

REPORT OF THE POWER GENERATION AND MARKETING SUBCOMMITTEE

In this report, the subcommittee summarizes key developments in the regulation of power generation and marketing from July 1, 2017 through June 30, 2018.*

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I. FERC ORDERS

A. *Order No. 841*

On February 15, 2018, the FERC issued a Final Rule known as Order No. 841, to remove barriers to the participation of electric storage resources (ESRs) in the capacity, energy, and ancillary service markets operated by Regional Transmission Organizations (RTOs) and Independent System Operators (ISOs).¹ Order No. 841 requires each RTO and ISO to revise its tariff to establish a participation model consisting of market rules that recognize the physical and operation characteristics of ESRs and facilitates their participation in the RTO/ISO markets.²

Order No. 841 found that existing RTO/ISO market rules and participation models designed for traditional generation or load resources are unjust and unreasonable because they can create barriers to market entry for emerging technologies.³ Specifically, the FERC found that such rules could be entry barriers because they do not recognize ESRs’ “unique physical and operational characteristics” and their capability to provide services in the RTO/ISO markets.⁴

*The Power Generation & Marketing Subcommittee sincerely thanks the following committee members for their contributions to this report: Mike Blackwell, Glenn Camus, Walter R. Hall II, Stephen Hug, and Joseph Williams.

1. Order No. 841, *Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators*, 162 F.E.R.C. ¶ 61,127 (2018) (to be codified at 18 C.F.R. pt. 35) [hereinafter Order No. 841].

2. *Id.*

3. *Id.* at P 1.

4. *Id.* at P 11.

Order No. 841 requires RTO/ISO tariffs to establish a participation model that will help facilitate the participation of ESRs in RTO/ISO markets.⁵ The participation model is a set of tariff provisions that must:

- (1) ensure that an ESR using the participation model is eligible to provide all capacity, energy, and ancillary services that it is technically capable of providing in the RTO/ISO markets;
- (2) ensure that an ESR can be dispatched and can set the wholesale market clearing price as both a wholesale seller and wholesale buyer consistent with existing market rules that govern when a resource can set the wholesale price;
- (3) account for an ESR's physical and operational characteristics through bidding parameters or other means; and
- (4) establish a minimum size requirement for participation in the RTO/ISO markets that does not exceed 100 kilowatts.⁶

In addition, the sale of electric energy from the RTO/ISO markets to an ESR – whether or not using the ESR participation model – that the ESR “then resells back to those markets must be at the wholesale locational marginal price (LMP).”⁷

B. Order No. 842

On February 15, 2018, FERC issued Order No. 842 to revise the Commission's regulations “to require newly interconnecting large and small generating facilities, both synchronous and non-synchronous, to install, maintain, and operate equipment capable of providing primary frequency response as a condition of interconnection,” and also to establish certain “uniform minimum operating requirements in the *pro forma* LGIA and *pro forma* SGIA, including maximum droop and deadband parameters and provisions for timely and sustained response.”⁸ To effectuate these changes, Order No. 842 “modifies the *pro forma* Large Generator Interconnection Agreement (LGIA) and the *pro forma* Small Generator Interconnection Agreement (SGIA)” to ensure that rates, terms and conditions of jurisdictional service remain just and reasonable and not unduly discriminatory or preferential.⁹ Specifically, Order No. 842 modifies “the *pro forma* LGIA and SGIA by revising Sections 9.6 and 9.6.2.1 and adding new sections 9.6.4, 9.6.4.1, 9.6.4.2 and 9.6.4.3.”¹⁰ The Final Rule was noticed in the Federal Register on March 6, 2018 and was effective on May 15, 2018.¹¹

C. Order No. 845

On April 19, 2018, the FERC issued Order No. 845, which adopted many of the reforms proposed in the FERC's 2016 Notice of Proposed Rulemaking

5. Order No. 841 defines a participation model as consisting of tariff provisions created for specific types of resources that have unique physical and operational characteristics or other attributes that warrant distinctive treatment from other market participants. *Id.* at P 3.

6. Order No. 841, *supra* note 1, at P 4.

7. *Id.* at ii.

8. Order No. 842, *Essential Reliability Services and the Evolving Bulk-Power System – Primary Frequency Response*, 162 F.E.R.C. ¶ 61,128 (2018) (to be codified at 18 C.F.R. pt. 35) (2018) [hereinafter Order No. 842]; *Id.* at P 1.

9. *Id.*

10. *Id.* at P 259.

11. *See generally id.*

(NOPR) on Generator Interconnection Procedures and Agreements.¹² The purpose of Order No. 845 is to provide interconnection customers (ICs) with “better information and more options for obtaining interconnection service such that there are fewer interconnection requests overall and fewer interconnection requests that are unlikely to reach commercial operation.”¹³

The reforms adopted by the Commission in Order No. 845 are largely grouped into three categories.¹⁴ First, the Commission aims to improve certainty for Interconnection Customers in two ways.¹⁵ The Commission directed transmission providers to allow ICs the option to build interconnection facilities and network upgrades without any showing that the transmission provider cannot be built in time for the IC’s needs.¹⁶ The Commission also required the establishment of dispute resolution procedures that allow a disputing party to unilaterally seek non-binding dispute resolution.¹⁷

Second, the Commission aimed to improve the information provided by transmission providers by requiring that they each outline and publicize a method for determining contingent facilities; make available to ICs the specific study processes and assumptions for forming network models used in interconnection studies; revise the definition of “Generating Facility” to include ESRs; and establish reporting requirements for aggregate interconnection study performance (e.g. timeliness).¹⁸

