



February 27, 2015

VIA ELECTRONIC FILING

The Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: ISO New England Inc., Docket No. ER15-____-000
Forward Capacity Auction Results Filing
April 13, 2015 COMMENT DATE REQUIRED BY REGULATION

Dear Secretary Bose:

Pursuant to Section 205 of the Federal Power Act (“FPA”)¹ and Section III.13.8.2 of the ISO New England Transmission, Markets and Services Tariff (the “Tariff”),² ISO New England Inc. (the “ISO”) submits this Forward Capacity Auction Results Filing (“FCA Results Filing”) for the ninth Forward Capacity Auction (“FCA”).³ Section III.13.8.2 (a) of the Tariff requires the ISO to file the results of the FCA with the Federal Energy Regulatory Commission (“Commission” or “FERC”) as soon as practicable after the FCA is complete. The ninth FCA was held on February 2, 2015 for the June 1, 2018 through May 31, 2019 Capacity Commitment Period. The ISO submits this filing in accordance with the Tariff.

Pursuant to Section III.13.8.2(c) of the Tariff, any objection to the FCA results must be filed with the Commission within 45 days from the date of the FCA Results Filing. **Accordingly, any objections must be filed on or before April 13, 2015, and the ISO requests that the Commission issue a notice setting an April 13, 2015 comment date.** As discussed below, the ISO requests an effective date of June 27, 2015, which is 120 days from the date of this submission.

¹ 16 U.S.C. § 824d (2006).

² The rules governing the Forward Capacity Market (“FCM Rules”) are primarily contained in Section III.13 of the Tariff, but also may include other provisions, including portions of Section III.12.

³ Capitalized terms used but not otherwise defined in this filing have the meanings ascribed thereto in the Tariff, the Second Restated New England Power Pool Agreement and the Participants Agreement.

In accordance with Section III.13.8.2 of the Tariff, this submission contains the results of the ninth FCA, including the Capacity Zones in the auction; the Capacity Clearing Price in each of those Capacity Zones; a list of which resources received Capacity Supply Obligations in each Capacity Zone; and the amount of those Capacity Supply Obligations. Pursuant to Tariff Section III.12.4, the Capacity Zones for the ninth FCA were Connecticut, Northeastern Massachusetts/Boston (“NEMA/Boston”), Southeastern Massachusetts/Rhode Island (“SEMA/RI”) and Rest-of-Pool. The Rest-of-Pool Capacity Zone included Western/Central Massachusetts, New Hampshire, Vermont and Maine.

The auction commenced with a starting price of \$17.728/kW-month. In the NEMA/Boston, Connecticut and Rest-of-Pool Capacity Zones, the descending clock auction concluded after three rounds. Resources in those Capacity Zones will be paid at a price of \$9.551 /kW-month.⁴ The auction continued for one additional round for New York AC Ties imports, closing at \$7.967/kW-month, and two additional rounds for New Brunswick imports, closing at a price of \$3.94/kW-month.

In the SEMA/RI Capacity Zone, there were inadequate resources to meet the zone’s Local Sourcing Requirement. Since all the resources that qualified, including the new resources, were needed to meet the Local Sourcing Requirement in SEMA/RI, bidding never opened in the SEMA/RI Capacity Zone. Due to the inadequate resources in the SEMA/RI Capacity Zone, the administrative pricing provisions of the Tariff relating to Inadequate Supply were triggered.⁵ Under those rules, new resources in the SEMA/RI Capacity Zone will be paid at the auction starting price of \$17.728/kW-month and existing resources in the zone will be paid \$11.08/kW-month.

Section III.13.8.2 (b) of the Tariff requires the ISO to provide documentation regarding the competitiveness of the FCA. The documentation may include certification from the auctioneer and the ISO that: (i) all resources offering and bidding in the FCA were properly qualified in accordance with the provisions of Section III.13.1; and (ii) the FCA was conducted in accordance with the provisions of Section III.13. Pursuant to Section III.13.8.2 (b), the ISO has included the Testimony of Stephen J. Rourke, Vice President of System Planning at the ISO (“Rourke Testimony”), the Testimony of Robert G. Ethier, Vice President of Market Operations at the ISO (“Ethier Testimony”), the Testimony of Jeffery McDonald, Vice President of Market Monitoring and the Internal Market Monitor (“IMM”) at the ISO (“McDonald Testimony”), and the Testimony of Lawrence M. Ausubel, the auctioneer (“Ausubel Testimony”).

The ISO tenders the instant filing in compliance with Section III.13.8.2 of its Tariff pursuant to Section 205 of the FPA, and the ISO requests that the Commission find that the ISO conducted the ninth FCA in accordance with its FERC-approved Tariff.

I. COMMUNICATIONS

All correspondence and communications in this proceeding should be addressed to the undersigned as follows:

⁴ Multi-year obligations from previous auctions will be paid based on the Capacity Clearing Price in the auction in which they originally cleared. Self-supply obligations will not be paid through the FCM.

⁵ See Section III.13.2.8.1.1 of the Tariff.

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II. STANDARD OF REVIEW

The ISO tenders the instant filing in compliance with Section III.13.8.2 of its Tariff and pursuant to Section 205 of the FPA.⁶ The ISO respectfully requests that the Commission find that the ninth FCA Results Filing meets the standard of Section 205, in that the results are just and reasonable rates derived from the auction that was conducted in accordance with the ISO's FERC-approved Tariff. The attached testimonies support this conclusion, and provide the basis for the Commission to approve the resulting rates.

III. REQUESTED EFFECTIVE DATE

The ISO respectfully requests that the Commission accept the ninth FCA Results Filing, confirming that the auction was conducted in conformance with the ISO's Commission-approved Tariff, to be effective June 27, 2015 which is 120 days after the date of submission. Under the Tariff, parties have 45 days to file with the Commission an objection to the FCA Results Filing. An effective date of 120 days from the date of submission gives interested parties an opportunity to respond to any objections and provides the Commission time to review the FCA Results Filing and associated pleadings.

IV. SPECIFIC FCA RESULTS

A. Capacity Zones Resulting From the Auction

Section III.13.8.2 (a) of the Tariff requires the ISO to provide the Capacity Zones resulting from the FCA. The Capacity Zones for the ninth FCA were Connecticut, NEMA/Boston, SEMA/RI and Rest-of-Pool. The Capacity Zones determined under Section III.13.2.3.4 of the Tariff are the same Capacity Zones that were modeled pursuant to Section III.12.4 of the Tariff.

B. Capacity Clearing Price

The Tariff requires the ISO to provide the Capacity Clearing Price in each Capacity Zone (and, pursuant to Section III.13.2.3.3 (d), the Capacity Clearing Price associated with certain imports, if applicable).⁷

⁶ It should be noted that the Commission has consistently held that the matters properly in dispute in the annual FCA results filing are the results of the FCA and not the underlying market design or rules. *See e.g., ISO New England Inc.*, 130 FERC ¶ 61,145 at P 33 (2010) (finding that challenges to the FCM market design are outside the scope of the proceeding evaluating the FCA results filing).

⁷ Tariff Section III.13.8.2 (a).

For the ninth FCA, the descending clock auction starting price in each Capacity Zone was \$17.728/kW-month. As explained in the Ethier Testimony, the Capacity Clearing Price was \$9.551/kW-month in the Connecticut, NEMA/Boston and Rest-of-Pool Capacity Zones. The Ethier Testimony also explains that the administrative pricing provisions in the Tariff relating to Inadequate Supply determined the payment rates for the SEMA/RI Capacity Zone. An import-constrained zone has Inadequate Supply, if at the Forward Capacity Auction Starting Price, the amount of new qualified capacity is less than the amount of New Capacity Required.⁸ New Capacity Required is defined as the zone's Local Sourcing Requirement minus the amount of existing resources. In the SEMA/RI Capacity Zone, there were inadequate resources to meet the zone's Local Sourcing Requirement. Specifically, there were 7,241 MW (6,888 MW of existing resources and 353 MW of new resources) that qualified to meet the SEMA/RI Local Sourcing Requirement of 7,479 MW.

Under Section III.13.2.8.1.1 (a) of the Tariff, if the Inadequate Supply rule is triggered, existing resources receive the maximum applicable Net Cost of New Entry ("Net CONE") value, or the Capacity Clearing Price for the Rest-of-Pool Capacity Zone and new resources will be paid the Forward Capacity Auction Starting Price. The Net CONE was \$11.08/kW-month and the Capacity Clearing Price for the Rest-of-Pool Capacity Zone was \$9.551/kW-month; therefore, existing resources in the SEMA/RI Capacity Zone will be paid at a price of \$11.08/kW-month. New resources in the SEMA/RI Capacity Zone will be paid at the Forward Capacity Auction Starting Price of \$17.728/kW-month.

The Capacity Clearing Price for imports over the New York AC Ties external interface was \$7.967/kW-month and for imports over the New Brunswick external interface, the Capacity Clearing Price was \$3.94/kW-month. The Capacity Clearing Price on the remaining external interfaces was \$9.551/kW-month.

C. Capacity Supply Obligations

The Tariff requires the ISO to specify in the FCA Results Filing the resources which received Capacity Supply Obligations in each Capacity Zone.⁹ This information is provided in Attachment A.

The Tariff also requires the ISO to list which resources cleared as Conditional Qualified New Generating Capacity Resources and to provide certain information relating to Long Lead Time Generating Facilities.¹⁰ No resources cleared as Conditional Qualified New Generating Capacity Resources in the ninth FCA. In addition, there were no Long Lead Time Generating Facilities that secured a Queue Position to participate as a New Generating Capacity Resource in the ninth FCA nor were any resources with a lower queue priority that were selected in the FCA subject to a Long Lead Time Generating Facility with a higher queue priority.

D. De-List Bids Reviewed For Reliability Purposes

The Tariff requires the FCA Results Filing to enumerate any de-list bids rejected for reliability reasons.¹¹ No de-list bids were rejected for reliability reasons in the ninth FCA.¹²

⁸ Tariff Section III.13.2.8.1.1.

⁹ Tariff Section III.13.8.2 (a).

¹⁰ *Id.*

¹¹ *Id.*

V. DOCUMENTATION OF COMPETITIVENESS

Section III.13.8.2 (b) of the Tariff requires the ISO to provide documentation regarding the competitiveness of the FCA. The documentation may include certification from the auctioneer and the ISO that: (i) all resources offering and bidding in the FCA were properly qualified in accordance with the provisions of Section III.13.1 of the Tariff; and (ii) the FCA was conducted in accordance with the provisions of Section III.13 of the Tariff. In this regard, the ISO has included the Rourke Testimony, the Ethier Testimony, the McDonald Testimony, and the Ausubel Testimony.

In his testimony, Mr. Rourke, who oversaw the qualification of resources, certifies that all resources offering and bidding in the ninth FCA were qualified in accordance with Section III.13.1 of the Tariff.¹³ Mr. Rourke testifies that he oversaw the reliability review of all submitted de-list bids for the ninth FCA and that no resources that submitted de-list bids were retained for reliability reasons.¹⁴

In his testimony, Dr. Ethier explains the prices resulting from the auction and how the prices were determined.¹⁵ Dr. Ethier also explains the prices in the four Capacity Zones and why the prices in certain zones were higher than in others.¹⁶

Dr. McDonald explains that the IMM reviewed de-list bids from existing resources and offers from new resources submitted during the qualification process.¹⁷ Dr. McDonald testifies that he oversaw the IMM's review of these bids and offers and certifies that such review was performed in accordance with the provisions of Section III.13.1.¹⁸ Dr. McDonald also notes that the IMM's determinations with respect to the offers and bids were accepted by the Commission in the Informational Filing Order.¹⁹

Dr. McDonald also testifies that the IMM reviewed each round of the FCA in addition to the final results of the FCA. Each round of the FCA was evaluated by the IMM and no evidence of collusive or manipulative behavior was noted. In his testimony, Dr. McDonald certifies that no anti-competitive behavior was evident in the auction.

Dr. Ausubel, the auctioneer, and chairman and founder of Power Auctions LLC, the company that helped implement and administer the FCA, certifies that the auction was conducted in accordance with Section III.13.2.²⁰ Dr. Ausubel's certification is based on his vast experience in conducting energy auctions.

¹² Rourke Testimony at 5.

¹³ *Id.* at 3.

¹⁴ *Id.* at 3-5.

¹⁵ Ethier Testimony at 3.

¹⁶ *Id.* at 2, 11-14.

¹⁷ McDonald Testimony at 2-3.

¹⁸ *Id.*

¹⁹ *Order Accepting Informational Filing*, 150 FERC ¶ 61,021 (2015); *see also* McDonald Testimony at 3.

²⁰ Ausubel Testimony at 4.

VI. ADDITIONAL SUPPORTING INFORMATION

The ISO tenders the instant filing in compliance with Section III.13.8.2 of its Tariff pursuant to Section 205 of the FPA.²¹ Section 35.13 of the Commission's regulations generally requires public utilities to file certain cost and other information related to an examination of cost-of-service rates.²² However, the results of the FCA are not traditional "rates" and the ISO is not a traditional investor-owned utility. Therefore, to the extent necessary, the ISO requests waiver of Section 35.13 of the Commission's regulations. Notwithstanding its request for waiver, the ISO submits the following additional information in compliance with the identified filing regulations of the Commission applicable to Section 205.

