island General Assembly amended the legislation that had authorized the project PPA.¹⁰⁰ The amended law directed the RIPUC to approve an amended PPA if (a) the amended agreement contains terms and conditions that are commercially reasonable; (b) the amended agreement provides for a decrease in pricing if savings can be achieved in the actual cost of the project; (c) the amended agreement provides economic development benefits; and (d) the amended agreement is likely to provide environmental benefits, including a reduction in carbon emissions.¹⁰¹ In the amended statute, the “commercially reasonable” standard was redefined to limit consideration to terms and pricing for a project of similar size, technology, and location as the proposed project.¹⁰² On June 30, 2010, National Grid and Deepwater Wind filed an amended PPA with the RIPUC. On August 16, 2010, after hearings, the RIPUC issued a written order approving the amended PPA.¹⁰³ TransCanada moved to dismiss the PPA filing between National Grid and Deepwater Wind on the ground that the state enabling legislation violated the Commerce Clause.¹⁰⁴ (See discussion of Commerce Clause issues in the Section below on Massachusetts.) The RIPUC declined to decide this constitutional issue and applied the state enabling legislation in its review of the PPA.

98. Report and Order, *In Re: Review of Proposed Town of New Shoreham Project Pursuant to R.I. Gen. Laws § 39-26.1-7*, No. 4111 (R.I. Pub. Utils. Comm’n Apr. 2, 2010), available at http://www.ripuc.org/eventsactions/docket/4185_Report_and_Order.pdf.

99. *Id.*

100. R.I. GEN. LAWS § 39-26.1-7 (2010).

101. *Id.*

102. *Id.*

103. Report and Order, *In Re: Review of Amended Power Purchase Agreement Between Narragansett Electric Company D/B/A National Grid and Deepwater Wind Block Island, LLC Pursuant to R.I. Gen. Laws § 39-26.1-7*, 284 P.U.R. 4th 1(2010) (No. 4185), 2010 R.I. PUC LEXIS 21.

104. TransCanada Power Marketing Ltd.’s Motion to Dismiss for Violation of the Commerce Clause, *In Re: Review of Amended Power Purchase Agreement Between Narragansett Electric Company D/B/A National Grid and Deepwater Wind Block Island, LLC Pursuant to R.I. Gen. Laws § 39-26.1-7*, No. 4185 (R.I. Pub. Utils. Comm’n July 13, 2010).

TransCanada has not appealed from the RIPUC's decision. However, the Attorney General, the Conservation Law Foundation, and two large customers of National Grid appealed from the RIPUC's order on various grounds. Briefs have been filed by the parties. The Rhode Island Supreme Court is likely to decide these appeals by mid-2011.

ii. Large Scale Wind Project Developments

On January 21, 2010, the RIPUC issued a Notice of Rulemaking¹⁰⁵ under an enabling law that allows a developer selected by the state to develop a utility-scale offshore wind farm to file an application with the RIPUC to request that it require a long term contract with Narragansett Electric Company, the electric distribution company that serves almost all of mainland Rhode Island. The enabling law¹⁰⁶ provides for agency proceedings to determine whether the proposal is in the best interests of electric distribution customers in Rhode Island. The RIPUC's proposed rules cover the application filing requirements and procedures for review of the application.¹⁰⁷

iii. SAMP Process

The Rhode Island Coastal Resources Management Council (CRMC) is in the process of developing an Ocean Special Area Management Plan (SAMP). The SAMP will establish use categories for state waters out to three nautical miles from shore. SAMPs are identified in the federal Coastal Zone Management Act (CZMA)¹⁰⁸ as tools to meet CRMC obligations under the CZMA.¹⁰⁹ The SAMP will inform decisions regarding the siting of offshore wind projects, such as the planned large scale Deepwater Wind project, outside of the three mile limit and interconnected to the mainland through transmission facilities located, in part, in state waters. A comprehensive stakeholder process has been underway, and the SAMP document is undergoing changes as a result of comments on drafts.

iv. Memorandum of Understanding Between Massachusetts and Rhode Island

In July 2010, the governors of Massachusetts and Rhode Island signed a Memorandum of Understanding regarding future offshore wind development in waters near state boundaries.¹¹⁰ Any proposed wind farm in an area designated in the MOU would have to receive approval from both states, and the state economic benefits would be shared.¹¹¹

105. Notice of Rulemaking and Public Hearing, *In Re: Rules and Regulations Governing the Review of a Utility Scale Offshore Wind Project as Described in R.I.G.L. § 39-26.1-8*, No. 4139 (R.I. Pub. Utils. Comm'n Jan. 21, 2010), available at <http://www.ripuc.org/eventsactions/docket/4139-notice.pdf>.