Third, the Commission developed new requirements to enhance the interconnection process.¹⁹ Order No. 845 directed transmission providers to allow ICs to request a level of interconnection service lower than their full generating capacity by using control technologies and penalties and to allow provisional interconnection agreements that provide for limited operation of a generating facility prior to completion of the full interconnection process.²⁰ The Commission also required the development of an expedited process that allows ICs to use surplus interconnection service at existing points of interconnection, and required the definition of a class of permissible technological advancements and provision of a mechanism to study changes in an IC technology without affecting the ICs queue position.²¹

D. Order Approving PJM Reduction in Biddable Points

On February 20, 2018, the FERC approved PJM Interconnection, L.L.C.’s (PJM) proposed revisions to its Amended and Restated Operating Agreement and

12. Order No. 845, *Reform of Generator Interconnection Procedures and Agreements*, 163 F.E.R.C. ¶ 61,043 (2018) (to be codified at C.F.R. pt. 37) [hereinafter Order No. 845].

13. *Id.*

14. *Id.* at P 3-5.

15. *Id.* at P 3.

16. *Id.*

17. Order No. 845, *supra* note 12, at P 3.

18. *Id.* at P 4.

19. *Id.* at P 5.

20. *Id.*

21. *Id.* at P 6.

Open Access Transmission Tariff to reduce the number of bidding points for virtual transactions.²² Virtual transactions are sets of bids and offers submitted in the day-ahead energy market that take financial positions without the intent of delivering or consuming physical power in the real-time energy market.²³ Virtual transactions include Increment Offers (INCs), Decrement Bids (DECs) and Up-to-Congestion Transactions (UTCs), and market participants to arbitrage price differences between the day-ahead and real-time markets and hedge exposure to physical positions can use them.²⁴ More specifically, an INC “is an offer to sell energy at a specified location in the [PJM] Day-ahead Energy Market”; a DEC is a bid to buy energy at a specified location in the PJM day-ahead energy market; a UTC is an offer to sell energy at a source, with a corresponding bid to buy the same amount of energy at a sink where the transaction specifies the maximum difference between the locational marginal prices at the source and sink.²⁵

In its filing, PJM explained that “by allowing market participants without physical assets to compete with asset owners and load serving entities,” virtual transactions have the ability to mitigate market power and contribute to the efficient operation of its energy markets.²⁶ PJM further explained that under its current market design, certain bidding points were not located where “the settlement of physical energy occurs or forward positions can be taken,” rendering it unclear how virtual transactions at certain bidding points were benefitting PJM’s energy market.²⁷ PJM’s proposal, among other things, eliminates numerous currently-eligible nodes for INCs and DECs and instead aligns the eligible trading points “with nodes where . . . generation, load, or interchange transactions are settled, or at trading hubs” where forward positions can be taken, and limits the trading locations of UTCs to trading hubs, load zones, and interfaces.²⁸ The FERC accepted PJM’s “proposal as just, reasonable and not unduly discriminatory or preferential,” effective January 16, 2018, as requested.²⁹

E. Order Approving CAISO Changes to CRR Auction

On June 29, 2018, the FERC approved the California Independent System Operator, Inc.’s (CAISO) proposed tariff amendments to its congestion revenue rights (CRR) auctions.³⁰ In its filing, CAISO stated that the proposed revisions would improve the efficiency of the CRR auctions through utilizing more accurate

22. Order Accepting Filing, *PJM Interconnection, L.L.C.*, 162 F.E.R.C. ¶ 61,139 at P 1 (2018) [hereinafter PJM Order].

23. PJM INTERCONNECTION L.L.C., FILING TRANSMITTAL LETTER 2 (Oct. 17, 2017), <https://www.pjm.com/directory/etariff/FercDockets/2363/20171017-er18-87-000.pdf> [hereinafter PJM Transmittal].

24. *Id.* at 2-3.

25. Amended and Restated Operating Agreement of PJM Interconnection, LLC. at OA Definitions I-L, C-D, Sched. 1 § 1.10.1A(c-1), <https://www.pjm.com/directory/merged-tariffs/oa.pdf>.

26. PJM Transmittal, *supra* note 23, at 3.

27. *Id.* at 5.

28. *Id.* at 47.

29. PJM Order, *supra* note 22, at 1, 3.

30. Order Accepting Tariff Amends., *Cal. Indep. System Operator Corp.*, 163 F.E.R.C. ¶ 61,237 at P 1 (2018) [hereinafter CAISO Order].

modeling information and by eliminating “the procurement of CRRs that contribute to the inefficiency of the auctions.”³¹

CAISO regards CRRs as financial instruments designed “to hedge congestion costs associated with supply delivery” in the CAISO markets, and explained in its filing that the primary purpose of CRRs is to “facilitate long-term contracting by load-serving entities” and suppliers by allowing them to hedge congestion costs incurred in the day-ahead market.³² CAISO asserted that it has paid out “\$99.5 million per year more in CRR revenues from the day-ahead market than bidders paid for those CRRs” in the auctions.³³ CAISO specifically proposed to address the auction revenue shortfall by limiting the allowable source and sink pairs eligible for the CRR auction to pairs associated with supply delivery, and to exclude non-delivery CRR pairs.³⁴ The tariff changes also require transmission owners to submit all known transmission maintenance outages for the next year by July 1, rather than October 15, which CAISO stated would align better with the CRR allocation and auction model that is typically finalized prior to October 15, allowing the outage data to be included in the allocation and auction model.³⁵ The FERC found the filing to be just and reasonable and not unduly discriminatory or preferential, accepting CAISO’s proposed tariff changes, effective April 1, 2018.³⁶