35.13(b)(1) - Materials included herewith are as follows:

- a. This transmittal letter;
- b. Attachment A: List of Capacity Supply Obligations;
- c. Attachment B: Testimony of Stephen J. Rourke;
- d. Attachment C: Testimony of Robert G. Ethier
- e. Attachment D: Testimony of Jeffrey McDonald;
- f. Attachment E: Testimony of Lawrence M. Ausubel; and
- g. Attachment F: List of governors and utility regulatory agencies in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont to which a copy of this filing has been emailed.

35.13(b)(2) - The ISO respectfully requests that the Commission accept this filing to become effective on June 27, 2015, which is 120 days after the submission of this FCA Results Filing.

35.13(b)(3) - Pursuant to Section 17.11 (e) of the Participants Agreement, Governance Participants are being served electronically rather than by paper copy. The names and addresses of the Governance Participants are posted on the ISO's website at <http://www.iso-ne.com/participate/participant-asset-listings/directory?id=1&type=committee>. An electronic copy of this transmittal letter and the accompanying materials has also been emailed to the governors and electric utility regulatory agencies for the six New England states which comprise the New England Control Area, and to the New England Conference of Public Utility Commissioners, Inc. The names and addresses of these governors and regulatory agencies are shown in Attachment F.

²¹ As was noted above, the Commission has consistently held that the scope of the proceeding evaluating the annual FCA results filing is limited to the results of the FCA. *See e.g., ISO New England Inc.*, 130 FERC ¶ 61,145 at P 33 (2010) (finding that challenges to the FCM market design are outside the scope of the proceeding evaluating the FCA results filing).

²² 18 C.F.R. § 35.13 (2014).

35.13(b)(4) - A description of the materials submitted pursuant to this filing is contained in the transmittal letter;

35.13(b)(5) - The reasons for this filing are discussed in the background section to this transmittal letter; and

35.13 (b)(7) - The ISO has no knowledge of any relevant expenses or cost of service that have been alleged or judged in any administrative or judicial proceeding to be illegal, duplicative, or unnecessary costs that are demonstrably the product of discriminatory employment practices.

VII. CONCLUSION

In this FCA Results Filing, the ISO has presented all of the information required by the Tariff. The ISO has demonstrated that the ninth FCA was conducted in accordance with the Tariff, as found just and reasonable by the Commission. The ISO has specified the Capacity Zones that resulted from the auction. The ISO has also provided the Capacity Clearing Price for each of the Capacity Zones and a list of resources that received Capacity Supply Obligations. Finally, the ISO has provided documentation in the form of testimony, regarding the outcome of the ninth FCA. Accordingly, the ISO requests that the Commission accept the results of the ninth FCA within 120 days of this filing.

Respectfully submitted,

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cc: Governance Participants (electronically) and entities listed in Attachment F.

Attachment A

ID	Name	Type	Capacity Zone ID	Capacity Zone Name	State	Load Zone	Status	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19
194	FOUR HILLS LOAD REDUCER	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.560	0.560	0.560	0.560	1.072	1.072	1.072	1.072	1.072	1.072	1.072	1.072
253	TURNKEY LANDFILL	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	1.185	1.185	1.185	1.185	1.285	1.285	1.285	1.285	1.285	1.285	1.285	1.285
321	MANCHESTER 10 10A CC	Generator	8504	SEMASS-RI	RI	Rhode Island	Existing	149.000	149.000	149.000	149.000	149.000	149.000	149.000	149.000	149.000	149.000	149.000	149.000
322	MANCHESTER 11 11A CC	Generator	8504	SEMASS-RI	RI	Rhode Island	Existing	149.000	149.000	149.000	149.000	149.000	149.000	149.000	149.000	149.000	149.000	149.000	149.000
323	MANCHESTER 9 9A CC	Generator	8504	SEMASS-RI	RI	Rhode Island	Existing	149.000	149.000	149.000	149.000	149.000	149.000	149.000	149.000	149.000	149.000	149.000	149.000
324	CDECCA	Generator	8501	Connecticut	CT	Connecticut	Existing	55.254	55.254	55.254	55.254	55.254	55.254	55.254	55.254	55.254	55.254	55.254	55.254
326	ALTRESCO	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	150.972	150.972	150.972	150.972	150.972	150.972	150.972	150.972	150.972	150.972	150.972	150.972
327	AMOSKEAG	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	16.781	16.781	16.781	16.781	16.781	16.781	16.781	16.781	16.781	16.781	16.781	16.781
328	GULF ISLAND COMPOSITE Incremental	Generator	8500	Rest-of-Pool	ME	Maine	Existing	38.915	38.915	38.915	38.915	38.915	38.915	38.915	38.915	38.915	38.915	38.915	38.915
329	ASCUTNEY GT	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	8.940	8.940	8.940	8.940	8.940	8.940	8.940	8.940	8.940	8.940	8.940	8.940
330	AYERS ISLAND	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	8.474	8.474	8.474	8.474	8.474	8.474	8.474	8.474	8.474	8.474	8.474	8.474
331	AZISCOHOS HYDRO	Generator	8500	Rest-of-Pool	ME	Maine	Existing	6.800	6.800	6.800	6.800	6.800	6.800	6.800	6.800	6.800	6.800	6.800	6.800
335	BELLOWS FALLS	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	48.540	48.540	48.540	48.540	48.540	48.540	48.540	48.540	48.540	48.540	48.540	48.540
336	BERLIN 1 GT	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	34.830	34.830	34.830	34.830	34.830	34.830	34.830	34.830	34.830	34.830	34.830	34.830
337	BETHLEHEM	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	15.342	15.342	15.342	15.342	15.411	15.411	15.411	15.411	15.411	15.411	15.411	15.411
340	BRIDGEPORT HARBOR 3	Generator	8501	Connecticut	CT	Connecticut	Existing	383.426	383.426	383.426	383.426	383.426	383.426	383.426	383.426	383.426	383.426	383.426	383.426
341	BRIDGEPORT HARBOR 4	Generator	8501	Connecticut	CT	Connecticut	Existing	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
346	BOLTON FALLS	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	1.638	1.638	1.638	1.638	4.524	4.524	4.524	4.524	4.524	4.524	4.524	4.524
348	BOOT MILLS	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	8.457	8.457	8.457	8.457	11.302	11.302	11.302	11.302	11.302	11.302	11.302	11.302
349	WHEELABRATO R BRIDGEPORT, L.P.	Generator	8501	Connecticut	CT	Connecticut	Existing	59.237	59.237	59.237	59.237	59.710	59.710	59.710	59.710	59.710	59.710	59.710	59.710
355	BRANFORD 10	Generator	8501	Connecticut	CT	Connecticut	Existing	15.840	15.840	15.840	15.840	15.840	15.840	15.840	15.840	15.840	15.840	15.840	15.840
356	BRISTOL REFUSE	Generator	8501	Connecticut	CT	Connecticut	Existing	12.422	12.422	12.422	12.422	12.825	12.825	12.825	12.825	12.825	12.825	12.825	12.825
357	BRIDGEWATER	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	14.716	14.716	14.716	14.716	14.776	14.776	14.776	14.776	14.776	14.776	14.776	14.776
358	BRUNSWICK	Generator	8500	Rest-of-Pool	ME	Maine	Existing	9.945	9.945	9.945	9.945	14.399	14.399	14.399	14.399	14.399	14.399	14.399	14.399
359	J. COCKWELL 1	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	184.100	184.100	184.100	184.100	184.100	184.100	184.100	184.100	184.100	184.100	184.100	184.100
360	J. COCKWELL 2	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	283.741	283.741	283.741	283.741	283.741	283.741	283.741	283.741	283.741	283.741	283.741	283.741
362	BULLS BRIDGE	Generator	8501	Connecticut	CT	Connecticut	Existing	2.903	2.903	2.903	2.903	6.204	6.204	6.204	6.204	6.204	6.204	6.204	6.204
363	BURLINGTON GT	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	18.776	18.776	18.776	18.776	18.776	18.776	18.776	18.776	18.776	18.776	18.776	18.776
365	CANAL 1	Generator	8504	SEMASS-RI	MA	SEMASS	Existing	547.059	547.059	547.059	547.059	547.059	547.059	547.059	547.059	547.059	547.059	547.059	547.059
366	CANAL 2	Generator	8504	SEMASS-RI	MA	SEMASS	Existing	545.125	545.125	545.125	545.125	545.125	545.125	545.125	545.125	545.125	545.125	545.125	545.125
367	CAPE GT 4	Generator	8500	Rest-of-Pool	ME	Maine	Existing	13.750	13.750	13.750	13.750	13.750	13.750	13.750	13.750	13.750	13.750	13.750	13.750
368	CAPE GT 5	Generator	8500	Rest-of-Pool	ME	Maine	Existing	15.822	15.822	15.822	15.822	15.822	15.822	15.822	15.822	15.822	15.822	15.822	15.822
369	CATARACT EAST	Generator	8500	Rest-of-Pool	ME	Maine	Existing	7.775	7.775	7.775	7.775	7.775	7.775	7.775	7.775	7.775	7.775	7.775	7.775
370	COS COB 10	Generator	8501	Connecticut	CT	Connecticut	Existing	19.028	19.028	19.028	19.028	19.028	19.028	19.028	19.028	19.028	19.028	19.028	19.028

[illegible]

ID	Name	Type	Capacity Zone ID	Capacity Zone Name	State	Load Zone	Status	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19
433	HARRIS 2	Generator	8500	Rest-of-Pool	ME	Maine	Existing	34.500	34.500	34.500	34.500	34.500	34.500	34.500	34.500	34.500	34.500	34.500	34.500
434	HARRIS 3	Generator	8500	Rest-of-Pool	ME	Maine	Existing	33.905	33.905	33.905	33.905	33.905	33.905	33.905	33.905	33.905	33.905	33.905	33.905
435	HARRIMAN	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	38.663	38.663	38.663	38.663	38.663	38.663	38.663	38.663	38.663	38.663	38.663	38.663
436	HEMPHILL 1	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	14.137	14.137	14.137	14.137	14.450	14.450	14.450	14.450	14.450	14.450	14.450	14.450
440	HIRAM	Generator	8500	Rest-of-Pool	ME	Maine	Existing	11.189	11.189	11.189	11.189	11.189	11.189	11.189	11.189	11.189	11.189	11.189	11.189
445	COVANTA WEST ENFIELD	Generator	8500	Rest-of-Pool	ME	Maine	Existing	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
446	COVANTA JONESBORO	Generator	8500	Rest-of-Pool	ME	Maine	Existing	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
448	IPSWICH DIESELS	Generator	8502	NEMA-Boston	MA	NEMA	Existing	9.495	9.495	9.495	9.495	9.495	9.495	9.495	9.495	9.495	9.495	9.495	9.495
449	JACKMAN	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	3.400	3.400	3.400	3.400	3.400	3.400	3.400	3.400	3.400	3.400	3.400	3.400
452	KENDALL JET 1	Generator	8502	NEMA-Boston	MA	NEMA	Existing	18.000	18.000	18.000	18.000	18.000	18.000	18.000	18.000	18.000	18.000	18.000	18.000
457	LAWRENCE HYDRO	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	5.760	5.760	5.760	5.760	9.117	9.117	9.117	9.117	9.117	9.117	9.117	9.117
460	LOCKWOOD	Generator	8500	Rest-of-Pool	ME	Maine	Existing	3.623	3.623	3.623	3.623	4.798	4.798	4.798	4.798	4.798	4.798	4.798	4.798
462	LISBON RESOURCE RECOVERY	Generator	8501	Connecticut	CT	Connecticut	Existing	13.500	13.500	13.500	13.500	13.500	13.500	13.500	13.500	13.500	13.500	13.500	13.500
463	AEI LIVERMORE	Generator	8500	Rest-of-Pool	ME	Maine	Existing	34.430	34.430	34.430	34.430	34.430	34.430	34.430	34.430	34.430	34.430	34.430	34.430
464	LOST NATION	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	13.979	13.979	13.979	13.979	13.979	13.979	13.979	13.979	13.979	13.979	13.979	13.979
465	DEERFIELD 2 LWR DRFIELD	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	19.275	19.275	19.275	19.275	19.275	19.275	19.275	19.275	19.275	19.275	19.275	19.275
466	L STREET JET	Generator	8502	NEMA-Boston	MA	NEMA	Existing	16.030	16.030	16.030	16.030	16.030	16.030	16.030	16.030	16.030	16.030	16.030	16.030
467	MARBLEHEAD DIESELS	Generator	8502	NEMA-Boston	MA	NEMA	Existing	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000
468	MARSHFIELD 6 HYDRO	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	4.535	4.535	4.535	4.535	4.535	4.535	4.535	4.535	4.535	4.535	4.535	4.535
472	M STREET JET	Generator	8502	NEMA-Boston	MA	NEMA	Existing	44.434	44.434	44.434	44.434	44.434	44.434	44.434	44.434	44.434	44.434	44.434	44.434
473	MCINDOES	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	10.066	10.066	10.066	10.066	10.066	10.066	10.066	10.066	10.066	10.066	10.066	10.066
474	J C MCNEIL	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	52.000	52.000	52.000	52.000	52.000	52.000	52.000	52.000	52.000	52.000	52.000	52.000
478	MIDDLETOWN 10	Generator	8501	Connecticut	CT	Connecticut	Existing	16.319	16.319	16.319	16.319	16.319	16.319	16.319	16.319	16.319	16.319	16.319	16.319
480	MIDDLETOWN 2	Generator	8501	Connecticut	CT	Connecticut	Existing	117.000	117.000	117.000	117.000	117.000	117.000	117.000	117.000	117.000	117.000	117.000	117.000
481	MIDDLETOWN 3	Generator	8501	Connecticut	CT	Connecticut	Existing	236.000	236.000	236.000	236.000	236.000	236.000	236.000	236.000	236.000	236.000	236.000	236.000
482	MIDDLETOWN 4	Generator	8501	Connecticut	CT	Connecticut	Existing	400.000	400.000	400.000	400.000	400.000	400.000	400.000	400.000	400.000	400.000	400.000	400.000
484	MILLSTONE POINT 2	Generator	8501	Connecticut	CT	Connecticut	Existing	875.260	875.260	875.260	875.260	875.260	875.260	875.260	875.260	875.260	875.260	875.260	875.260
485	MILLSTONE POINT 3	Generator	8501	Connecticut	CT	Connecticut	Existing	1225.000	1225.000	1225.000	1225.000	1225.000	1225.000	1225.000	1225.000	1225.000	1225.000	1225.000	1225.000
486	MILFORD POWER	Generator	8504	SEMASS-RI	MA	SEMASS	Existing	149.000	149.000	149.000	149.000	170.730	170.730	170.730	170.730	170.730	170.730	170.730	170.730
487	MILLER HYDRO	Generator	8500	Rest-of-Pool	ME	Maine	Existing	8.668	8.668	8.668	8.668	12.311	12.311	12.311	12.311	12.311	12.311	12.311	12.311
489	MERRIMACK 1	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	112.500	112.500	112.500	112.500	112.500	112.500	112.500	112.500	112.500	112.500	112.500	112.500
490	MERRIMACK 2	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	330.513	330.513	330.513	330.513	330.513	330.513	330.513	330.513	330.513	330.513	330.513	330.513
492	MONTVILLE 10 and 11	Generator	8501	Connecticut	CT	Connecticut	Existing	5.296	5.296	5.296	5.296	5.296	5.296	5.296	5.296	5.296	5.296	5.296	5.296
493	MONTVILLE 5	Generator	8501	Connecticut	CT	Connecticut	Existing	81.000	81.000	81.000	81.000	81.000	81.000	81.000	81.000	81.000	81.000	81.000	81.000