106. R.I. GEN. LAWS § 39-26.1-8 (2010).

107. *Id.*

108. Coastal Zone Management Act (CZMA), 16 U.S.C. §§ 1451-1465 (1998).

109. *Id.* § 1456(b).

110. Memorandum of Understanding Between the State of Rhode Island and the Commonwealth of Massachusetts Regarding Future Offshore Wind Development in Waters Near State Boundaries (July 27, 2010), available at <http://www.governor.ri.gov/documents/RI%20MA%20MOU.pdf>.

111. *Id.*

b) New Jersey

On June 29, 2010, the State of New Jersey enacted S-2036, the Offshore Wind Economic Development Act.¹¹² The legislation directs the New Jersey Board of Public Utilities (BPU) to develop an offshore wind renewable energy certificate (OREC) program to require that a percentage of electricity sold in New Jersey be sourced from offshore wind energy.¹¹³ The legislation is intended to support at least 1,110 MW of generation from “qualified” offshore wind projects.¹¹⁴ Under this program, ORECs will be sold to load-serving entities (LSEs) supplying load in New Jersey; the LSEs will then reflect these costs in customer rates.¹¹⁵ The ORECs will have a 20-year term to support financing of the offshore wind projects.¹¹⁶ The legislation also contains a \$100 million tax incentive from the New Jersey Economic Development Authority for wind turbine manufacturers located in certain “wind energy zones.”¹¹⁷

The BPU is now in the process of drafting implementing regulations to determine which offshore wind projects are “qualified” projects.¹¹⁸ The legislation directs the BPU to apply a “net positive benefits” test to make this determination; the BPU is now developing the details of such a test.¹¹⁹ “Net positive benefits” may include market price projections, economic development and job creation, rate impacts, and environmental benefits.¹²⁰ The BPU rulemaking will also examine issues such as whether the program size should be limited to 1,110 MW, how to apportion tax credits, and whether to require qualified projects to post security.¹²¹ The BPU is expected to issue regulations in 2011.¹²²

c) Massachusetts

i. Cape Wind

Several developments occurred in 2010 regarding the Cape Wind large-scale offshore wind project. Breaking a significant logjam, on April 28, 2010, the United States Department of Interior Minerals Management Service (MMS, subsequently renamed BOEMRE) issued a Record of Decision in which the MMS decided to offer a commercial lease and easement to the Cape Wind Project.¹²³ The commercial lease is subject to terms and conditions described in

112. Offshore Wind Economic Development Act, N.J. S. 2036, 214th Cong. (2010).

113. *Id.*

114. *Id.*

115. *Id.*

116. *Id.*

117. *Id.*

118. *Id.*

119. *Id.*

120. *Id.*

121. *Id.*

122. *Id.*

123. U.S. DEP’T OF INTERIOR MINERAL MGMT. SERVS., RECORD OF DECISION, CAPE WIND ENERGY PROJECT HORSESHOE SHOAL, NANTUCKET SOUND (Apr. 28, 2010), available at <http://www.boemre.gov/offshore/RenewableEnergy/PDFs/CapeWindROD.pdf>.

the Record of Decision.¹²⁴ The rights to construct and operate the Cape Wind Project are subject to necessary construction approvals and permits from MMS and other Federal, State, and local permitting authorities. MMS action was taken pursuant to section 388(a) of the Energy Policy Act of 2005¹²⁵ and section 8(p) of the Outer Continental Shelf Lands Act.¹²⁶

On May 10, 2010, a power purchase agreement (PPA) between Cape Wind and National Grid was filed with the Massachusetts Department of Public Utilities for its review and approval.¹²⁷ In August, the Massachusetts Supreme Judicial Court affirmed the decision of the Energy Facilities Siting Board to grant a “super permit” for the transmission cable facilities that will traverse state and local waters.¹²⁸