F. Developments Concerning Grid Resilience

On September 28, 2017, pursuant to section 403 of the Department of Energy Organization Act, the Secretary of Energy (Secretary) sent a proposed rule for final action on the issue of grid resiliency (the Proposed Rule) to the FERC.³⁷ The Proposed Rule sought to address the potential for energy outages resulting from the loss of certain baseload generation by requiring certain RTOs and ISOs to establish a tariff mechanism for the purchase of energy from eligible “reliability and resilience resources” and the recovery of costs and a return on equity for these resources.³⁸ In order to be eligible for such rate treatment, the generating units had to: (1) be located in an RTO/ISO with an energy and capacity market, (2) be able to provide essential reliability services, and (3) have a 90-day fuel supply on-site.³⁹ The Proposed Rule purported to address potential premature retirement of necessary generation that offered on-site fuel supplies and the ability to provide voltage

31. Filing Transmittal Letter, *Cal. Indep. System Operator Corp.* at 1, 3 (Apr. 11, 2018), http://www.caiso.com/Documents/Apr11_2018_TariffAmendment-CRR AuctionEfficiencyTrack1A_ER18-1344.pdf [hereinafter CAISO Transmittal Letter].

32. *Id.* at 2, 18; CALIFORNIA ISO, *Congestion Revenue Rights Auction Efficiency: Track 1A Draft Final Proposal*, at add. 6.2 (Feb. 8, 2018), available at <http://www.caiso.com/Documents/DraftFinalProposal-CongestionRevenueRightsAuctionEfficiency-Track1.pdf>.

33. CAISO Transmittal Letter, *supra* note 31, at 2.

34. *Id.* at 4, 15.

35. *Id.* at 17.

36. CAISO Order, *supra* note 30, at 1, 21.

37. Letter from Rick Perry, Secretary of Energy, Department of Energy, to the FERC Chairman and Commissioners at 1 (Sept. 28, 2017) (on file with the Department of Energy) [hereinafter Letter from Rick Perry].

38. Notice of Proposed Rulemaking, *Grid Resiliency Pricing Rule*, 82 Fed. Reg. 46,940, 46,943 (to be codified at 18 C.F.R. pt. 35) [hereinafter Notice - Grid Resiliency].

39. Letter from Rick Perry, *supra* note 37, at 7.

support, frequency services, operating services and reactive power by providing compensation for all the attributes the eligible units provided to the electric grid.⁴⁰ The Secretary stated that the FERC's "failure to act expeditiously would be unjust, unreasonable and contrary to public interest" and directed the FERC to take final action on the proposal pursuant to sections 205 and 206 of the Federal Power Act "within 60 days of publication of the notice in the Federal Register or, in the alternative, to issue the rule as an interim final rule immediately, with provision for later modifications after consideration of public comments."⁴¹

On October 2, 2017, the FERC initiated a proceeding by issuing a Notice Inviting Comments.⁴² Multiple interested parties filed comments and reply comments in response to the Proposed Rule, including the following RTOs and ISOs:

- Southwest Power Pool, Inc. (SPP), which opposed the Proposed Rule because the word resiliency lacked specificity and the rule would disconnect capacity decisions from market forces;⁴³
- PJM, which opposed the Proposed Rule and sought to refocus the question of the necessary mix of resources on the specific needs of each region;⁴⁴
- ISO New England (ISO-NE), which opposed the Proposed Rule because it would allegedly undermine the efficient and effective wholesale electricity markets in New England, and ISO-NE claimed it had already taken steps to improve operating procedures and generator incentives to secure firm fuel supplies;⁴⁵
- Midcontinent Independent System Operator (MISO), which opposed the Proposed Rule because the expedited period for consideration of the rule did not allow sufficient time for reasoned decision-making, the Proposed Rule identified no imminent reliability or resilience issues in the MISO region, and the Proposed Rule attempted to apply a one-size-fits all system when MISO's reliability processes complemented state level policies;⁴⁶
- CAISO, which opposed the adoption of the Proposed Rule because, even if the Rule applied to ISOs and RTOs without capacity markets, CAISO already had a mechanism in place to ensure the CAISO balancing authority area remained reliable and resilient in the face of unexpected loss of supply resources specific to its unique needs, and there was no basis in the record for the Commission to

40. Notice - Grid Resiliency, *supra* note 38, at 46,943.

41. *Id.* at 46,940.

42. Notice Inviting Comments at 1, *Grid Reliability and Resilience Pricing*, FERC Docket No. RM18-1-000, (Oct. 2, 2017).

43. Comments of Southwest Power Pool, Inc. at 8, *Grid Reliability and Resilience Pricing*, FERC Docket No. RM18-1-000, (Oct. 23, 2017).

44. Reply Comments of PJM Interconnection, L.L.C. on the United States Department of Energy Proposed Rule at 2, *Grid Reliability and Resilience Pricing*, FERC Docket No. RM18-1-000, (Oct. 23, 2017).

45. Comments of ISO New England Inc. at 1, *Grid Reliability and Resilience Pricing*, FERC Docket No. RM18-1-000 (Oct. 23, 2017).