ID	Name	Type	Capacity Zone ID	Capacity Zone Name	State	Load Zone	Status	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19
494	MONTVILLE 6	Generator	8501	Connecticut	CT	Connecticut	Existing	406.183	406.183	406.183	406.183	406.183	406.183	406.183	406.183	406.183	406.183	406.183	406.183
495	MONTY	Generator	8500	Rest-of-Pool	ME	Maine	Existing	28.000	28.000	28.000	28.000	28.000	28.000	28.000	28.000	28.000	28.000	28.000	28.000
496	MOORE	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	189.032	189.032	189.032	189.032	189.032	189.032	189.032	189.032	189.032	189.032	189.032	189.032
497	MASS POWER	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	240.000	240.000	240.000	240.000	240.000	240.000	240.000	240.000	240.000	240.000	240.000	240.000
502	MYSTIC 7	Generator	8502	NEMA-Boston	MA	NEMA	Existing	575.472	575.472	575.472	575.472	559.775	559.775	559.775	559.775	559.775	559.775	559.775	559.775
503	MYSTIC JET	Generator	8502	NEMA-Boston	MA	NEMA	Existing	8.589	8.589	8.589	8.589	8.589	8.589	8.589	8.589	8.589	8.589	8.589	8.589
507	NEA BELLINGHAM	Generator	8504	SEMASS-RI	MA	SEMASS	Existing	277.621	277.621	277.621	277.621	277.621	277.621	277.621	277.621	277.621	277.621	277.621	277.621
508	NEWINGTON 1	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	400.200	400.200	400.200	400.200	400.200	400.200	400.200	400.200	400.200	400.200	400.200	400.200
513	NEW HAVEN HARBOR	Generator	8501	Connecticut	CT	Connecticut	Existing	447.894	447.894	447.894	447.894	447.894	447.894	447.894	447.894	447.894	447.894	447.894	447.894
515	NORWICH JET	Generator	8501	Connecticut	CT	Connecticut	Existing	15.255	15.255	15.255	15.255	15.255	15.255	15.255	15.255	15.255	15.255	15.255	15.255
527	ODGEN- MARTIN 1	Generator	8502	NEMA-Boston	MA	NEMA	Existing	39.352	39.352	39.352	39.352	41.678	41.678	41.678	41.678	41.678	41.678	41.678	41.678
528	OCEAN ST PWR GT1 GT2 ST1	Generator	8504	SEMASS-RI	RI	Rhode Island	Existing	270.901	270.901	270.901	270.901	270.901	270.901	270.901	270.901	270.901	270.901	270.901	270.901
529	OCEAN ST PWR GT3 GT4 ST2	Generator	8504	SEMASS-RI	RI	Rhode Island	Existing	270.180	270.180	270.180	270.180	270.180	270.180	270.180	270.180	270.180	270.180	270.180	270.180
531	PAWTUCKET POWER	Generator	8504	SEMASS-RI	RI	Rhode Island	Existing	59.810	59.810	59.810	59.810	59.810	59.810	59.810	59.810	59.810	59.810	59.810	59.810
532	PEJEPSCOT	Generator	8500	Rest-of-Pool	ME	Maine	Existing	7.288	7.288	7.288	7.288	10.340	10.340	10.340	10.340	10.340	10.340	10.340	10.340
536	PERC- ORRINGTON 1	Generator	8500	Rest-of-Pool	ME	Maine	Existing	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
537	PILGRIM NUCLEAR POWER STATION	Generator	8504	SEMASS-RI	MA	SEMASS	Existing	677.284	677.284	677.284	677.284	677.284	677.284	677.284	677.284	677.284	677.284	677.284	677.284
538	PINETREE POWER	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	15.783	15.783	15.783	15.783	16.787	16.787	16.787	16.787	16.787	16.787	16.787	16.787
539	PONTOOK HYDRO	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	4.924	4.924	4.924	4.924	9.341	9.341	9.341	9.341	9.341	9.341	9.341	9.341
540	POTTER 2 CC	Generator	8504	SEMASS-RI	MA	SEMASS	Existing												

ID	Name	Type	Capacity Zone ID	Capacity Zone Name	State	Load Zone	Status	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19
565	SHELDON SPRINGS	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	4.416	4.416	4.416	4.416	9.949	9.949	9.949	9.949	9.949	9.949	9.949	9.949
566	SHEPAUG	Generator	8501	Connecticut	CT	Connecticut	Existing	41.511	41.511	41.511	41.511	42.559	42.559	42.559	42.559	42.559	42.559	42.559	42.559
567	SHERMAN	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	6.154	6.154	6.154	6.154	6.154	6.154	6.154	6.154	6.154	6.154	6.154	6.154
569	SKELTON	Generator	8500	Rest-of-Pool	ME	Maine	Existing	22.080	22.080	22.080	22.080	22.080	22.080	22.080	22.080	22.080	22.080	22.080	22.080
570	SMITH	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	10.037	10.037	10.037	10.037	15.596	15.596	15.596	15.596	15.596	15.596	15.596	15.596
572	SO. MEADOW 11	Generator	8501	Connecticut	CT	Connecticut	Existing	35.781	35.781	35.781	35.781	35.781	35.781	35.781	35.781	35.781	35.781	35.781	35.781
573	SO. MEADOW 12	Generator	8501	Connecticut	CT	Connecticut	Existing	37.701	37.701	37.701	37.701	37.701	37.701	37.701	37.701	37.701	37.701	37.701	37.701
574	SO. MEADOW 13	Generator	8501	Connecticut	CT	Connecticut	Existing	38.317	38.317	38.317	38.317	38.317	38.317	38.317	38.317	38.317	38.317	38.317	38.317
575	SO. MEADOW 14	Generator	8501	Connecticut	CT	Connecticut	Existing	36.746	36.746	36.746	36.746	36.746	36.746	36.746	36.746	36.746	36.746	36.746	36.746
580	SO. MEADOW 5	Generator	8501	Connecticut	CT	Connecticut	Existing	23.873	23.873	23.873	23.873	25.439	25.439	25.439	25.439	25.439	25.439	25.439	25.439
581	SO. MEADOW 6	Generator	8501	Connecticut	CT	Connecticut	Existing	22.797	22.797	22.797	22.797	23.096	23.096	23.096	23.096	23.096	23.096	23.096	23.096
583	STONY BROOK 2A	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	65.000	65.000	65.000	65.000	65.000	65.000	65.000	65.000	65.000	65.000	65.000	65.000
584	STONY BROOK 2B	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	63.000	63.000	63.000	63.000	63.000	63.000	63.000	63.000	63.000	63.000	63.000	63.000
587	STEVENSON	Generator	8501	Connecticut	CT	Connecticut	Existing	28.311	28.311	28.311	28.311	28.900	28.900	28.900	28.900	28.900	28.900	28.900	28.900
590	BORALEX STRATTON ENERGY	Generator	8500	Rest-of-Pool	ME	Maine	Existing	44.363	44.363	44.363	44.363	44.363	44.363	44.363	44.363	44.363	44.363	44.363	44.363
591	S.D. WARREN- WESTBROOK	Generator	8500	Rest-of-Pool	ME	Maine	Existing	42.590	42.590	42.590	42.590	42.590	42.590	42.590	42.590	42.590	42.590	42.590	42.590
592	TAMWORTH	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	19.536	19.536	19.536	19.536	18.809	18.809	18.809	18.809	18.809	18.809	18.809	18.809
595	TORRINGTON TERMINAL 10	Generator	8501	Connecticut	CT	Connecticut	Existing	15.638	15.638	15.638	15.638	15.638	15.638	15.638	15.638	15.638	15.638	15.638	15.638
596	TUNNEL 10	Generator	8501	Connecticut	CT	Connecticut	Existing	16.706	16.706	16.706	16.706	22.100	22.100	22.100	22.100	22.100	22.100	22.100	22.100
598	VERGENNES 5 and 6 DIESELS	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	3.940	3.940	3.940	3.940	3.940	3.940	3.940	3.940	3.940	3.940	3.940	3.940
599	VERNON	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	32.000	32.000	32.000	32.000	32.000	32.000	32.000	32.000	32.000	32.000	32.000	32.000
612	WATERS RIVER JET 1	Generator	8502	NEMA-Boston	MA	NEMA	Existing	16.050	16.050	16.050	16.050	16.050	16.050	16.050	16.050	16.050	16.050	16.050	16.050
613	WATERS RIVER JET 2	Generator	8502	NEMA-Boston	MA	NEMA	Existing	31.750	31.750	31.750	31.750	31.750	31.750	31.750	31.750	31.750	31.750	31.750	31.750
614	WATERBURY 22	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000
616	WEST ENFIELD	Generator	8500	Rest-of-Pool	ME	Maine	Existing	11.216	11.216	11.216	11.216	14.475	14.475	14.475	14.475	14.475	14.475	14.475	14.475
617	WESTON	Generator	8500	Rest-of-Pool	ME	Maine	Existing	7.871	7.871	7.871	7.871	10.538	10.538	10.538	10.538	10.538	10.538	10.538	10.538
618	DG WHITEFIELD, LLC	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	16.563	16.563	16.563	16.563	16.494	16.494	16.494	16.494	16.494	16.494	16.494	16.494
619	WHITE LAKE JET	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	17.447	17.447	17.447	17.447	17.447	17.447	17.447	17.447	17.447	17.447	17.447	17.447
620	WILDER	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	41.073	41.073	41.073	41.073	41.073	41.073	41.073	41.073	41.073	41.073	41.073	41.073
621	WILLIAMS	Generator	8500	Rest-of-Pool	ME	Maine	Existing	14.900	14.900	14.900	14.900	14.900	14.900	14.900	14.900	14.900	14.900	14.900	14.900
622	WINOOSKI 1	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	1.977	1.977	1.977	1.977	3.928	3.928	3.928	3.928	3.928	3.928	3.928	3.928
624	WMI MILLBURY 1	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	39.811	39.811	39.811	39.811	39.811	39.811	39.811	39.811	39.811	39.811	39.811	39.811
625	WEST MEDWAY JET 1	Generator	8502	NEMA-Boston	MA	NEMA	Existing	42.000	42.000	42.000	42.000	42.000	42.000	42.000	42.000	42.000	42.000	42.000	42.000