A settlement on pricing for the Cape Wind–National Grid PPA was reached with the Massachusetts Attorney General. Briefs were filed during October 2010. On November 22, 2010, the MDPU approved National Grid’s entering into a PPA to purchase 50% of the output of the Cape Wind project. The MDPU found that the PPA was both cost-effective and in the public interest. The 1.3 to 2.2% increase in customer rates was found acceptable in light of the unique benefits of the project, including its facilitating the Commonwealth’s renewable energy standards and policies. In general, unquantified benefits were deemed to exceed potential costs. The MDPU denied National Grid’s petition to approve a second PPA for the remainder of Cape Wind’s project output, stating that approval would serve no clear purpose. No firm commitment to purchase or sell power was found to exist, and the MDPU concluded that if Cape Wind enters into another PPA with a party subject to MDPU jurisdiction, the MDPU would review the PPA at that time. The MDPU ruled that National Grid’s bilateral negotiation of a PPA with Cape Wind did not violate the Commerce Clause and was in compliance with applicable state law.¹²⁹

ii. Dormant Commerce Clause Issues

Power purchase agreements entered into pursuant to state laws that direct local distribution companies to contract with an in-state generator have been subjected to a challenge that this type of in-state preference violates the Commerce Clause of the United States Constitution. Prior to the Massachusetts DPU’s consideration of the Commerce Clause issue in its review of the Cape Wind PPA, TransCanada raised the Commerce Clause issue in court. On April 16, 2010, TransCanada, a developer of out-of-state power resources, filed a

124. U.S. Dep’t of the Interior, Bureau of Ocean Energy Mgmt., Regulation and Enforcement, Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf (Nov. 1, 2010), *available at* http://www.boemre.gov/offshore/RenewableEnergy/PDFs/CapeWind_signed_lease.pdf.

125. Energy Policy Act of 2005, Pub. L. No. 109-58, § 388(a), 119 Stat. 594 (2005).

126. Outer Continental Shelf Lands Act, 43 U.S.C. §§ 1331–1356a (1953).

127. Response to the Petition of the Massachusetts Electric Company and Nantucket Electric Company d/b/a National Grid for Approval by the Department of Public Utilities of Amended Power Purchase Agreements Between National Grid and Cape Wind Associates, LLC., D.P.U. 10-54 (Mass. Dep’t of Pub. Utils. Aug. 20, 2010), *available at* <http://www.env.state.ma.us/dpu/docs/electric/10-54/82010agprtst.pdf> [hereinafter *Response to the Petition*].

128. Alliance to Protect Nantucket Sound, Inc., v. Energy Facilities Siting Bd., 457 Mass. 663 (2010).

129. *Response to the Petition*, *supra* note 127.

complaint in the United States District Court for the District of Massachusetts against the Massachusetts Department of Public Utilities and other state defendants, in which it alleged that Renewable Portfolio Standards requiring purchases from in-state resources were in violation of the Commerce Clause.¹³⁰ TransCanada's federal complaint was partially settled in June 2010, when the Commonwealth defendants agreed to amend the solar carve out regulations to grandfather electricity supply contracts signed before January 1, 2010.¹³¹ However, the Commerce Clause issue raised by TransCanada was not settled.

d) New York

The Great Lakes Offshore Wind (GLOW) program saw several important developments. On December 1, 2009, Richard Kessel, President of the New York Power Authority (NYPA), announced the release of a Request for Proposals (RFP) for utility-scale (120 MW to 500 MW) offshore wind power projects in the New York State waters of Lake Erie and/or Lake Ontario.¹³² In June 2010 the NYPA began a multi-phase review process for five proposals that were designed to construct an offshore wind project to deliver clean renewable power and create clean energy jobs.¹³³