46. Comments of the Midcontinent Independent System Operator, Inc. at 1-2, *Grid Reliability and Resilience Pricing*, (Oct. 23, 2017).

find that the Proposed Rule’s remedy would maintain grid reliability or resilience;⁴⁷ and

- New York Independent System Operator, Inc. (NYISO) opposed the Proposed Rule because the rule was based on assumptions and statements not accurate as they relate to New York, and the proposed timetable for the rulemaking was “unreasonably abbreviated and unworkable.”⁴⁸

On January 8, 2018, the FERC terminated the rulemaking proceeding on the Proposed Rule, stating that “in order to require RTOs/ISOs to implement tariff changes as contemplated by the Proposed Rule, there must be a demonstration that the specific statutory standards of section 206 of the FPA are satisfied.”⁴⁹ In other words, “there must be a showing that the existing RTO/ISO tariffs are unjust, unreasonable, unduly discriminatory or preferential.”⁵⁰ The Proposed Rule did not satisfy these threshold statutory requirements.⁵¹ The potential retirement of particular resources alone does not demonstrate the unjustness or unreasonableness of the existing RTO/ISO tariffs, and there is no evidence in the record that past or planned retirements threatened the grid’s resilience.⁵² In addition, the record did not support the Proposed Rule’s actions regarding bulk power system resilience, nor did it demonstrate that allowing “all eligible resources to receive a cost-of-service rate regardless of need or cost to the system” would be just or reasonable, nor demonstrate that the remedy in the Proposed Rule would not be unduly discriminatory or preferential.⁵³

However, in recognition of the importance of reinforcing the bulk power system, the FERC initiated a new proceeding to holistically examine the resilience of the bulk power system in the regions operated by RTOs and ISOs.⁵⁴ The Commission recognized that “a variety of economic, environmental, and policy drivers [are] changing the way electricity is procured and used” and the Commission must ensure that the planning rules and reliability standards are responsive to the individualized needs of each region.⁵⁵ As such, the Commission instructed each ISO and RTO to submit information on several aspects of grid resilience, including secure onsite fuel, wholesale electric market rules, planning and coordination, and NERC standards.⁵⁶ The FERC initiated the proceeding with the following goals:

- (1) to develop a common understanding among the Commission, industry, and others of what resilience of the bulk power system means and requires;
- (2) to understand

47. Comments of California Independent System Operator Corporation at 1-2, *Grid Reliability and Resilience Pricing*, FERC Docket No. RM18-1-000 (Oct. 23, 2017).

48. *Id.*

49. *Grid Reliability and Resilience Pricing*, 162 F.E.R.C. ¶ 61,012 at P 14 (2018).

50. *Id.*

51. *Id.*

52. *Id.*

53. *Id.* at P 16.

54. 162 F.E.R.C. ¶ 61,012 at P 17; *FERC Initiates New Proceeding on Grid Resilience, Terminates DOE NOPR Proceeding*, FERC (Jan. 8, 2018). Commissioners Glick, LaFleur and Chatterjee wrote separate concurring statements in these proceedings.

55. 162 F.E.R.C. ¶ 61,012 at P 17.

56. *Id.* at P 19.

how each RTO and ISO assesses resilience in its geographic footprint; and (3) to use this information to evaluate whether additional Commission action regarding resilience is appropriate at this time.⁵⁷

On March 9, 2018, the following RTOs and ISOs filed comments responsive to the Commission's request for information: CAISO, SPP, MISO, PJM, NYISO, and ISO-NE.⁵⁸ The non-FERC jurisdictional Electric Reliability Council of Texas, Inc. (ERCOT) also filed comments.⁵⁹ The FERC has yet to issue a final decision in these proceedings.

II. DEVELOPMENTS CONCERNING ZERO-EMISSION CREDIT PROGRAMS

For several years, owners of nuclear-fueled generation plants have sought the adoption of state programs to provide non-market revenues to such plants. Nuclear generators have argued that wholesale market-determined prices fail to provide sufficient revenues to cover the costs of operating such plants, and that without state programs to supplement those revenues, unprofitable plants will be retired with possible adverse effects on reliability or electricity pricing.⁶⁰ Adoption of state programs is supported on the basis that nuclear generation is carbon-emission free and that this desirable attribute justifies such additional market revenues, similarly to federal and state-provided incentives granted to renewable generation.

Over the past year, active campaigns continued in Connecticut and New Jersey, with the passage of legislation to create a Zero-Emission Credit (ZEC) program occurring in the latter.⁶¹ Moreover, a study was released by the Massachusetts Institute of Technology Center for Energy and Environmental Policy

57. *Id.* at P 18.

58. California Independent System Operator, Comments of The California Independent System Operator Corporation in Response to the Commission's Request for Comments About System Resiliency and Threats to Resilience, FERC Docket No. AD18-7-000 (Mar. 9, 2018); Southwest Power Pool, Inc., Comments Of Southwest Power Pool, Inc. On Grid Resilience Issues, FERC Docket No. AD18-7-000 (Mar. 9, 2018); Midcontinent Independent System Operators, Inc., Motion For Leave To Respond And Response To Certain Reply Comments Of The Organization Of MISO States, FERC Docket No. AD18-7-000 (Mar. 9, 2018); PJM, Reply Comments of PJM Interconnection, L.L.C., FERC Docket No. AD18-7-000 (Mar. 9, 2018); New York Independent System Operator, Inc., Reply Comments of the New York Independent System Operator, Inc., FERC Docket No. AD19-7-000 (Mar. 9, 2018); Independent System Operators New England, Comments of California System Operators Corporation, ISO New England Inc., Midcontinent Independent System Operator, Inc., New York Independent System Operator, Inc., and Southwest Power Pool, Inc., FERC Docket No. AD18-7-000 (Mar. 9, 2018).