ID	Name	Type	Capacity Zone ID	Capacity Zone Name	State	Load Zone	Status	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19
626	WEST MEDWAY JET 2	Generator	8502	NEMA-Boston	MA	NEMA	Existing	40.835	40.835	40.835	40.835	56.309	56.309	56.309	56.309	56.309	56.309	56.309	56.309
627	WEST MEDWAY JET 3	Generator	8504	SEMASS-RI	MA	SEMASS	Existing	35.441	35.441	35.441	35.441	55.841	55.841	55.841	55.841	55.841	55.841	55.841	55.841
628	WOODLAND ROAD	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	15.808	15.808	15.808	15.808	15.808	15.808	15.808	15.808	15.808	15.808	15.808	15.808
630	WEST SPRINGFIELD 10	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	17.143	17.143	17.143	17.143	17.143	17.143	17.143	17.143	17.143	17.143	17.143	17.143
633	WEST SPRINGFIELD 3	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	94.276	94.276	94.276	94.276	94.276	94.276	94.276	94.276	94.276	94.276	94.276	94.276
636	WYMAN HYDRO 1	Generator	8500	Rest-of-Pool	ME	Maine	Existing	28.500	28.500	28.500	28.500	28.500	28.500	28.500	28.500	28.500	28.500	28.500	28.500
637	WYMAN HYDRO 2	Generator	8500	Rest-of-Pool	ME	Maine	Existing	29.866	29.866	29.866	29.866	29.866	29.866	29.866	29.866	29.866	29.866	29.866	29.866
638	WYMAN HYDRO 3	Generator	8500	Rest-of-Pool	ME	Maine	Existing	26.430	26.430	26.430	26.430	26.430	26.430	26.430	26.430	26.430	26.430	26.430	26.430
640	YARMOUTH 2	Generator	8500	Rest-of-Pool	ME	Maine	Existing	51.131	51.131	51.131	51.131	51.131	51.131	51.131	51.131	51.131	51.131	51.131	51.131
641	YARMOUTH 3	Generator	8500	Rest-of-Pool	ME	Maine	Existing	115.173	115.173	115.173	115.173	115.173	115.173	115.173	115.173	115.173	115.173	115.173	115.173
642	YARMOUTH 4	Generator	8500	Rest-of-Pool	ME	Maine	Existing	603.225	603.225	603.225	603.225	603.225	603.225	603.225	603.225	603.225	603.225	603.225	603.225
715	ROCHESTER LANDFILL	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	2.353	2.353	2.353	2.353	2.353	2.353	2.353	2.353	2.353	2.353	2.353	2.353
737	SIMPSON G LOAD REDUCER	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	2.329	2.329	2.329	2.329	3.095	3.095	3.095	3.095	3.095	3.095	3.095	3.095
739	ROCKY RIVER	Generator	8501	Connecticut	CT	Connecticut	Existing	29.001	29.001	29.001	29.001	29.001	29.001	29.001	29.001	29.001	29.001	29.001	29.001
754	BAR MILLS	Generator	8500	Rest-of-Pool	ME	Maine	Existing	1.951	1.951	1.951	1.951	2.729	2.729	2.729	2.729	2.729	2.729	2.729	2.729
755	BONNY EAGLE W. BUXTON	Generator	8500	Rest-of-Pool	ME	Maine	Existing	16.151	16.151	16.151	16.151	16.151	16.151	16.151	16.151	16.151	16.151	16.151	16.151
757	HARRIS 4	Generator	8500	Rest-of-Pool	ME	Maine	Existing	1.249	1.249	1.249	1.249	1.249	1.249	1.249	1.249	1.249	1.249	1.249	1.249
759	MESSALONSKEE COMPOSITE	Generator	8500	Rest-of-Pool	ME	Maine	Existing	1.917	1.917	1.917	1.917	5.397	5.397	5.397	5.397	5.397	5.397	5.397	5.397
760	NORTH GORHAM	Generator	8500	Rest-of-Pool	ME	Maine	Existing	1.211	1.211	1.211	1.211	1.379	1.379	1.379	1.379	1.379	1.379	1.379	1.379
761	SHAWMUT	Generator	8500	Rest-of-Pool	ME	Maine	Existing	5.392	5.392	5.392	5.392	7.437	7.437	7.437	7.437	7.437	7.437	7.437	7.437
766	CABOT TURNERS FALLS	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	67.881	67.881	67.881	67.881	68.200	68.200	68.200	68.200	68.200	68.200	68.200	68.200
767	SES CONCORD	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	12.151	12.151	12.151	12.151	12.537	12.537	12.537	12.537	12.537	12.537	12.537	12.537
768	GARVINS HOOKSETT	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	5.173	5.173	5.173	5.173	7.947	7.947	7.947	7.947	7.947	7.947	7.947	7.947
769	HADLEY FALLS 1&2	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	13.349	13.349	13.349	13.349	29.586	29.586	29.586	29.586	29.586	29.586	29.586	29.586
772	NEWPORT HYDRO	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	1.294	1.294	1.294	1.294	2.074	2.074	2.074	2.074	2.074	2.074	2.074	2.074
774	LOWER LAMOILLE COMPOSITE	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	15.800	15.800	15.800	15.800	15.800	15.800	15.800	15.800	15.800	15.800	15.800	15.800
775	MIDDLEBURY COMPOSITE	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600
776	N. RUTLAND COMPOSITE	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	5.200	5.200	5.200	5.200	5.200	5.200	5.200	5.200	5.200	5.200	5.200	5.200
779	MIDDLESEX 2	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	1.033	1.033	1.033	1.033	1.979	1.979	1.979	1.979	1.979	1.979	1.979	1.979
781	WEST DANVILLE 1	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.000	0.000	0.000	0.000	0.067	0.067	0.067	0.067	0.067	0.067	0.067	0.067
783	HIGHGATE FALLS	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	3.216	3.216	3.216	3.216	8.555	8.555	8.555	8.555	8.555	8.555	8.555	8.555

ID	Name	Type	Capacity Zone ID	Capacity Zone Name	State	Load Zone	Status	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19
786	KEZAR LEDGEMERE COMPOSITE	Generator	8500	Rest-of-Pool	ME	Maine	Existing	0.523	0.523	0.523	0.523	0.994	0.994	0.994	0.994	0.994	0.994	0.994	0.994
789	CEC 002 PAWTUCKET US	Generator	8504	SEMASS-RI	RI	Rhode Island	Existing	0.248	0.248	0.248	0.248	0.647	0.647	0.647	0.647	0.647	0.647	0.647	0.647
792	CENTENNIAL HYDRO	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.252	0.252	0.252	0.252	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549
793	METHUEN HYDRO	Generator	8502	NEMA-Boston	MA	NEMA	Existing	0.016	0.016	0.016	0.016	0.186	0.186	0.186	0.186	0.186	0.186	0.186	0.186
794	MINIWAWA	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.175	0.175	0.175	0.175	0.543	0.543	0.543	0.543	0.543	0.543	0.543	0.543
795	RIVER MILL HYDRO	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.000	0.000	0.000	0.000	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076
796	GOODWIN DAM	Generator	8501	Connecticut	CT	Connecticut	Existing	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000
797	CEC 003 WYRE WYND US	Generator	8501	Connecticut	CT	Connecticut	Existing	0.649	0.649	0.649	0.649	1.563	1.563	1.563	1.563	1.563	1.563	1.563	1.563
798	COLEBROOK	Generator	8501	Connecticut	CT	Connecticut	Existing	0.559	0.559	0.559	0.559	0.731	0.731	0.731	0.731	0.731	0.731	0.731	0.731
800	KINNEYTOWN B	Generator	8501	Connecticut	CT	Connecticut	Existing	0.242	0.242	0.242	0.242	0.643	0.643	0.643	0.643	0.643	0.643	0.643	0.643
801	WILLIMANTIC 1	Generator	8501	Connecticut	CT	Connecticut	Existing	0.060	0.060	0.060	0.060	0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.170
802	WILLIMANTIC 2	Generator	8501	Connecticut	CT	Connecticut	Existing	0.037	0.037	0.037	0.037	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143
803	TOUTANT	Generator	8501	Connecticut	CT	Connecticut	Existing	0.251	0.251	0.251	0.251	0.251	0.251	0.251	0.251	0.251	0.251	0.251	0.251
804	PUTNAM	Generator	8501	Connecticut	CT	Connecticut	Existing	0.186	0.186	0.186	0.186	0.447	0.447	0.447	0.447	0.447	0.447	0.447	0.447
806	MECHANICSVIL LE	Generator	8501	Connecticut	CT	Connecticut	Existing	0.036	0.036	0.036	0.036	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142
807	CEC 004 DAYVILLE POND US	Generator	8501	Connecticut	CT	Connecticut	Existing	0.005	0.005	0.005	0.005	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062
808	SANDY HOOK HYDRO	Generator	8501	Connecticut	CT	Connecticut	Existing	0.007	0.007	0.007	0.007	0.071	0.071	0.071	0.071	0.071	0.071	0.071	0.071
810	QUINEBAUG	Generator	8501	Connecticut	CT	Connecticut	Existing	0.392	0.392	0.392	0.392	1.069	1.069	1.069	1.069	1.069	1.069	1.069	1.069
811	BANTAM	Generator	8501	Connecticut	CT	Connecticut	Existing	0.026	0.026	0.026	0.026	0.105	0.105	0.105	0.105	0.105	0.105	0.105	0.105
812	BEEBE HOLBROOK	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.074	0.074	0.074	0.074	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069
813	TUNNEL	Generator	8501	Connecticut	CT	Connecticut	Existing	0.520	0.520	0.520	0.520	1.407	1.407	1.407	1.407	1.407	1.407	1.407	1.407
814	PATCH	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.019	0.019	0.019	0.019	0.080	0.080	0.080	0.080	0.080	0.080	0.080	0.080
815	CARVER FALLS	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.239	0.239	0.239	0.239	1.088	1.088	1.088	1.088	1.088	1.088	1.088	1.088
816	CAVENDISH	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.331	0.331	0.331	0.331	0.872	0.872	0.872	0.872	0.872	0.872	0.872	0.872
817	TAFTSVILLE VT	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.059	0.059	0.059	0.059	0.080	0.080	0.080	0.080	0.080	0.080	0.080	0.080
818	PIERCE MILLS	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.105	0.105	0.105	0.105	0.202	0.202	0.202	0.202	0.202	0.202	0.202	0.202
819	ARNOLD FALLS	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.153	0.153	0.153	0.153	0.229	0.229	0.229	0.229	0.229	0.229	0.229	0.229
820	PASSUMPSIC	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.215	0.215	0.215	0.215	0.252	0.252	0.252	0.252	0.252	0.252	0.252	0.252
821	GAGE	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.214	0.214	0.214	0.214	0.404	0.404	0.404	0.404	0.404	0.404	0.404	0.404
822	SMITH (CVPS)	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.517	0.517	0.517	0.517	0.690	0.690	0.690	0.690	0.690	0.690	0.690	0.690
823	EAST BARNET	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.458	0.458	0.458	0.458	0.991	0.991	0.991	0.991	0.991	0.991	0.991	0.991
824	BATH ELECTRIC HYDRO	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.234	0.234	0.234	0.234	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221
827	SEARSBURG WIND	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.256	0.256	0.256	0.256	1.052	1.052	1.052	1.052	1.052	1.052	1.052	1.052
828	BARTON HYDRO	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.294	0.294	0.294	0.294	0.571	0.571	0.571	0.571	0.571	0.571	0.571	0.571

	Name	Type	Capacity Zone ID	Capacity Zone Name	State	Load Zone	Status	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19
830	ENOSBURG HYDRO	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.449	0.449	0.449	0.449	0.343	0.343	0.343	0.343	0.343	0.343	0.343	0.343
831	VAIL & GREAT FALLS	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.312	0.312	0.312	0.312	0.544	0.544	0.544	0.544	0.544	0.544	0.544	0.544
832	CENTER RUTLAND	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.000	0.000	0.000	0.000	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020
833	BARNET	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.054	0.054	0.054	0.054	0.157	0.157	0.157	0.157	0.157	0.157	0.157	0.157
834	COMPTU FALLS	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.178	0.178	0.178	0.178	0.401	0.401	0.401	0.401	0.401	0.401	0.401	0.401
835	DEWEY MILLS	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.436	0.436	0.436	0.436	1.009	1.009	1.009	1.009	1.009	1.009	1.009	1.009
836	EMERSON FALLS	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.014	0.014	0.014	0.014	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059
837	KILLINGTON	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.003	0.003	0.003	0.003	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032
838	KINGSBURY	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.057	0.057	0.057	0.057	0.082	0.082	0.082	0.082	0.082	0.082	0.082	0.082
839	LADD'S MILL	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.026	0.026	0.026	0.026	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061
840	MARTINSVILLE	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.034	0.034	0.034	0.034	0.109	0.109	0.109	0.109	0.109	0.109	0.109	0.109
841	MORETOWN 8	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.113	0.113	0.113	0.113	0.156	0.156	0.156	0.156	0.156	0.156	0.156	0.156
842	NANTANA MILL	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.045	0.045	0.045	0.045	0.097	0.097	0.097	0.097	0.097	0.097	0.097	0.097
843	NEWBURY	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.069	0.069	0.069	0.069	0.154	0.154	0.154	0.154	0.154	0.154	0.154	0.154
844	OTTAUQUECHE E	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.713	0.713	0.713	0.713	1.121	1.121	1.121	1.121	1.121	1.121	1.121	1.121
845	SLACK DAM	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.141	0.141	0.141	0.141	0.327	0.327	0.327	0.327	0.327	0.327	0.327	0.327
846	WINOOSKI 8	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.303	0.303	0.303	0.303	0.487	0.487	0.487	0.487	0.487	0.487	0.487	0.487
847	WOODSIDE	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.065	0.065	0.065	0.065	0.086	0.086	0.086	0.086	0.086	0.086	0.086	0.086
848	WRIGHTSVILLE	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.130	0.130	0.130	0.130	0.421	0.421	0.421	0.421	0.421	0.421	0.421	0.421
849	CRESCENT DAM	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.337	0.337	0.337	0.337	0.828	0.828	0.828	0.828	0.828	0.828	0.828	0.828
850	GLENDALE HYDRO	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.288	0.288	0.288	0.288	0.631	0.631	0.631	0.631	0.631	0.631	0.631	0.631
851	GARDNER FALLS	Generator	8500	Rest-of-Pool															