During the first phase of the review, the proposals were evaluated by the NYPA staff and its consultants to determine which of the proposals best met the provisions of the RFP. During this initial review, NYPA may not share information on any of the proposals under the applicable procurement law. The next phase of the review was scheduled for late 2010 or early 2011, to include evaluation of the staff's and consultants' evaluations by the NYPA Trustees. The Trustees will select a preferred developer pending contract negotiations, completion of the required regulatory and environmental reviews, and incorporation of contributions of the community. Once the Trustees prepare their evaluation, information on the proposals by the preferred developers will be made public, unless covered by confidentiality agreements. After the information on the proposals is made public, the preferred developers will undergo regulatory and environmental reviews. Upon successful completion of the reviews, power purchase agreements will be signed between NYPA and the preferred developers. The NYPA anticipates that construction will begin with project operation anticipated in two to three years following the contracts' effective date.¹³⁴

130. *TransCanada Power Mktg. LTD. v. Bowles*, No. 4:10-CV-40070-FDS (D. Mass Apr. 16, 2010).

131. *Massachusetts and TransCanada Reach Partial Settlement*, FLETTEXCHANGE (June 3, 2010), available at <http://markets.flettexchange.com/2010/06/03/massachusetts-and-transcanada-reach-partial-settlement/>.

132. Press Release, N.Y. Power Auth., New York Power Authority Issuing RFP for the Purchase of Environmental Attributes from Renewable Energy Projects in Orange County (Jan. 12, 2010), available at <http://www.nypa.gov/press/2010/100112a.html>.

133. Press Release, N.Y. Power Auth., Five Proposals Begin NYPA Review Process For Great Lakes Offshore Wind Project Environmental and Economic Development Benefits Expected (June 4, 2010), available at <http://www.nypa.gov/press/2010/100604a.html>.

134. See generally *supra* notes 131 & 132.

B. *Developments and Issues in Solar Power*

1. Federal Developments

a) Incentives

Throughout 2010, solar energy continued to receive significant federal incentive support, much of which came from American Recovery and Reinvestment Act (Recovery Act) funds.¹³⁵ In particular, the Department of Energy issued several solicitations for its loan guarantee program that potentially could apply to solar projects.

For example, the section 1703 “Innovative Energy Efficiency, Renewable Energy, and Advanced Transmission and Distribution Technologies” solicitation, issued in 2009 and with rolling deadlines through 2010, made up to \$8.5 billion in loan guarantees available for innovative solar technologies. The section 1705 “Financial Institution Partnership Program” solicitation appropriated an additional \$750 million for commercial technology renewable energy projects, and has rolling deadlines extending into 2011.

But perhaps the biggest federal driver for deployment of new solar resources was the section 1603 grant program, which enabled solar developers to obtain upfront cash grants in lieu of taking tax credits spread over the course of several years.¹³⁶ These grants were for 30% of the qualified eligible cost basis in the property, as defined by Internal Revenue Code section 1012.

b) Policy Support

In 2009, both the Senate and the House debated versions of climate change legislation that would put a cap on carbon through a cap-and-trade program and institute a federal renewable energy standard (RES). On July 1, 2010, Representative Jay Inslee (D-WA) introduced the Americans Making Power Act of 2010.¹³⁷ That Act proposed to establish national net metering and interconnection standards, both of which would encourage solar development, but the bill has not become law.

In March 2010, the FERC issued Order No. 732, which streamlined certification criteria for qualifying facilities (QFs).¹³⁸ Order No. 732 allows entities to file for QF certification electronically¹³⁹ and contains a provision exempting facilities with a net power production capacity of 1 MW or less from the filing requirement.¹⁴⁰

135. For ARRA funds targeted towards solar projects, see Energy.gov, <http://www.energy.gov/recovery/renewablefunding.htm#SOLAR> (last visited Mar. 21, 2011).

136. See generally NAT'L RENEWABLE ENERGY LAB., <https://treas1603.nrel.gov> (last visited Mar. 21, 2011).

137. H.R. 5692, 111th Cong. (2009-10).

138. Final Rulemaking, *Revisions to Form, Procedures, and Criteria for Certification of Qualifying Facility Status for a Small Power Production or Cogeneration Facility*, F.E.R.C. STATS. & REGS. ¶ 31,306, 75 Fed. Reg. 15,950 (2010) (18 C.F.R. pts. 131, 292).

139. *Id.* at P 1.

140. *Id.* at P 3.