59. Joint Comments of the Electric Reliability Council of Texas, Inc. and the Public Utility Commission of Texas, Grid Resilience in Regional Transmission Organizations and Independent System Operators, FERC Docket No. AD18-7 (March 9, 2018).

60. EXELON, EXELON STATEMENT ON PASSAGE OF NEW JERSEY ZERO EMISSIONS CERTIFICATE PROGRAM (May 23, 2018), <http://www.exeloncorp.com/newsroom/exelon-statement-on-passage-of-new-jersey-zero-emissions-certificate-program>.

61. See, e.g., Daniel P. Malloy, Connecticut Executive Order 59 (Jul. 25, 2017); Conn. Dep. Of Energy & Env't Prot. Conn. Pub. Util. Reg. Auth., Resource Assessment of Millstone Pursuant to Executive Order No. 59 and Public Act 17-3; Determination Pursuant to Public Act 17-3 (2018); Robert Walton, Dominion Threatens Millstone closure if plant shut out of support program, UTILITY DIVE (July 10, 2018), <https://www.utilitydive.com/news/dominion-threatens-millstone-closure-if-plant-shut-out-of-support-program>; Bill Debus, Davis-Besse Nuclear Power Station to close in 2020, THE MORNING JOURNAL (Mar. 28, 2018), <http://www.morningjournal.com/general-news/20180328/davis-besse-nuclear-power-station-to-close-in-2020>; Sam Mintz, Pa.

Research confirming that roughly 21 gigawatts of nuclear generation in merchant deregulated markets have been scheduled to retire or are at risk of retiring due to inadequate cost recovery attributable to pricing in such markets.⁶²

District Court decisions upholding the legality of two of these programs, those adopted in 2016 in Illinois and New York, were issued within the last year.⁶³ In *Coalition for Competitive Electricity, et al. v. Zibelman*, Judge Caproni of the Southern District of New York dismissed complaints filed by non-nuclear merchant generators that challenged the Clean Energy Standard adopted by the New York Public Service Commission (NY PSC), which contained such a program.⁶⁴ That program created ZECs, i.e. a saleable interest constituting the zero-emissions attributes of one megawatt-hour of electricity production by an eligible nuclear facility.⁶⁵ To obtain ZECs for sale, a nuclear generator must make a showing of “public necessity,” i.e. that its revenues from markets operated by the NYISO are “insufficient to provide adequate compensation to preserve the zero-emission environmental” attributes historically provided by that facility.⁶⁶ Nuclear generators are directed to sell their ZECs to the New York State Energy Research and Development Authority (NYSERDA) at a price administratively determined by the NY PSC with reference to the “federal estimate of the social cost of carbon and a forecast of [NYISO market] wholesale electricity prices.”⁶⁷ “LSEs are [then] required to purchase [the] ZECs from NYSERDA in an amount proportional to their customers’ share of the total [electricity] consumed in New York,” passing that cost on to the retail electricity consumer.⁶⁸

The second decision, addressing the very similar Illinois ZEC program, is *Electric Power Supply Association, et al. v. Star*.⁶⁹ Plaintiffs in this consolidated action (i.e., deriving from separate complaints filed by merchant generators and retail delivery service customers) raise very similar preemption and dormant commerce clause objections to the Illinois ZEC program and add an equal protection clause claim.⁷⁰ Each district court granted defendants’ motions to dismiss on both

braces for impact as Three Mile Island nears closure, E&E NEWS (Aug. 2, 2018), <https://www.eenews.net/stories/1060091883>.

62. Geoffrey Haratyk, *Early Nuclear Retirements in Deregulated U.S. Markets: Causes, Implications and Policy Options* (MIT Center for Energy and Environmental Policy Research Working Paper No. 2017-009), <http://ceep.mit.edu/files/papers/2017-009.pdf>; Sonal Patel, *The Big Picture: Nuclear Financial Meltdown*, POWER MAG (Aug. 1, 2017), <https://www.powermag.com/the-big-picture-nuclear-financial-meltdown/>.

63. *Coalition for Competitive Electricity v. Zibelman*, 272 F. Supp. 3d 554, 586 (S.D.N.Y. 2017); *Electric Power Supply Ass’n v. Star*, No. 17 CV 1164, slip op. at 43 (N.D. Ill. July 14, 2017).

64. *Zibelman*, 272 F. Supp. 3d at 586; see generally STATE OF N.Y. PUB. SERV. COMM’N, PROCEEDING ON MOTION OF THE COMMISSION TO IMPLEMENT A LARGE-SCALE RENEWABLE PROGRAM AND A CLEAN ENERGY STANDARD (2016).

65. *Zibelman*, 272 F. Supp. 3d at 561.

66. *Id.* at 562. Through the ZEC program, New York seeks to encourage continued nuclear plant operation (which comprises 31% of its electric generation mix) and thus avoid the emission of over fifteen million tons of carbon dioxide per year. The program is very similar in both purpose and mechanics to New York’s Renewable Energy Credits (RECs) program which provides similar monetary incentives to the development of zero-carbon emission renewable generation. *Id.* at 561.

67. *Zibelman*, 272 F. Supp. 3d at 562.