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870	PEMBROKE	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.468	0.468	0.468	0.468	1.379	1.379	1.379	1.379	1.379	1.379	1.379	1.379
871	PENNACOOK FALLS LOWER	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	1.516	1.516	1.516	1.516	3.269	3.269	3.269	3.269	3.269	3.269	3.269	3.269
872	PENNACOOK FALLS UPPER	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	1.050	1.050	1.050	1.050	2.353	2.353	2.353	2.353	2.353	2.353	2.353	2.353
873	PUTTS BRIDGE	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	1.183	1.183	1.183	1.183	2.219	2.219	2.219	2.219	2.219	2.219	2.219	2.219
874	RED BRIDGE	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.971	0.971	0.971	0.971	2.190	2.190	2.190	2.190	2.190	2.190	2.190	2.190
875	RIVER BEND	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.548	0.548	0.548	0.548	0.655	0.655	0.655	0.655	0.655	0.655	0.655	0.655
876	ROBERTSVILLE	Generator	8501	Connecticut	CT	Connecticut	Existing	0.005	0.005	0.005	0.005	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039
877	SCOTLAND	Generator	8501	Connecticut	CT	Connecticut	Existing	0.000	0.000	0.000	0.000	1.544	1.544	1.544	1.544	1.544	1.544	1.544	1.544
878	SKINNER	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.050	0.050	0.050	0.050	0.150	0.150	0.150	0.150	0.150	0.150	0.150	0.150
879	TAFTVILLE CT	Generator	8501	Connecticut	CT	Connecticut	Existing	0.265	0.265	0.265	0.265	0.903	0.903	0.903	0.903	0.903	0.903	0.903	0.903
882	FRANKLIN FALLS	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.428	0.428	0.428	0.428	0.545	0.545	0.545	0.545	0.545	0.545	0.545	0.545
883	SALMON FALLS HYDRO	Generator	8500	Rest-of-Pool	ME	Maine	Existing	0.145	0.145	0.145	0.145	0.470	0.470	0.470	0.470	0.470	0.470	0.470	0.470
884	SWANS FALLS	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.372	0.372	0.372	0.372	0.410	0.410	0.410	0.410	0.410	0.410	0.410	0.410
886	COCHECO FALLS	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.107	0.107	0.107	0.107	0.375	0.375	0.375	0.375	0.375	0.375	0.375	0.375
887	CHINA MILLS DAM	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.040	0.040	0.040	0.040	0.409	0.409	0.409	0.409	0.409	0.409	0.409	0.409
888	NEWFOUND HYDRO	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.410	0.410	0.410	0.410	0.970	0.970	0.970	0.970	0.970	0.970	0.970	0.970
889	SUNAPEE HYDRO	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.101	0.101	0.101	0.101	0.281	0.281	0.281	0.281	0.281	0.281	0.281	0.281
890	NASHUA HYDRO	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.326	0.326	0.326	0.326	0.785	0.785	0.785	0.785	0.785	0.785	0.785	0.785
891	HILLSBORO MILLS	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.024	0.024	0.024	0.024	0.218	0.218	0.218	0.218	0.218	0.218	0.218	0.218
892	LAKEPORT DAM	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.273	0.273	0.273	0.273	0.296	0.296	0.296	0.296	0.296	0.296	0.296	0.296
893	WEST HOPKINTON HYDRO	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.237	0.237	0.237	0.237	0.399	0.399	0.399	0.399	0.399	0.399	0.399	0.399
894	LISBON HYDRO	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.244	0.244	0.244	0.244	0.319	0.319	0.319	0.319	0.319	0.319	0.319	0.319
895	LOWER ROBERTSON DAM	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.323	0.323	0.323	0.323	0.579	0.579	0.579	0.579	0.579	0.579	0.579	0.579
897	OLD NASH DAM	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.024	0.024	0.024	0.024	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088
898	SUGAR RIVER HYDRO	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.000	0.000	0.000	0.000	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
900	GREAT FALLS LOWER	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.142	0.142	0.142	0.142	0.616	0.616	0.616	0.616	0.616	0.616	0.616	0.616
901	WATERLOOM FALLS	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.008	0.008	0.008	0.008	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
902	HOSIERY MILL DAM	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.061	0.061	0.061	0.061	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115
903	WYANDOTTE HYDRO	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.002	0.002	0.002	0.002	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069
904	LOCHMERE DAM	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.340	0.340	0.340	0.340	0.509	0.509	0.509	0.509	0.509	0.509	0.509	0.509
905	ASHUELOT HYDRO	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.344	0.344	0.344	0.344	0.602	0.602	0.602	0.602	0.602	0.602	0.602	0.602
906	ROLLINSFORD HYDRO	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.238	0.238	0.238	0.238	0.877	0.877	0.877	0.877	0.877	0.877	0.877	0.877

ID	Name	Type	Capacity Zone ID	Capacity Zone Name	State	Load Zone	Status	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19
908	OTIS MILL HYDRO	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.000	0.000	0.000	0.000	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
909	STEELS POND HYDRO	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.038	0.038	0.038	0.038	0.131	0.131	0.131	0.131	0.131	0.131	0.131	0.131
910	CAMPTON DAM	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.112	0.112	0.112	0.112	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176
911	KELLEYS FALLS	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.022	0.022	0.022	0.022	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180
913	GOODRICH FALLS	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.186	0.186	0.186	0.186	0.297	0.297	0.297	0.297	0.297	0.297	0.297	0.297
914	CHAMBERLAIN FALLS	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.000	0.000	0.000	0.000	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
919	HOPKINTON HYDRO	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.080	0.080	0.080	0.080	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175
922	NOONE FALLS	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.016	0.016	0.016	0.016	0.074	0.074	0.074	0.074	0.074	0.074	0.074	0.074
925	OTTER LANE HYDRO	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.013	0.013	0.013	0.013	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029
926	PETERBOROUGH H LOWER HYDRO	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.007	0.007	0.007	0.007	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059
928	SALMON BROOK STATION 3	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.047	0.047	0.047	0.047	0.119	0.119	0.119	0.119	0.119	0.119	0.119	0.119
931	AVERY DAM	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.188	0.188	0.188	0.188	0.205	0.205	0.205	0.205	0.205	0.205	0.205	0.205
932	WATSON DAM	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.024	0.024	0.024	0.024	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142
933	WESTON DAM	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.226	0.226	0.226	0.226	0.347	0.347	0.347	0.347	0.347	0.347	0.347	0.347
935	SUNNYBROOK HYDRO 2	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013
941	PETERBOROUGH H UPPER HYDRO	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.010	0.010	0.010	0.010	0.114	0.114	0.114	0.114	0.114	0.114	0.114	0.114
942	DUNBARTON ROAD LANDFILL	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.182	0.182	0.182	0.182	0.197	0.197	0.197	0.197	0.197	0.197	0.197	0.197
943	FOUR HILLS LANDFILL	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.355	0.355	0.355	0.355	0.217	0.217	0.217	0.217	0.217	0.217	0.217	0.217
948	PEPPERELL HYDRO COMPANY LLC	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.524	0.524	0.524	0.524	0.719	0.719	0.719	0.719	0.719	0.719	0.719	0.719
949	VALLEY HYDRO - QF	Generator	8504	SEMASS-RI	RI	Rhode Island	Existing	0.040	0.040	0.040	0.040	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165
950	LP ATHOL - QF	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.084	0.084	0.084	0.084	0.074	0.074	0.074	0.074	0.074	0.074	0.074	0.074
951	BALTIC MILLS - QF	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.038	0.038	0.038	0.038	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063
953	ATTLEBORO LANDFILL - QF	Generator	8504	SEMASS-RI	MA	SEMASS	Existing	0.120	0.120	0.120	0.120	0.236	0.236	0.236	0.236	0.236	0.236	0.236	0.236
954	MM LOWELL LANDFILL - QF	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.094	0.094	0.094	0.094	0.121	0.121	0.121	0.121	0.121	0.121	0.121	0.121
957	HG&E HYDRO CABOT 1-4	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	1.244	1.244	1.244	1.244	1.345	1.345	1.345	1.345	1.345	1.345	1.345	1.345
959	BARTON 1-4 DIESELS	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.605	0.605	0.605	0.605	0.605	0.605	0.605	0.605	0.605	0.605	0.605	0.605
969	POWDER MILL HYDRO	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.010	0.010	0.010	0.010	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091
970	DUDLEY HYDRO	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.030	0.030	0.030	0.030	0.108	0.108	0.108	0.108	0.108	0.108	0.108	0.108
978	NEW MILFORD	Generator	8501	Connecticut	CT	Connecticut	Existing	1.500	1.500	1.500	1.500	1.616	1.616	1.616	1.616	1.616	1.616	1.616	1.616
1005	BG DIGHTON POWER LLC	Generator	8504	SEMASS-RI	MA	SEMASS	Existing	160.539	160.539	160.539	160.539	160.539	160.539	160.539	160.539	160.539	160.539	160.539	160.539

ID	Name	Type	Capacity Zone ID	Capacity Zone Name	State	Load Zone	Status	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19
1028	BUNKER RD #12 GAS TURB	Generator	8504	SEMASS-RI	MA	SEMASS	Existing	2.351	2.351	2.351	2.351	2.351	2.351	2.351	2.351	2.351	2.351	2.351	2.351
1029	BUNKER RD #13 GAS TURB	Generator	8504	SEMASS-RI	MA	SEMASS	Existing	2.840	2.840	2.840	2.840	2.840	2.840	2.840	2.840	2.840	2.840	2.840	2.840
1030	OAK BLUFFS	Generator	8504	SEMASS-RI	MA	SEMASS	Existing	8.120	8.120	8.120	8.120	8.120	8.120	8.120	8.120	8.120	8.120	8.120	8.120
1031	WEST TISBURY	Generator	8504	SEMASS-RI	MA	SEMASS	Existing	5.524	5.524	5.524	5.524	5.524	5.524	5.524	5.524	5.524	5.524	5.524	5.524
1032	BRIDGEPORT ENERGY 1	Generator	8501	Connecticut	CT	Connecticut	Existing	454.434	454.434	454.434	454.434	454.434	454.434	454.434	454.434	454.434	454.434	454.434	454.434
1034	RIVERSIDE 4-7	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	1.389	1.389	1.389	1.389	1.648	1.648	1.648	1.648	1.648	1.648	1.648	1.648
1035	RIVERSIDE 8	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	2.568	2.568	2.568	2.568	3.017	3.017	3.017	3.017	3.017	3.017	3.017	3.017
1047	FAIRFAX	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	1.705	1.705	1.705	1.705	3.880	3.880	3.880	3.880	3.880	3.880	3.880	3.880
1048	WARE HYDRO	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.237	0.237	0.237	0.237	0.672	0.672	0.672	0.672	0.672	0.672	0.672	0.672
1049	COLLINS HYDRO	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.416	0.416	0.416	0.416	0.773	0.773	0.773	0.773	0.773	0.773	0.773	0.773
1050	CHICOPEE HYDRO	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.808	0.808	0.808	0.808	1.434	1.434	1.434	1.434	1.434	1.434	1.434	1.434
1054	BLACKSTONE HYDRO ASSOC	Generator	8504	SEMASS-RI	RI	Rhode Island	Existing	0.000	0.000	0.000	0.000	0.198	0.198	0.198	0.198	0.198	0.198	0.198	0.198
1057	BLACKSTONE HYDRO LOAD REDUCER	Generator	8504	SEMASS-RI	RI	Rhode Island	Existing	0.311	0.311	0.311	0.311	0.646	0.646	0.646	0.646	0.646	0.646	0.646	0.646
1059	BARRE LANDFILL	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.611	0.611	0.611	0.611	0.640	0.640	0.640	0.640	0.640	0.640	0.640	0.640
1061	MASCOMA HYDRO	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.253	0.253	0.253	0.253	0.782	0.782	0.782	0.782	0.782	0.782	0.782	0.782
1062	MWRA COSGROVE	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.905	0.905	0.905	0.905	0.396	0.396	0.396	0.396	0.396	0.396	0.396	0.396
1086	BERKSHIRE POWER	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	229.279	229.279	229.279	229.279	229.279	229.279	229.279	229.279	229.279	229.279	229.279	229.279
1109	MMWAC	Generator	8500	Rest-of-Pool	ME	Maine	Existing	1.792	1.792	1.792	1.792	2.014	2.014	2.014	2.014	2.014	2.014	2.014	2.014
1113	BRASSUA HYDRO	Generator	8500	Rest-of-Pool	ME	Maine	Existing	2.002	2.002	2.002	2.002	2.688	2.688	2.688	2.688	2.688	2.688	2.688	2.688
1117	GREAT WORKS COMPOSITE	Generator	8500	Rest-of-Pool	ME	Maine	Existing	0.019	0.019	0.019	0.019	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151
1119	KENNEBAGO HYDRO	Generator	8500	Rest-of-Pool	ME	Maine	Existing	0.197	0.197	0.197									

[illegible]