On June 10, 2010, the Bureau of Land Management announced an interim rate schedule for solar rights-of-way on public lands.¹⁴¹ The interim rental schedule includes “(1) a base rent to be paid upon issuance of the authorization, and (2) a MW capacity fee that will be implemented over a 5-year period once the facility begins generating electricity.”¹⁴²

2. State Developments

Over the course of 2010, many states have revised policies that affect renewable generators. As discussed below, these policy revisions deal with subjects such as feed-in tariffs, net metering, interconnection, and third-party ownership.

a) Feed-in Tariffs (FITs)

In addition to California,¹⁴³ other states have moved in the direction of FITs. On October 13, 2010, the Hawaii Public Utilities Commission issued an order approving FITs for renewable generators up to 500 kW in capacity.¹⁴⁴ The FITs included standard offer contracts as well as standard interconnection procedures.¹⁴⁵

In January, the Arizona Corporation Commission (ACC) requested input on a proposed FIT program.¹⁴⁶ Arizona Public Service Company has proposed two FIT programs based on the ACC’s guidelines,¹⁴⁷ but the ACC has not yet ruled on these proposals.

b) Net Metering

In 2010, certain states modified existing net metering programs. On July 6, 2010, New Jersey’s new net metering rule became effective.¹⁴⁸ In response to A.B. 3520,¹⁴⁹ the New Jersey Board of Public Utilities (BPU) removed the 2

141. Memorandum from the Director of the U.S. Dep’t of the Interior Bureau of Land Mgmt. on Solar Energy Interim Rental Policy (June 10, 2010), http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2010/IM_2010-141.html.

142. *Id.* The BLM also published its “Solar Plan of Development” material, which “identifies the minimum requirements for a Solar Energy Plan of Development (POD) to be submitted prior to initiation of NEPA analysis (including publication of a Notice of Intent to prepare an EIS) for a solar energy development project.” U.S. DEP’T OF THE INTERIOR BUREAU OF LAND MGMT., SOLAR ENERGY PLAN OF DEVELOPMENT (Jan. 31, 2011), *available at* http://www.blm.gov/pgdata/etc/medialib/blm/wo/MINERALS_REALTY_AND_RESOURCE_PROTECTION_/cost_recovery.Par.96285.File.dat/Solar_POD.pdf.

143. *See supra* note 79.

144. Order Approving FIT Tiers 1 and 2 Tariffs, Standard Agreement, and Queuing and Interconnection Procedures, No. 2008-0273 (Haw. Pub. Utils. Comm’n Oct. 13, 2010), *available at* <http://www.hawaii-renewable.com/wp-content/uploads/2010/11/FiT-Tiers12-October-2010.pdf>.

145. *Id.*

146. Memorandum from the Ariz. Corp. Comm’n on a Request for Assignment of a Matter Number, No. E-00000j-09-0505 (Oct. 22, 2009), *available at* <http://images.edocket.azcc.gov/docketpdf/0000102440.pdf>.

147. Comments of Arizona Public Service Company, No. E-00000j-09-0505 (Ariz. Corp. Comm’n July 9, 2010).

148. *Changes to N.J.A.C. 14:8-4.3(a)*, No. EX09110910 (N.J. Bd. Pub. Utils. July 6, 2010); N.J. ADMIN. CODE § 14:8-4.3, 42 N.J. Reg. 1402(a) (2011).

149. A.B. 164, 213th Leg., 2008 Sess. (N.J. 2008).

MW cap for Class 1 renewable energy systems.¹⁵⁰ The new rules limit the size of the facilities to the amount of electricity that the customer-generator consumed over the course of the previous year.¹⁵¹

New York similarly changed its net metering facility sizing rules. On July 15, 2010, the New York Public Service Commission (NYPSC) approved utility tariff amendments that eliminated the “peak load limitation” on non-residential solar and wind generation systems.¹⁵² Previously, non-residential customers could size their equipment to the lesser of 2 MW or the previous year’s peak load.¹⁵³ Under the new rules, customers can size their net metering equipment up to 2 MW, regardless of their previous peak load.¹⁵⁴