68. *Id.*

69. See generally *Star*, No. 17 CV 1164.

70. *Id.* at 11.

procedural and substantive grounds (i.e. failure of the complaints to state a claim upon which relief could be granted).⁷¹ Both district court orders have been appealed to the Second and Seventh Circuit Courts of Appeals, respectively, where they remain pending at this time.⁷² On May 29, 2018, the Department of Justice and the FERC filed briefs stating that the Illinois ZEC program is not preempted by the FPA.⁷³

In *Zibelman*, Plaintiffs asserted that the ZEC program is preempted under the FPA and violates the Dormant Commerce Clause (DCC).⁷⁴ The court rejected these arguments on both procedural and substantive grounds.⁷⁵ First, it concluded that neither the FPA nor the DCC permits a private right of action to enforce their requirements, and thus the claims could be presented only through the court's equity jurisdiction.⁷⁶ However, because the FPA does not provide a private right of action, the court concluded that, under applicable Supreme Court authority, federal equity jurisdiction also was not available.⁷⁷ The *Star* court also reached this conclusion, adding the further basis for denying an FPA private right of action that FPA decisional standards are not "judicially administrable."⁷⁸

In *Zibelman*, Plaintiffs argued that both field and conflict preemption applied to require invalidation of the ZEC program.⁷⁹ The court rejected each.⁸⁰ As respects field preemption, the court, while distinguishing the recent Supreme Court authority of *Hughes v. Talen Energy Marketing, LLC*, 135 S. Ct. 1288 (2016), reasoned as follows:

[T]he Maryland program in *Hughes* conditioned the generators' receipt of a favorable rate (distinct from the auction rate) on the generators' capacity clearing the auction; there was a direct and concrete tie (or tether) between the contracts-for-difference and the generators wholesale market participation. Here, a ZEC is available based on the environmental attributes of the energy production – specifically, for the generators' production of zero-emissions energy – without consideration of the generators' participation in the auction. . . . [T]he ZEC program does not suffer from *Hughes*'s "fatal defect" because the ZEC program 'does not condition capacity transfers on [the wholesale] auction . . . [T]he purchase or sale of ZECs . . . reflect transactions that occur "independent of the auction."⁸¹

Noting the similarity between REC programs that incentivize renewable generation development and ZEC programs, the *Zibelman* court similarly rejected the

71. *Zibelman*, 272 F. Supp. 3d at 586; *Star*, No. 17 CV 1164 at 43.

72. *Id.*

73. Brief for the United States and the Fed. Energy Regulatory Comm'n as Amici Curiae in Support of Defendants-Respondents and Affirmance, *Village of Old Mill Creek v. Star*, Nos. 17-2433 and 17-2445 (7th Cir. May 29, 2018).

74. *Zibelman*, 272 F. Supp. 3d at 567, 580.

75. *Id.* at 586.

76. *Id.* at 563-64.

77. *Id.* at 567.

78. *Star*, No. 17 CV 1164, at 22-23. The applicable Supreme Court authority applied by each Court was *Armstrong v. Exceptional Child Center*, 135 S. Ct. 1378 (2015). The *Star* court also examined Plaintiffs standing to raise their preemption and dormant commerce clause claims, finding that, with one exception, standing was not present. *Id.* at 12-18.

79. *Zibelman*, 272 F. Supp. 3d 554, 563.

80. *Id.* at 576, 580.

81. *Id.* at 571.

effect of ZECs upon FERC.⁸² It determined wholesale rates as a basis for field preemption as follows:

Like a REC, a ZEC is a certification of an energy attribute that is separate from a wholesale charge or rate. Like a REC, the purchase or sale of a ZEC is the purchase or sale of this attribute, rather than the purchase or sale of wholesale energy. Like a REC, the purchase or sale of a ZEC is independent of the purchase or sale of wholesale energy. . . . The Court cannot find any principled basis to hold that the ZEC program is preempted even though its sibling REC program is not.⁸³

As respects conflict preemption, the *Zibelman* court concluded that the ZEC program addresses a matter of legitimate state concern (i.e. the production of clean energy), does not guarantee a wholesale price displacing the FERC-approved, market-determined price, nor does it cause clear damage to FERC's objective of efficient market operation.⁸⁴ Rather, ZEC effects on NYISO market operations are indirect and incidental, and, thus, no conflict preemption exists.⁸⁵ These same factors also persuaded the Court to reject Plaintiffs Dormant Commerce Clause argument, i.e. the presence of a legitimate state objective and only indirect and incidental damage to federal objectives.⁸⁶ Further, the court held that plaintiffs' asserted injuries did not fall within the "zone of interests" protected by the Dormant Commerce Clause (i.e. facial discrimination against their participation in NYISO markets) and thereby Plaintiffs lacked a cause of action under the doctrine, and New York's ZEC program was not a regulatory (as compared to a market participatory) action subject to invalidation under the doctrine.⁸⁷

III. EFFORTS TO INCORPORATE STATE PUBLIC POLICIES IN RTO/ISO MARKETS

Over the past several years, a number of RTOs/ISOs have investigated modifications to their electricity markets to render them more effective at implementing state-adopted clean power policies, such as mandated renewable generation standards.⁸⁸ Concepts investigated have included proposals to incorporate the cost

82. *Id.* at 579.

83. *Id.* at 574.

84. *Zibelman*, 272 F. Supp. 3d at 577, 579.