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ID	Name	Type	Capacity Zone ID	Capacity Zone Name	State	Load Zone	Status	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19
2426	Hydro Kennebec	Generator	8500	Rest-of-Pool	ME	Maine	Existing	6.804	6.804	6.804	6.804	10.693	10.693	10.693	10.693	10.693	10.693	10.693	10.693
2430	BELDENS-NEW	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	1.619	1.619	1.619	1.619	3.030	3.030	3.030	3.030	3.030	3.030	3.030	3.030
2431	DODGE FALLS- NEW	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	3.174	3.174	3.174	3.174	4.335	4.335	4.335	4.335	4.335	4.335	4.335	4.335
2432	HUNTINGTON FALLS-NEW	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	1.884	1.884	1.884	1.884	2.920	2.920	2.920	2.920	2.920	2.920	2.920	2.920
2433	RYEGATE 1- NEW	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	19.000	19.000	19.000	19.000	19.000	19.000	19.000	19.000	19.000	19.000	19.000	19.000
2434	GORGE 18 HYDRO-NEW	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.216	0.216	0.216	0.216	1.116	1.116	1.116	1.116	1.116	1.116	1.116	1.116
2435	VERGENNES HYDRO-NEW	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.961	0.961	0.961	0.961	1.405	1.405	1.405	1.405	1.405	1.405	1.405	1.405
2439	BROCKWAY MILLS U5	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.029	0.029	0.029	0.029	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221
2462	PLAINVILLE GEN QF U5	Generator	8504	SEMASS-RI	MA	SEMASS	Existing	2.692	2.692	2.692	2.692	2.940	2.940	2.940	2.940	2.940	2.940	2.940	2.940
2466	CHERRY 7	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	2.800	2.800	2.800	2.800	2.800	2.800	2.800	2.800	2.800	2.800	2.800	2.800
2467	CHERRY 8	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	3.400	3.400	3.400	3.400	3.400	3.400	3.400	3.400	3.400	3.400	3.400	3.400
2468	CHERRY 10	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100
2469	CHERRY 11	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100
2470	CHERRY 12	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	4.999	4.999	4.999	4.999	4.999	4.999	4.999	4.999	4.999	4.999	4.999	4.999
9100	CL&P Connecticut Portfolio	Demand	8501	Connecticut	CT	Connecticut	Existing	10.967	10.967	10.967	10.967	10.967	10.967	10.967	10.967	10.967	10.967	10.967	10.967
9103	CLM C&I Energy Efficiency	Demand	8501	Connecticut	CT	Connecticut	Existing	3.639	3.639	3.639	3.639	3.639	3.639	3.639	3.639	3.639	3.639	3.639	3.639
9104	EI C&I Energy Efficiency	Demand	8501	Connecticut	CT	Connecticut	Existing	1.406	1.406	1.406	1.406	1.406	1.406	1.406	1.406	1.406	1.406	1.406	1.406
9105	PSNH CORE EE Pgm Portfolio I	Demand	8500	Rest-of-Pool	NH	New Hampshire	Existing	2.918	2.918	2.918	2.918	2.918	2.918	2.918	2.918	2.918	2.918	2.918	2.918
9108	Residential Energy Efficienc	Demand	8500	Rest-of-Pool	VT	Vermont	Existing	0.016	0.016	0.016	0.016	0.016	0.016	0.012	0.012	0.012	0.012	0.016	0.016
9109	Commercial Energy Efficiency	Demand	8500	Rest-of-Pool	VT	Vermont	Existing	0.085	0.085	0.085	0.085	0.085	0.085	0.089	0.089	0.089	0.089	0.085	0.085
9114	ngrid nh odr eeproject_1	Demand	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.703	0.703	0.703	0.703	0.703	0.703	0.703	0.703	0.703	0.703	0.703	0.703
9115	CL&P Dist Gen 2007	Demand	8501	Connecticut	CT	Connecticut	Existing	0.293	0.293	0.293	0.293	0.293	0.293	0.293	0.293	0.293	0.293	0.293	0.293
9116	ngrid ri odr eeproject_1	Demand	8504	SEMASS-RI	RI	Rhode Island	Existing	7.032	7.032	7.032	7.032	7.032	7.032	7.032	7.032	7.032	7.032	7.032	7.032
9118	Unitil EE Project -2007	Demand	8500	Rest-of-Pool	MA	WCMASS	Existing	0.066	0.066	0.066	0.066	0.066	0.066	0.066	0.066	0.066	0.066	0.066	0.066
9120	ngrid sema odr eeproject_1	Demand	8504	SEMASS-RI	MA	SEMASS	Existing	5.275	5.275	5.275	5.275	5.275	5.275	5.275	5.275	5.275	5.275	5.275	5.275
9121	ngrid wcma odr eeproject_1	Demand	8500	Rest-of-Pool	MA	WCMASS	Existing	5.442	5.442	5.442	5.442	5.442	5.442	5.442	5.442	5.442	5.442	5.442	5.442
9122	ngrid nema odr eeproject_1	Demand	8502	NEMA-Boston	MA	NEMA	Existing	3.862	3.862	3.862	3.862	3.862	3.862	3.862	3.862	3.862	3.862	3.862	3.862
9123	NSTAR SEMA	Demand	8504	SEMASS-RI	MA	SEMASS	Existing	3.390	3.390	3.390	3.390	3.390	3.390	3.390	3.390	3.390	3.390	3.390	3.390
9125	UES EE Project 2007	Demand	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.622	0.622	0.622	0.622	0.622	0.622	0.622	0.622	0.622	0.622	0.622	0.622
9126	NSTAR NEMA 07	Demand	8502	NEMA-Boston	MA	NEMA	Existing	4.203	4.203	4.203	4.203	4.203	4.203	4.203	4.203	4.203	4.203	4.203	4.203

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9128	NHEC CORE EE Pgm Portfolio 1	Demand	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.159	0.159	0.159	0.159	0.159	0.159	0.159	0.159	0.159	0.159	0.159	0.159
9129	UMass Amherst - 4 MW Steam Turbine	Demand	8500	Rest-of-Pool	MA	WCMASS	Existing	1.620	1.620	1.620	1.620	1.620	1.620	1.620	1.620	1.620	1.620	1.620	1.620
9131	WMECO MA Portfolio 2006	Demand	8500	Rest-of-Pool	MA	WCMASS	Existing	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033
10091	MWRA Deer Island	Demand	8502	NEMA-Boston	MA	NEMA	Existing	15.660	15.660	15.660	15.660	15.660	15.660	15.660	15.660	15.660	15.660	15.660	15.660
10106	Citizens Group A	Demand	8500	Rest-of-Pool	VT	Vermont	Existing	5.076	5.076	5.076	5.076	5.076	5.076	5.076	5.076	5.076	5.076	5.076	5.076
10308	NECCO COGENERATIO N FACILITY	Generator	8502	NEMA-Boston	MA	NEMA	Existing	4.871	4.871	4.871	4.871	4.871	4.871	4.871	4.871	4.871	4.871	4.871	4.871
10361	BOC Kittery Load	Demand	8500	Rest-of-Pool	ME	Maine	Existing	9.396	9.396	9.396	9.396	9.396	9.396	9.396	9.396	9.396	9.396	9.396	9.396
10401	CELLEY MILL U5	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.014	0.014	0.014	0.014	0.086	0.086	0.086	0.086	0.086	0.086	0.086	0.086
10402	PETTYBORO HYDRO U5	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.001	0.001	0.001	0.001	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
10403	EASTMAN BROOK U5	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.011	0.011	0.011	0.011	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048
10406	LOWER VALLEY HYDRO U5	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.164	0.164	0.164	0.164	0.410	0.410	0.410	0.410	0.410	0.410	0.410	0.410
10407	WOODSVILLE HYDRO U5	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.131	0.131	0.131	0.131	0.150	0.150	0.150	0.150	0.150	0.150	0.150	0.150
10408	LOWER VILLAGE HYDRO U5	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.000	0.000	0.000	0.000	0.312	0.312	0.312	0.312	0.312	0.312	0.312	0.312
10409	SWEETWATER HYDRO U5	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.154	0.154	0.154	0.154	0.361	0.361	0.361	0.361	0.361	0.361	0.361	0.361
10424	Great Lakes - Berlin Incremental	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	8.977	8.977	8.977	8.977	13.209	13.209	13.209	13.209	13.209	13.209	13.209	13.209
10615	BLUE SPRUCE FARM U5	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.230	0.230	0.230	0.230	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225
10770	WEST SPRINGFIELD HYDRO U5	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.333	0.333	0.333	0.333	0.912	0.912	0.912	0.912	0.912	0.912	0.912	0.912
10801	COVENTRY CLEAN ENERGY	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	3.390	3.390	3.390	3.390	3.630	3.630	3.630	3.630	3.630	3.630	3.630	3.630
10959	RRIG EXPANSION PHASE 2	Generator	8504	SEMASS-RI	RI	Rhode Island	Existing	4.085	4.085	4.085	4.085	3.949	3.949	3.949	3.949	3.949	3.949	3.949	3.949
11052	GRTR NEW BEDFORD LFG UTIL PROJ	Generator	8504	SEMASS-RI	MA	SEMASS	Existing	2.537	2.537	2.537	2.537	2.598	2.598	2.598	2.598	2.598	2.598	2.598	2.598
11126	NORTH HARTLAND HYDRO	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	2.532	2.532	2.532	2.532	3.548	3.548	3.548	3.548	3.548	3.548	3.548	3.548
11273	Worcester Water Filtration	Demand	8500	Rest-of-Pool	MA	WCMASS	Existing	0.864	0.864	0.864	0.864	0.864	0.864	0.864	0.864	0.864	0.864	0.864	0.864
11408	HULL WIND TURBINE II	Generator	8504	SEMASS-RI	MA	SEMASS	Existing	0.068	0.068	0.068	0.068	0.328	0.328	0.328	0.328	0.328	0.328	0.328	0.328
11424	RUMFORD FALLS	Generator	8500	Rest-of-Pool	ME	Maine	Existing	28.971	28.971	28.971	28.971	36.016	36.016	36.016	36.016	36.016	36.016	36.016	36.016
11842	WATERSIDE POWER	Generator	8501	Connecticut	CT	Connecticut	Existing	70.937	70.937	70.937	70.937	70.937	70.937	70.937	70.937	70.937	70.937	70.937	70.937

ID	Name	Type	Capacity Zone ID	Capacity Zone Name	State	Load Zone	Status	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19
11925	BROCKTON BRIGHTFIELDS	Generator	8504	SEMASS-RI	MA	SEMASS	Existing	0.144	0.144	0.144	0.144	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12108	FIEC DIESEL	Generator	8500	Rest-of-Pool	ME	Maine	Existing	1.640	1.640	1.640	1.640	1.640	1.640	1.640	1.640	1.640	1.640	1.640	1.640
12180	BERKSHIRE COW POWER	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.264	0.264	0.264	0.264	0.346	0.346	0.346	0.346	0.346	0.346	0.346	0.346
12274	GREEN MOUNTAIN DAIRY	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.193	0.193	0.193	0.193	0.220	0.220	0.220	0.220	0.220	0.220	0.220	0.220
12323	COVENTRY CLEAN ENERGY #4	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	2.244	2.244	2.244	2.244	2.420	2.420	2.420	2.420	2.420	2.420	2.420	2.420
12450	NYPA - CMR	Import	8500	Rest-of-Pool			Existing	68.800	68.800	68.800	68.800	68.800	68.800	68.800	68.800	68.800	68.800	68.800	68.800
12451	NYPA - VT	Import	8500	Rest-of-Pool			Existing	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000
12452	VJO - Highgate	Import	8500	Rest-of-Pool			Existing	6.000	6.000	6.000	6.000	6.000	6.000	6.000	6.000	6.000	6.000	6.000	6.000
12500	Thomas A. Watson	Generator	8504	SEMASS-RI	MA	SEMASS	Existing	105.200	105.200	105.200	105.200	105.200	105.200	105.200	105.200	105.200	105.200	105.200	105.200
12504	Devon 15-18	Generator	8501	Connecticut	CT	Connecticut	Existing	187.571	187.571	187.571	187.571	187.571	187.571	187.571	187.571	187.571	187.571	187.571	187.571
12505	Middletown 12- 15	Generator	8501	Connecticut	CT	Connecticut	Existing	187.600	187.600	187.600	187.600	187.600	187.600	187.600	187.600	187.600	187.600	187.600	187.600
12509	UNH Power Plant	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000
12510	Swanton Gas Turbine 1	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	19.372	19.372	19.372	19.372	19.532	19.532	19.532	19.532	19.532	19.532	19.532	19.532
12511	Swanton Gas Turbine 2	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	19.536	19.536	19.536	19.536	19.536	19.536	19.536	19.536	19.536	19.536	19.536	19.536
12521	Lowell Power Reactivation	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	74.000	74.000	74.000	74.000	74.000	74.000	74.000	74.000	74.000	74.000	74.000	74.000
12524	Cos Cob 13&14	Generator	8501	Connecticut	CT	Connecticut	Existing	36.000	36.000	36.000	36.000	36.000	36.000	36.000	36.000	36.000	36.000	36.000	36.000
12526	Pierce	Generator	8501	Connecticut	CT	Connecticut	Existing	76.515	76.515	76.515	76.515	76.515	76.515	76.515	76.515	76.515	76.515	76.515	76.515
12530	Sheffield Wind Farm	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	2.795	2.795	2.795	2.795	7.528	7.528	7.528	7.528	7.528	7.528	7.528	7.528
12551	Kibby Wind Power	Generator	8500	Rest-of-Pool	ME	Maine	Existing	13.928	13.928	13.928	13.928	29.867	29.867	29.867	29.867	29.867	29.867	29.867	29.867
12553	Covanta Haverhill Landfill Gas Engine	Generator	8502	NEMA-Boston	MA	NEMA	Existing	1.241	1.241	1.241	1.241	1.241	1.241	1.241	1.241	1.241	1.241	1.241	1.241
12564	Waterbury Generation Facility	Generator	8501	Connecticut	CT	Connecticut	Existing	96.349	96.349	96.349	96.349	96.349	96.349	96.349	96.349	96.349	96.349	96.349	96.349
12581	CL&P - Conservation & Load Management (CL&M) - Energy Efficiency Project	Demand	8501	Connecticut	CT	Connecticut	Existing	226.043	226.043	226.043	226.043	226.043	226.043	204.443	204.443	204.443	204.443	226.043	226.043
12583	CL&P Distributed Generation FCM 2010	Demand	8501	Connecticut	CT	Connecticut	Existing	34.232	34.232	34.232	34.232	34.232	34.232	34.232	34.232	34.232	34.232	34.232	34.232
12584	Conservation and Load Management Program	Demand	8501	Connecticut	CT	Connecticut	Existing	5.863	5.863	5.863	5.863	5.863	5.863	5.863	5.863	5.863	5.863	5.863	5.863