In May 2010, Maryland Governor Martin O’Malley signed into law HB 801, which changes the way Maryland net metering customers are paid for net excess generation (NEG), which is generation that, over an applicable billing period, exceeds the amount of energy the host site consumes.¹⁵⁵

c) Interconnection

The Oregon Public Utilities Commission (OPUC) in April 2010 issued Order No. 10-132, which provides standard large generator interconnection procedures (LGIP) for generators larger than 20 MW.¹⁵⁶ The Oregon LGIP is based on the FERC’s standard LGIP.¹⁵⁷

Utah also adopted new interconnection rules, which became effective on April 30, 2010.¹⁵⁸ Key provisions include limiting interconnection study fees to 125% of the utility’s good-faith estimate of the study costs,¹⁵⁹ as well as allowing the interconnection customer to agree to non-standard terms, subject to Utah state commission approval.¹⁶⁰

d) Third-Party Ownership

Certain state law provisions may treat third party ownership of renewable facilities at customer sites such that the third-party owner is treated as a state-

150. *Changes to N.J.A.C. 14:8-4.3(a)*, No. EX09110910 at 1 (N.J. Bd. Pub. Utils. July 6, 2010); N.J. ADMIN. CODE § 14:8-4.3, 42 N.J. Reg. 1402(a) (2011) (N.J. Bd. Pub. Utils. July 6, 2010).

151. N.J. ADMIN. CODE § 14:8-4.3(a)2 (2010).

152. *Tariff Filings to Effectuate Amendments to Public Service Law § 66-j and § 66-l (Net Energy Metering for Non-Residential Photovoltaic and Non-Residential and Farm Service Wind Electric Generating Systems) and Conforming Changes to Standardized Interconnection Requirements*, Nos. 10-E-0133, 10-E-0134, 10-E-0135, 10-E-0136, 10-E-0137, 10-E-0138 (NYPSC July 15, 2010) (corrected order filed July 16, 2010).

153. N.Y. PUB. SERV. LAW § 66-j (Consol. 2010).

154. *Id.*

155. H.B. 801, ch. 437, 427th Gen. Assembly, Reg. Sess. (Md. 2010).

156. Order No. 10-132, *Investigation into Interconnection of PURPA Qualifying Facilities with Nameplate Capacity Larger than 20 Megawatts to a Public Utility’s Transmission or Distribution System* (Or. Pub. Util. Comm’n Apr. 7, 2010).

157. *Id.* at 1.

158. UTAH ADMIN. CODE r. 746-312 (2010).

159. *See, e.g.*, UTAH ADMIN. CODE r.746-312-9(3)(a) (2010) (limiting interconnection study costs in level 2 interconnection review to 125% of the utility’s good faith estimate).

160. *See, e.g.*, UTAH ADMIN. CODE r. 746-312-8(2)(f) (2010) (“The customer and the public utility may mutually agree to terms which vary from the standard form interconnection agreement, but such non-standard agreement shall be subject to commission approval.”).

regulated public utility.¹⁶¹ The Public Utilities Commission of Nevada (PUCN) adopted rules concerning third-party ownership that became effective in April, 2010.¹⁶² Under these rules, third-party systems are generally exempt from state regulation as utilities to the extent that they comply with the PUCN's requirements.¹⁶³

C. Energy Storage

1. FERC Request for Comments on Rate and Accounting Treatment for Electric Storage Technologies

In its 2009 *Smart Grid Policy* proposed policy statement,¹⁶⁴ the FERC justified giving energy storage a high priority in smart grid standards development and cost recovery, based in large part on the benefits energy storage affords in integrating what the FERC termed “unprecedented” amounts of variable generation resources. It pointed to the ability of energy storage to address three issues it saw attending large amounts of variable generation on the grid: resource adequacy concerns (the loss of variable generation during peak periods or critical times), resource management (the potential for over-generation during off-peak, low-load periods), and system stability concerns (that occur when there is high penetration of variable resources with low inertia properties). The FERC also noted the potential for energy storage to optimize bulk power production and facilitate power system balancing, among other benefits.¹⁶⁵