85. *Id.* at 572; *Star*, No. 17 CV 1164, at 31-32 (where the court reached essentially the same conclusion).

86. *Zibelman*, 272 F. Supp. 3d at 578; *see also Village of Old Mill Creek*, Nos. 17-2433 and 17-2445 at 37-43 (The court rejected Plaintiffs Dormant Commerce Clause claims on these same bases, and, moreover, rejected Plaintiffs claim that much of the structure of the Illinois ZEC program was a sham and designed merely to cover non-market payments to be made to specific, pre-identified Illinois-located nuclear generators. The court also rejected consumer plaintiffs' equal protection claims finding that no equal protection violation could exist from Illinois favoring its own citizens (or generators) over those of other states, that being the only difference in treatment asserted by plaintiffs.).

87. *Zibelman*, 272 F. Supp. 3d at 583, 586; *see also* Petition, Hudson River Sloop Clearwater, et al. v. New York PSC, et al., No. 7242-16 (N.Y. 2016) (The New York ZEC program is also being challenged before the New York Supreme Court on the basis that the NY PSC Order violated New York's administrative procedure act; establishes unjust, unreasonable and discriminatory rates; constitutes an arbitrary and capricious decision; and violates the State Environmental Quality Review Act); Sonal Patel, *Challenge to New York Subsidies Will Go to Trial*, POWER (January 25, 2018), <https://www.powermag.com/challenge-to-n-y-nuclear-subsidies-will-go-to-trial/>.

88. *See, e.g.,* ISO NEW ENGLAND, NEPOOL 2016 IMAPP PROPOSALS OBSERVATIONS, ISSUES, AND NEXT STEPS (Jan. 25 2017); PJM INTERCONNECTION, CONTEXT FOR MARKET DESIGN INITIATIVES RESPONDING TO STATE POLICY INITIATIVES (June 12, 2017); Ari Peskoe, *Easing Jurisdictional Tensions by Integrating Public*

of carbon in market pricing, two-stage capacity markets and clean-energy capacity market mechanisms.⁸⁹

Perhaps the most active such investigation during this 2017-2018 reporting period has been that of the NYISO which, through two stakeholder proceedings (i.e. the Integrating Public Policy Task Force (IPPTF) and Market Issues Working Group), has been examining how best to incorporate the cost of carbon in market pricing as well as other market changes required to facilitate the integration of 50% renewable generation into New York's electric generation supply.⁹⁰

The objective of the carbon pricing effort is stated in the charter of the IPPTF as follows:

Incorporating the cost of carbon dioxide into the wholesale Energy markets is intended to provide the most efficient means to incentivize carbon abatement from a broad set of electric suppliers, supporting the state's clean energy policies to reduce electric sector carbon dioxide emissions while continuing to leverage market forces to provide affordable, reliable electricity.⁹¹

A joint NYISO and New York State staff team has prepared a report defining a concept for the integration of carbon pricing into the NYISO's markets and a more detailed set of draft recommendations for implementation of the concept.⁹²

Policy in Wholesale Electricity Markets, 38 ENERGY L. J. 1 (2017); Sarah K. Adair & Franz T. Litz, *Understanding the Interaction between Regional Electricity Markets and State Policies*, NICHOLAS INST. FOR ENV'T'L POLICY (Nov. 2017), available at <https://nicholasinstitute.duke.edu/publications/understanding-interaction-between-regional-electricity-markets-and-state-policies>.

89. Two stage capacity market proposals are designed to maintain equity between state "subsidized" clean power sources (i.e., often nuclear power plants receiving a non-market payment pursuant to State legislation that supplements market payments deemed inadequate to prevent plant closure due to non-recovery of operating costs) and non-subsidized sources (primarily fossil fired generation) by preventing market bids from the former from reducing market clearing prices received by the latter. Clean energy capacity market mechanisms seek to attract and compensate defined clean power sources separately within an RTO/ISO market structure consistent with state policy establishing mandated or target objectives for the participation of such resources in state generation supply. See generally Peskoe, *supra* note 89, at 16; see also Adair & Litz, *supra* note 89.

90. Each of these stakeholder efforts has been supported by the preparation of an extensive report suggesting a concept to implement New York's energy supply decarbonization objectives. See, e.g., THE BRATTLE GROUP, PRICING CARBON INTO NYISO'S WHOLESALE ENERGY MARKET TO SUPPORT NEW YORK'S DECARBONIZATION GOALS (Aug. 10, 2017), <https://home.nyiso.com/wp-content/uploads/2017/10/2017-Brattle-NY-Carbon-Study.pdf> [hereinafter Brattle Report]; see also NYISO, INTEGRATING PUBLIC POLICY: A WHOLESALE MARKET ASSESSMENT OF THE IMPACT OF 50% RENEWABLE GENERATION (Dec. 2017), http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_miwg/meeting_materials/2017-12-20/2017%20Market%20Assessment%20with%2050%20percent%20Renewables,%20Report.pdf [hereinafter Market Assessment].

91. NYISO, *Integrating Public Policy Task Force, Revised Charter* (July 2018), http://www.nyiso.com/public/webdocs/markets_operations/committees/bic/meeting_materials/2018-08-13/IPPTF%20Charter%2020180727.pdf.