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	Name	Type	Capacity Zone ID	Capacity Zone Name	State	Load Zone	Status	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19
13675	MATEP (COMBINED CYCLE)	Generator	8502	NEMA-Boston	MA	NEMA	Existing	43.250	43.250	43.250	43.250	43.250	43.250	43.250	43.250	43.250	43.250	43.250	43.250
13703	Verso VCG1	Generator	8500	Rest-of-Pool	ME	Maine	Existing	42.606	42.606	42.606	42.606	42.606	42.606	42.606	42.606	42.606	42.606	42.606	42.606
13704	Verso VCG2	Generator	8500	Rest-of-Pool	ME	Maine	Existing	45.167	45.167	45.167	45.167	45.167	45.167	45.167	45.167	45.167	45.167	45.167	45.167
13705	Verso VCG3	Generator	8500	Rest-of-Pool	ME	Maine	Existing	43.768	43.768	43.768	43.768	43.768	43.768	43.768	43.768	43.768	43.768	43.768	43.768
13975	Corriveau Hydroelectric LLC	Generator	8500	Rest-of-Pool	ME	Maine	Existing	0.053	0.053	0.053	0.053	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044
14087	MAT3	Generator	8502	NEMA-Boston	MA	NEMA	Existing	11.573	11.573	11.573	11.573	11.573	11.573	11.573	11.573	11.573	11.573	11.573	11.573
14217	NORTHFIELD MOUNTAIN 1	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	292.000	292.000	292.000	292.000	292.000	292.000	292.000	292.000	292.000	292.000	292.000	292.000
14218	NORTHFIELD MOUNTAIN 2	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	270.000	270.000	270.000	270.000	270.000	270.000	270.000	270.000	270.000	270.000	270.000	270.000
14219	NORTHFIELD MOUNTAIN 3	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	292.000	292.000	292.000	292.000	292.000	292.000	292.000	292.000	292.000	292.000	292.000	292.000
14220	NORTHFIELD MOUNTAIN 4	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	292.000	292.000	292.000	292.000	292.000	292.000	292.000	292.000	292.000	292.000	292.000	292.000
14271	Ameresco Northampton	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.733	0.733	0.733	0.733	0.733	0.733	0.733	0.733	0.733	0.733	0.733	0.733
14579	FGE Energy Efficiency Portfolio 2011	Demand	8500	Rest-of-Pool	MA	WCMASS	Existing	0.222	0.222	0.222	0.222	0.222	0.222	0.222	0.222	0.222	0.222	0.222	0.222
14580	UES Energy Efficiency Portfolio 2011	Demand	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.271	0.271	0.271	0.271	0.271	0.271	0.271	0.271	0.271	0.271	0.271	0.271
14595	Granite Reliable Power	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	13.932	13.932	13.932	13.932	23.790	23.790	23.790	23.790	23.790	23.790	23.790	23.790
14599	Rhode Island LFG Genco, LLC - ST	Generator	8504	SEMASS-RI	RI	Rhode Island	Existing	26.000	26.000	26.000	26.000	26.000	26.000	26.000	26.000	26.000	26.000	26.000	26.000
14610	Princeton Wind Farm Project	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.161	0.161	0.161	0.161	0.454	0.454	0.454	0.454	0.454	0.454	0.454	0.454
14614	Kleen Energy	Generator	8501	Connecticut	CT	Connecticut	Existing	620.000	620.000	620.000	620.000	620.000	620.000	620.000	620.000	620.000	620.000	620.000	620.000
14623	Valley Hydro (Station No. 5)	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.241	0.241	0.241	0.241	0.459	0.459	0.459	0.459	0.459	0.459	0.459	0.459
14652	Templeton Wind Turbine	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.058	0.058	0.058	0.058	0.102	0.102	0.102	0.102	0.102	0.102	0.102	0.102
14660	Lempster Wind	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	3.059	3.059	3.059	3.059	7.935	7.935	7.935	7.935	7.935	7.935	7.935	7.935
14661	Berkshire Wind Power Project	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	1.824	1.824	1.824	1.824	5.227	5.227	5.227	5.227	5.227	5.227	5.227	5.227
14663	WMRE Crossroads	Generator	8500	Rest-of-Pool	ME	Maine	Existing	2.806	2.806	2.806	2.806	2.806	2.806	2.806	2.806	2.806	2.806	2.806	2.806
14665	Record Hill Wind	Generator	8500	Rest-of-Pool	ME	Maine	Existing	6.948	6.948	6.948	6.948	14.140	14.140	14.140	14.140	14.140	14.140	14.140	14.140
14706	Kimberly-Clark Corp Energy Independence Project	Generator	8501	Connecticut	CT	Connecticut	Existing	13.375	13.375	13.375	13.375	13.375	13.375	13.375	13.375	13.375	13.375	13.375	13.375
15415	Dartmouth Power Expansion	Generator	8504	SEMASS-RI	MA	SEMASS	Existing	20.305	20.305	20.305	20.305	20.305	20.305	20.305	20.305	20.305	20.305	20.305	20.305
15477	New Haven Harbor Units 2, 3, & 4	Generator	8501	Connecticut	CT	Connecticut	Existing	129.600	129.600	129.600	129.600	129.600	129.600	129.600	129.600	129.600	129.600	129.600	129.600

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35555	GMCW	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	0.850	0.850	0.850	0.850	1.272	1.272	1.272	1.272	1.272	1.272	1.272	1.272
35593	Fiske Hydro	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.077	0.077	0.077	0.077	0.113	0.113	0.113	0.113	0.113	0.113	0.113	0.113
35594	Spaulding Pond Hydro	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	0.021	0.021	0.021	0.021	0.172	0.172	0.172	0.172	0.172	0.172	0.172	0.172
35656	Rainbow_2	Generator	8501	Connecticut	CT	Connecticut	Existing	4.100	4.100	4.100	4.100	4.100	4.100	4.100	4.100	4.100	4.100	4.100	4.100
35657	Shrewsbury Diesels	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	13.700	13.700	13.700	13.700	13.700	13.700	13.700	13.700	13.700	13.700	13.700	13.700
35658	Rainbow_1	Generator	8501	Connecticut	CT	Connecticut	Existing	4.100	4.100	4.100	4.100	4.100	4.100	4.100	4.100	4.100	4.100	4.100	4.100
35693	Spruce Mountain Wind	Generator	8500	Rest-of-Pool	ME	Maine	Existing	2.353	2.353	2.353	2.353	5.853	5.853	5.853	5.853	5.853	5.853	5.853	5.853
35728	Moretown LG	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	4.608	4.608	4.608	4.608	4.608	4.608	4.608	4.608	4.608	4.608	4.608	4.608
35979	Kingdom Community Wind	Generator	8500	Rest-of-Pool	VT	Vermont	Existing	9.760	9.760	9.760	9.760	9.680	9.680	9.680	9.680	9.680	9.680	9.680	9.680
37040	KENDALL STEAM	Generator	8502	NEMA-Boston	MA	NEMA	Existing	27.750	27.750	27.750	27.750	27.750	27.750	27.750	27.750	27.750	27.750	27.750	27.750
37050	Groton Wind Project	Generator	8500	Rest-of-Pool	NH	New Hampshire	Existing	6.414	6.414	6.414	6.414	11.280	11.280	11.280	11.280	11.280	11.280	11.280	11.280
37072	Beaver_Ridge_Wind	Generator	8500	Rest-of-Pool	ME	Maine	Existing	0.454	0.454	0.454	0.454	1.269	1.269	1.269	1.269	1.269	1.269	1.269	1.269
37077	Woronoco Hydro LLC	Generator	8500	Rest-of-Pool	MA	WCMASS	Existing	0.658	0.658	0.658	0.658	1.557	1.557	1.557	1.557	1.557	1.557	1.557	1.557
37093	NH DR 1	Demand	8500	Rest-of-Pool	NH	New Hampshire	Existing	1.898	1.898	1.898	1.898	1.898	1.898	1.898	1.898	1.898	1.898	1.898	1.898
37095	WCMA DR 7515	Demand	8500	Rest-of-Pool	MA	WCMASS	Existing	8.538	8.538	8.538	8.538	8.538	8.538	8.538	8.538	8.538	8.538	8.538	8.538
37105	Blue Sky West	Generator	8500	Rest-of-Pool	ME	Maine	Existing	42.270	42.270	42.270	42.270	87.300	87.300	87.300	87.300	87.300	87.300	87.300	87.300
37112	Efficiency Maine Trust FCA6	Demand	8500	Rest-of-Pool	ME	Maine	Existing	1.890	1.890	1.890	1.890	1.890	1.890	1.890	1.890	1.890	1.890	1.890	1.890
37120	Thundermist Hydropower	Generator	8504	SEMASS-RI	RI	Rhode Island	Existing	0.000	0.000	0.000	0.000	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830
37917	RTDR_50744_Boston (7507) - Grp C	Demand	8502	NEMA-Boston	MA	NEMA	Existing	18.710	18.710	18.710	18.710	18.710	18.710	18.710	18.710	18.710	18.710	18.710	18.710
37918	RTDR_50744_Central MA (7515) - Grp A	Demand	8500	Rest-of-Pool	MA	WCMASS	Existing	2.280	2.280	2.280	2.280	2.280	2.280	2.280	2.280	2.280	2.280	2.280	2.280
37919	RTDR_50744_Lower SEMA (7511) - Grp C	Demand	8504	SEMASS-RI	MA	SEMASS	Existing	0.939	0.939	0.939	0.939	0.939	0.939	0.939	0.939	0.939	0.939	0.939	0.939
37920	RTDR_50744_North Shore (7508) - Grp C	Demand	8502	NEMA-Boston	MA	NEMA	Existing	1.599	1.599	1.599	1.599	1.599	1.599	1.599	1.599	1.599	1.599	1.599	1.599
37922	RTDR_50744_Northern CT (7501) - Grp B	Demand	8501	Connecticut	CT	Connecticut	Existing	17.891	17.891	17.891	17.891	17.891	17.891	17.891	17.891	17.891	17.891	17.891	17.891
37924	RTDR_50744_SEMA (7512) - Grp C	Demand	8504	SEMASS-RI	MA	SEMASS	Existing	5.684	5.684	5.684	5.684	5.684	5.684	5.684	5.684	5.684	5.684	5.684	5.684
37925	RTDR_50744_Springfield MA (7516) - Grp A	Demand	8500	Rest-of-Pool	MA	WCMASS	Existing	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380	1.380
37927	RTDR_50744_Western CT (7503) - Grp B	Demand	8501	Connecticut	CT	Connecticut	Existing	9.159	9.159	9.159	9.159	9.159	9.159	9.159	9.159	9.159	9.159	9.159	9.159
37928	RTDR_50786_Boston (7507)	Demand	8502	NEMA-Boston	MA	NEMA	Existing	5.274	5.274	5.274	5.274	5.274	5.274	5.274	5.274	5.274	5.274	5.274	5.274