Examples of such developments were the decision in *Western Grid Development*,¹⁶⁶ which declared that the proposed assembly of sodium sulfide batteries, deployed in a role similar to that of capacitors – to provide voltage support and thermal overload services – should be classified as a transmission asset, and the May 26, 2010 Technical Conference on Frequency Regulation Compensation in the Organized Wholesale Power Markets, where energy storage developers and regional transmission operators discussed the efficiencies of energy storage devices in providing frequency response and the extent to which current market rules and incentives may impede further development of such resources.¹⁶⁷ Noting the technological maturity of energy storage technologies

161. See generally Katharine Kollins, *Solar PV Financing: Potential Legal Challenges to the Third Party PPA Model* (Dec. 5, 2008) (unpublished Masters Project, Nicholas School of the Environment, Duke University), available at http://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/843/MP_kwk5_a_20090;jsessionid=679ED9EBF8F388815817A94BE7BBC20D?sequence=1.

162. *Rulemaking to Adopt, Amend, or Repeal Regulations Regarding Third Party Ownership of Renewable Energy Systems and Other Related Utility Matters in Accordance with Assembly Bill 186*, No. 09-06031 (Nev. Pub. Utils. Comm'n Feb. 24, 2010).

163. *Id.*

164. *Smart Grid Policy*, 126 F.E.R.C. ¶ 61,253 at PP 18-20 (2009).

165. *Id.* at n.22. See also, Final Policy Statement, *Smart Grid Policy*, 128 F.E.R.C. ¶ 61,060 at P 81 (2009).

166. *Western Grid Dev., LLC*, 130 F.E.R.C. ¶ 61,056 (2010), *rehearing denied*, 133 F.E.R.C. ¶ 61,029 (2010).

167. Technical Conference, Frequency Regulation Compensation in the Organized Wholesale Power Markets, No. AD10-11-000 (FERC May 26, 2010); Open Letter from Jamie Simler, Director, Office of Energy Policy & Innovation, about a Request for Comments Regarding Rates, Accounting and Financial Reporting for

and the growing interest in using energy storage in a variety of grid applications, on June 11, 2010, the FERC Staff issued a letter requesting comments¹⁶⁸ for the express purpose of exploring just such classification and cost recovery issues.

In the Request for Comments, FERC Staff observed that despite increasing interest in electric storage technologies (such as flywheels), no consistent precedent exists to guide companies on rate and accounting treatment for such facilities.¹⁶⁹ This was seen as particularly troublesome for energy companies seeking to employ electric storage technologies because those technologies, which can be used in many different ways, do not fit neatly into traditional ratemaking and accounting categories.¹⁷⁰ For example, Staff noted that electric storage technologies can be used as transmission assets, “supplying reactive power or . . . acting as a replacement transmission circuit in the event of a transmission line trip;”¹⁷¹ to enhance the value of generation by shifting off-peak generation to more lucrative peak periods; by a load-serving entity as part of a wholesale market demand response program; or to provide ancillary services. As a result, Staff sought industry input on “how best to develop rate policies that accommodate the flexibility of storage, consistent with the Federal Power Act.”¹⁷² In this connection, while noting that distinguishing between these potential uses is helpful in identifying the appropriate ratemaking treatment, Staff observed that “[i]n reality . . . a single storage facility can often be used for multiple purposes, which complicates cost recovery issues” and that “it may be reasonable to contemplate some appropriate sharing of the total cost of the facilities between [FERC]-jurisdictional and/or retail rates.”¹⁷³

The FERC sought comments on the following criteria that could be used to determine the mechanisms by which a storage facility could recover its costs:

- “intended use and capability of the facility;”¹⁷⁴
- “commitment to address cross-subsidization and competitive concerns;”¹⁷⁵
- “maintaining the independence of market operators” (that is, whether an ISO/RTO’s operation of a storage facility, which necessarily includes charging and discharging the electricity through the energy market, would jeopardize the ISO/RTO’s independence);¹⁷⁶
- “application of the *Avista* policy,” which generally prevents third-party provision of ancillary services at market-based rates to transmission providers seeking to meet their own ancillary service requirements.¹⁷⁷

Staff also requested comments on a proposed new contract storage service, whereby a storage operator “would operate and maintain the electricity storage

New Electric Storage Technologies, Docket No. AD10-11-000 (June 11, 2010) [hereinafter *Request for Comments*].