92. New York State agencies participating on the team include the New York Public Service Commission and the New York State Energy Research and Development Authority. See generally IPPTF Work Plan, http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_miwg_ipptf/meeting_materials/2018-02-12/Work%20Plan%20CORRECTED%20CLEAN%20%2020180206.pdf; NYISO, *Carbon Pricing Straw Proposal* (April 30, 2018), http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_miwg_ipptf/meeting_materials/2018-04-23/Carbon%20Pricing%20Straw%20Proposal%2020180430.pdf [hereinafter Straw Proposal]; NYISO, *Carbon Pricing Draft Recommendations* (August

The proposed concept provides for the NY PSC, through an appropriate regulatory process, to establish the gross and net price of carbon (i.e. its social cost in dollars per ton of CO₂ emissions) to be integrated into NYISO's markets, and for the application of that price to both internal and imported power supplies.⁹³ As explained in the Joint Staff Recommendations:

The NYISO would apply a carbon price by debiting each energy supplier a charge for its carbon emissions at the specified price as part of its settlement. "Suppliers would embed these additional carbon charges in their energy offers . . . and thus incorporate the carbon price into the unit commitment, dispatch, and price formation through the NYISO's existing processes."⁹⁴

Special rules are proposed for applying the carbon price to import transactions so as not to alter the existing patterns of such transactions, to avoid inadvertently encouraging imports or exports of carbon emitting fossil generation that would conflict with New York's de-carbonization objectives and for requiring generators to measure and report their carbon emissions to the NYISO to permit operation of the pricing mechanism.⁹⁵ Computer modeling studies are in process to examine alternatives for returning carbon pricing specific revenues to Load Serving Entities and through them to end-users (subject to NY PSC regulation) to avoid major electricity supply cost increases or cost shifts between regions or customer groups while maintaining the de-carbonization incentive features of the concept.⁹⁶

The Joint Staff Workplan provides for completion of all analyses and recommendation of its final carbon-pricing proposal to the Stakeholder Task Force as early as December 2018 or in first quarter 2019.⁹⁷ The Joint Staff, however, has further indicated that it may determine to recommend against the implementation

2, 2018), http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_miwg_ipptf/meeting_materials/2018-08-06/Carbon%20Pricing%20Draft%20Recommendations%2020180802.pdf [hereinafter NYISO Recommendations].

93. The Net Price of Carbon reflects a deduction from the Gross Price to reflect New York's participation in the Regional Greenhouse Gas Initiative (RGGI) and the fact that certain generation sources supplying New York will have already reflected a RGGI established carbon charge in their market pricing bids. See, e.g., Straw Proposal, *supra* note 93, at 5; Mike Desocio, *Carbon Pricing Straw Proposal Overview*, NYISO (May 12, 2018), http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_miwg_ipptf/meeting_materials/2018-05-14/Carbon%20Pricing%20Straw%20Proposal%20Presentation.pdf [hereinafter Straw Proposal Overview]; see also NYISO Recommendations, *supra* note 93, at 5-7.

94. NYISO Recommendations, *supra* note 93, at 3.

95. See, e.g., Straw Proposal, *supra* note 93, at 5-8; see e.g., Straw Proposal Overview, *supra* note 94; see also, NYISO Recommendations, *supra* note 93, at 5-7.

96. See, e.g., Straw Proposal, *supra* note 93, at 9-10; see also, Straw Proposal Overview, *supra* note 94; see e.g., NYISO Recommendations, *supra* note 93, at 7-10; Nathaniel Gilbraith, *Carbon Charge Residuals: Allocation Options* (June 4, 2018), http://www.nyiso.com/public/webdocs/markets_operations/committees/consumer_interest_liaison/Activity_Summaries/Activity_Summaries/2018/End-Use-Summary-May-14-May-18-2018.pdf. The Brattle Reports analysis, which was not based on full production cost modeling, states that the price increase imposed on end-users through carbon pricing will not exceed 2% where specific carbon revenues are refunded to end-users and due to expected reductions due to the adoption of carbon pricing in New York REC and ZEC pricing. Brattle Report, *supra* note 91, at viii-ix, 38-39.

97. IPPTF, WORK PLAN (Jan. 30, 2018), https://www.nyiso.com/public/webdocs/markets_operations/committees/bic_miwg_ipptf/meeting_materials/2018-0205/Work%20Plan%20CLEAN3%20%2020180130.pdf.

of carbon pricing once all analyses are completed.⁹⁸ If adopted by the task force, the proposal must then be reviewed and adopted by NYISO governing committees.⁹⁹ The NYISO has stated that the concept will not be implemented prior to 2021.¹⁰⁰

The NYISO has also examined other changes to be made to its electricity markets within a five-year time horizon to facilitate integrating up to 50% renewable generation into those markets.¹⁰¹ Specific projects being examined include facilitating the integration of energy storage into its markets, mechanisms to procure needed reserves for energy resilience, developing a flexible ramping project, reviewing regulation capacity requirements and pricing mechanisms to obtain those requirements, solar dispatch options and others.¹⁰² Final decisions on implementation of these proposals, as well as their projected implementation dates, are projected to occur out to 2023.¹⁰³

98. NYISO Recommendations, *supra* note 93, at 1; NYISO, *2018 Master Plan – Wholesale Markets for the Grid of the Future* 11-12 (June 2018), http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_miwg/meeting_materials/2018-05-15/Master%20Plan%20Draft.pdf [hereinafter *Master Plan*].

99. *Id.* at 29.

100. *Id.*

101. *See, e.g.*, Market Assessment, *supra* note 91; *Master Plan*, *supra* note 99.

102. *See generally* *Master Plan*, *supra* note 99.

103. *Id.* at 9.

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