168. *Request for Comments*, *supra* note 167, at 4, n.3; Office of Energy Policy and Innovation; *Request for Comments Regarding Rates, Accounting and Financial Reporting for New Electric Storage Technologies*, 75 Fed. Reg. 36,381 (2010).

169. *Request for Comments*, *supra* note 167, at 1-2.

170. *Id.* at 1, 8.

171. *Id.* at 5.

172. *Id.* at 2 (citing 16 U.S.C. §§ 791a – 825r (2006)).

173. *Request for Comments*, *supra* note 167, at 6.

174. *Id.* at 6.

175. *Id.* at 7.

176. *Id.* at 8.

177. *Id.* at 8 (citing *Avista Corp.*, 87 F.E.R.C. ¶ 61,223, *order on reh’g*, 89 F.E.R.C. ¶ 61,136 (1999)).

facility at its customers' direction and never take title to the energy stored at the facility.¹⁷⁸ Each customer could use its purchased storage capacity as it saw fit, while the storage owner could apply for cost-based rates or the authority to negotiate market-based rates for the storage service.

Additionally, FERC Staff requested comments on whether changes to the Commission's accounting and reporting requirements were warranted in order to ensure appropriate treatment of costs for recovery purposes. The Request for Comments attracted more than sixty responses.

2. California Assembly Bill 2514

On August 27, 2010, the California Legislature passed Assembly Bill 2514,¹⁷⁹ which, among other things, mandates development of energy storage in California.¹⁸⁰ On September 29, 2010, California Governor Arnold Schwarzenegger signed the bill into law.¹⁸¹

The new law defines an energy storage system as “commercially available technology that is capable of absorbing energy, storing it for a period of time, and thereafter dispatching the energy.”¹⁸² An energy storage system must “be cost effective and either reduce emissions of greenhouse gases, reduce demand for peak electrical generation, defer or substitute for an investment in generation, transmission, or distribution assets, or improve the reliable operation of the electrical transmission or distribution grid.”¹⁸³

The new law requires the California Public Utilities Commission (CPUC), on or before March 1, 2012, to open a proceeding to determine appropriate targets for the procurement of energy storage systems by load serving entities (LSEs).¹⁸⁴ On December 16, 2010, the CPUC issued an Order Initiating Rulemaking.¹⁸⁵ By October 1, 2013, the CPUC is to adopt procurement targets applicable to LSEs,¹⁸⁶ with reevaluations at least every three years.¹⁸⁷ Each LSE is to meet Commission-established targets for viable and cost-effective energy storage systems by 2015 and 2020.¹⁸⁸ Local publicly owned electric utilities are to meet their targets by 2016 and 2021.¹⁸⁹ Exempted from the new law are

178. *Id.* at 9.

179. A.B. 2514, Cal. Leg., 2009-10 Reg. Sess. (amending section 25302 of the Calif. Pub. Res. Code and amending §§ 454.3, 9615 & 9620 of, and to add Chapter 7.7 (commencing with section 2835) to Part 2 of Division 1 of the Calif. Pub. Util. Code). The energy storage provisions of A.B. 2514 are codified as sections 2835-2839 of the California Public Utilities Code.

180. *Id.*

181. *Ice Energy Lauds Landmark California Energy Storage Bill*, PR NEWSWIRE, Sept. 30, 2010, available at <http://www.pnewswire.com/news-releases/ice-energy-lauds-landmark-california-energy-storage-bill-104106193.html>.

182. CAL. PUB. UTIL. CODE § 2835 (a)(1) (West 2011).

183. *Id.* § 2835 (a)(3).

184. *Id.* § 2836(a)(1).

185. Order Instituting Rulemaking Pursuant to Assembly Bill 2514 to Consider the Adoption of Procurement Targets of Viable and Cost-Effective Energy Storage Systems, No. 10-12-007, 2010 WL 5650653 (Cal. Pub. Utils. Comm'n 2010).

186. CAL. PUB. UTIL. CODE § 2836(a)(2) (West 2011).

187. *Id.* § 2836(a)(3).

188. *Id.* § 2836(a)(1).

189. *Id.* § 2836(b)(1).

electrical corporations with 60,000 or fewer customers in California and certain public utility districts.¹⁹⁰

190. *Id.* § 2838.5(a)-(b).

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