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38217	RI CHP	Demand	8504	SEMASS-RI	RI	Rhode Island	Existing	10.399	10.399	10.399	10.399	10.399	10.399	10.399	10.399	10.399	10.399	10.399	10.399
38219	WMECO EE WCMA	Demand	8500	Rest-of-Pool	MA	WCMASS	Existing	32.400	32.400	32.400	32.400	32.400	32.400	32.400	32.400	32.400	32.400	32.400	32.400
38268	NEMA 1 EG	Demand	8502	NEMA-Boston	MA	NEMA	Existing	1.620	1.620	1.620	1.620	1.620	1.620	1.620	1.620	1.620	1.620	1.620	1.620
38270	NEMA 2 EG	Demand	8502	NEMA-Boston	MA	NEMA	Existing	1.620	1.620	1.620	1.620	1.620	1.620	1.620	1.620	1.620	1.620	1.620	1.620
38272	SEMA 1 EG	Demand	8504	SEMASS-RI	MA	SEMASS	Existing	0.540	0.540	0.540	0.540	0.540	0.540	0.540	0.540	0.540	0.540	0.540	0.540
38274	WCMA 1 EG	Demand	8500	Rest-of-Pool	MA	WCMASS	Existing	0.540	0.540	0.540	0.540	0.540	0.540	0.540	0.540	0.540	0.540	0.540	0.540
38276	RI 1 EG	Demand	8504	SEMASS-RI	RI	Rhode Island	Existing	1.080	1.080	1.080	1.080	1.080	1.080	1.080	1.080	1.080	1.080	1.080	1.080
38391	RTDR_50689_B angor Hydro (7504) - Grp A_1	Demand	8500	Rest-of-Pool	ME	Maine	Existing	27.000	27.000	27.000	27.000	27.000	27.000	27.000	27.000	27.000	27.000	27.000	27.000
38393	RTDR_50689_M aine (7505) - Grp A_1	Demand	8500	Rest-of-Pool	ME	Maine	Existing	43.200	43.200	43.200	43.200	43.200	43.200	43.200	43.200	43.200	43.200	43.200	43.200
392	DEXTER	Generator	8501	Connecticut	CT	Connecticut	New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1032	BRIDGEPORT ENERGY 1	Generator	8501	Connecticut	CT	Connecticut	New	21.565	21.565	21.565	21.565	21.565	21.565	21.565	21.565	21.565	21.565	21.565	21.565
1226	TIVERTON POWER	Generator	8504	SEMASS-RI	RI	Rhode Island	New	11.364	11.364	11.364	11.364	1.694	1.694	1.694	1.694	1.694	1.694	1.694	1.694
12581	CL&P - Conservation & Load Management (CL&M) - Energy Efficiency Project	Demand	8501	Connecticut	CT	Connecticut	New	54.000	54.000	54.000	54.000	54.000	54.000	75.600	75.600	75.600	75.600	54.000	54.000
12590	Ameresco CT DSM	Demand	8501	Connecticut	CT	Connecticut	New	0.648	0.648	0.648	0.648	0.648	0.648	0.648	0.648	0.648	0.648	0.648	0.648
12600	UI Conservation and Load Management Programs	Demand	8501	Connecticut	CT	Connecticut	New	5.714	5.714	5.714	5.714	5.714	5.714	9.528	9.528	9.528	9.528	5.714	5.714
12657	Unitil CORE Energy Efficiency Programs-2	Demand	8500	Rest-of-Pool	MA	WCMASS	New	1.382	1.382	1.382	1.382	1.382	1.382	1.382	1.382	1.382	1.382	1.382	1.382
12670	ngrid_nema_fc a1_eedr	Demand	8502	NEMA-Boston	MA	NEMA	New	15.988	15.988	15.988	15.988	15.988	15.988	15.988	15.988	15.988	15.988	15.988	15.988
12671	ngrid_nh_fca1_ eedr	Demand	8500	Rest-of-Pool	NH	New Hampshire	New	0.778	0.778	0.778	0.778	0.778	0.778	0.778	0.778	0.778	0.778	0.778	0.778
12672	ngrid_ri_fca1_e edr	Demand	8504	SEMASS-RI	RI	Rhode Island	New	30.966	30.966	30.966	30.966	30.966	30.966	30.966	30.966	30.966	30.966	30.966	30.966
12673	ngrid_sema_fca 1_eedr	Demand	8504	SEMASS-RI	MA	SEMASS	New	21.869	21.869	21.869	21.869	21.869	21.869	21.869	21.869	21.869	21.869	21.869	21.869
12674	ngrid_wcma_fc a1_eedr	Demand	8500	Rest-of-Pool	MA	WCMASS	New	30.653	30.653	30.653	30.653	30.653	30.653	30.653	30.653	30.653	30.653	30.653	30.653
12684	NSTAR EE NEMA	Demand	8502	NEMA-Boston	MA	NEMA	New	65.845	65.845	65.845	65.845	65.845	65.845	65.845	65.845	65.845	65.845	65.845	65.845
12685	NSTAR EE SEMA	Demand	8504	SEMASS-RI	MA	SEMASS	New	15.759	15.759	15.759	15.759	15.759	15.759	15.759	15.759	15.759	15.759	15.759	15.759
12693	PSNH CORE Energy Efficiency Programs	Demand	8500	Rest-of-Pool	NH	New Hampshire	New	5.471	5.471	5.471	5.471	5.471	5.471	5.471	5.471	5.471	5.471	5.471	5.471

	Name	Type	Capacity Zone ID	Capacity Zone Name	State	Load Zone	Status	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19
38249	Silver lake Photovoltaic Facility	Generator	8500	Rest-of-Pool	MA	WCMASS	New	0.458	0.458	0.458	0.458	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38250	Indian Orchard Photovoltaic Facility	Generator	8500	Rest-of-Pool	MA	WCMASS	New	0.595	0.595	0.595	0.595	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38252	Indian River Power Supply# LLC	Generator	8500	Rest-of-Pool	MA	WCMASS	New	0.314	0.314	0.314	0.314	0.941	0.941	0.941	0.941	0.941	0.941	0.941	0.941
38254	PVEC LLC	Generator	8500	Rest-of-Pool	MA	WCMASS	New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38255	Roseton 1	Import	8500	Rest-of-Pool			New	511.900	511.900	511.900	511.900	511.900	511.900	511.900	511.900	511.900	511.900	511.900	511.900
38256	Roseton 2	Import	8500	Rest-of-Pool			New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38257	Rensselaar Cogen	Import	8500	Rest-of-Pool			New	77.400	77.400	77.400	77.400	77.400	77.400	77.400	77.400	77.400	77.400	77.400	77.400
38278	Wallingford Unit 6 and Unit 7	Generator	8501	Connecticut	CT	Connecticut	New	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000
38287	WMA Chester Solar 1	Generator	8500	Rest-of-Pool	MA	WCMASS	New	1.904	1.904	1.904	1.904	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38289	Medway Peaker - SEMARI	Generator	8504	SEMASS-RI	MA	SEMASS	New	194.800	194.800	194.800	194.800	194.800	194.800	194.800	194.800	194.800	194.800	194.800	194.800
38291	Efficiency Maine Trust FCA9-Large	Demand	8500	Rest-of-Pool	ME	Maine	New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38297	CPV_Towantic	Generator	8501	Connecticut	CT	Connecticut	New	725.000	725.000	725.000	725.000	725.000	725.000	725.000	725.000	725.000	725.000	725.000	725.000
38302	Fisher Road Solar I	Generator	8504	SEMASS-RI	MA	SEMASS	New	1.920	1.920	1.920	1.920	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38311	NEMA CHP	Demand	8502	NEMA-Boston	MA	NEMA	New	0.866	0.866	0.866	0.866	0.866	0.866	0.866	0.866	0.866	0.866	0.866	0.866
38315	Control Area Backed	Import	8500	Rest-of-Pool			New	114.000	114.000	114.000	114.000	114.000	114.000	114.000	114.000	114.000	114.000	114.000	114.000
38320	Blackstone Combustion Turbine	Demand	8502	NEMA-Boston	MA	NEMA	New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38322	DRCR_Central MA_201403	Demand	8500	Rest-of-Pool	MA	WCMASS	New	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000
38323	DRCR_Eastern CT_201403	Demand	8501	Connecticut	CT	Connecticut	New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38324	DRCR_Lower SEMA_201403	Demand	8504	SEMASS-RI	MA	SEMASS	New	3.038	3.038	3.038	3.038	3.038	3.038	3.038	3.038	3.038	3.038	3.038	3.038
38325	DRCR_Maine_2 01403	Demand	8500	Rest-of-Pool	ME	Maine	New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38326	DRCR_New Hampshire_201 403	Demand	8500	Rest-of-Pool	NH	New Hampshire	New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38327	DRCR_Northern CT_201403	Demand	8501	Connecticut	CT	Connecticut	New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38328	DRCR_Northwe st Vermont_2014 03	Demand	8500	Rest-of-Pool	VT	Vermont	New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38329	DRCR_Norwalk- Stamford_2014 03	Demand	8501	Connecticut	CT	Connecticut	New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38330	DRCR_Portland Maine_201403	Demand	8500	Rest-of-Pool	ME	Maine	New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38331	DRCR_Rhode Island_201403	Demand	8504	SEMASS-RI	RI	Rhode Island	New	18.900	18.900	18.900	18.900	18.900	18.900	18.900	18.900	18.900	18.900	18.900	18.900

ID	Name	Type	Capacity Zone ID	Capacity Zone Name	State	Load Zone	Status	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19
38332	SITHE__MASS ENA	Import	8500	Rest-of-Pool			New	80.400	80.400	80.400	80.400	80.400	80.400	80.400	80.400	80.400	80.400	80.400	80.400
38333	DRCR_Seacoast 201403	Demand	8500	Rest-of-Pool	NH	New Hampshire	New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38334	DRCR_SEMA_2 01403	Demand	8504	SEMASS-RI	MA	SEMASS	New	20.034	20.034	20.034	20.034	20.034	20.034	20.034	20.034	20.034	20.034	20.034	20.034
38335	DRCR_Springfie ld MA_201403	Demand	8500	Rest-of-Pool	MA	WCMASS	New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38336	DRCR_Vermont 201403	Demand	8500	Rest-of-Pool	VT	Vermont	New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38337	DRCR_Western CT_201403	Demand	8501	Connecticut	CT	Connecticut	New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38338	DRCR_Western MA_201403	Demand	8500	Rest-of-Pool	MA	WCMASS	New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38360	DRCR_Boston_ 201403	Demand	8502	NEMA-Boston	MA	NEMA	New	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000
38363	DRCR_North Shore_201403	Demand	8502	NEMA-Boston	MA	NEMA	New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38372	Dartmouth Solar	Generator	8504	SEMASS-RI	MA	SEMASS	New	1.430	1.430	1.430	1.430	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38373	Holliston	Generator	8502	NEMA-Boston	MA	NEMA	New	0.330	0.330	0.330	0.330	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38374	Plymouth	Generator	8504	SEMASS-RI	MA	SEMASS	New	1.900	1.900	1.900	1.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38375	Uxbridge	Generator	8504	SEMASS-RI	MA	SEMASS	New	1.230	1.230	1.230	1.230	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38376	Landcraft	Generator	8504	SEMASS-RI	MA	SEMASS	New	1.350	1.350	1.350	1.350	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38378	LSRHS	Generator	8502	NEMA-Boston	MA	NEMA	New	0.420	0.420	0.420	0.420	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38380	Treasure Valley- SE	Generator	8500	Rest-of-Pool	MA	WCMASS	New	2.070	2.070	2.070	2.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38381	Belchertown Sed	Generator	8500	Rest-of-Pool	MA	WCMASS	New	0.530	0.530	0.530	0.530	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38387	CSG Aggregation of DG and 24 hr lighting EE - NEMA1_2	Demand	8502	NEMA-Boston	MA	NEMA	New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38388	CSG Aggregation of DG and 24 hr lighting EE - SEMA1_2	Demand	8504	SEMASS-RI	MA	SEMASS	New	2.333	2.333	2.333	2.333	2.333	2.333	2.333	2.333	2.333	2.333	2.333	2.333
38389	CSG Aggregation of DG and 24 hr lighting EE - WCMA1_2	Demand	8500	Rest-of-Pool	MA	WCMASS	New	2.333	2.333	2.333	2.333	2.333	2.333	2.333	2.333	2.333	2.333	2.333	2.333
38390	Efficiency Maine Trust FCA9	Demand	8500	Rest-of-Pool	ME	Maine	New	4.049	4.049	4.049	4.049	4.049	4.049	4.049	4.049	4.049	4.049	4.049	4.049
38396	NEMA 1 - New T4	Demand	8502	NEMA-Boston	MA	NEMA	New	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
38397	NEMA 1 - Retrofit	Demand	8502	NEMA-Boston	MA	NEMA	New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38398	NEMA 2 - New T4	Demand	8502	NEMA-Boston	MA	NEMA	New	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
38399	NEMA 2 - Retrofit	Demand	8502	NEMA-Boston	MA	NEMA	New	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38400	RI 1 - New T4	Demand	8504	SEMASS-RI	RI	Rhode Island	New	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592	2.592
38401	RI 1 - Retrofit	Demand	8504	SEMASS-RI	RI	Rhode Island	New	1.296	1.296	1.296	1.296	1.296	1.296	1.296	1.296	1.296	1.296	1.296	1.296
38402	SEMA 1 - New T4	Demand	8504	SEMASS-RI	MA	SEMASS	New	4.644	4.644	4.644	4.644	4.644	4.644	4.644	4.644	4.644	4.644	4.644	4.644

[illegible]

Attachment B

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

ISO New England Inc.

) Docket No. ER15-____-000

TESTIMONY OF STEPHEN J. ROURKE

1 **Q: PLEASE STATE YOUR NAME, TITLE AND BUSINESS ADDRESS.**

2 A: My name is Stephen J. Rourke. I am Vice President of System Planning with ISO
3 New England Inc. (the “ISO”). My business address is One Sullivan Road,
4 Holyoke, Massachusetts 01040.

5

6 **Q: PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**
7 **WORK EXPERIENCE.**

8 A: I have a B.S. in Electrical Engineering from Worcester Polytechnic Institute and a
9 M.B.A. from Western New England University. In my current position as Vice
10 President of System Planning, I am responsible for planning for a reliable New
11 England bulk power system according to prescribed reliability standards and
12 guidelines of the Northeast Power Coordinating Council (“NPCC”) and the North
13 American Electric Reliability Corporation (“NERC”); overseeing development of
14 the annual Regional System Plan; analysis and approval of new transmission and
15 generation interconnection projects, including the approval of qualification of
16 generating capacity resources, demand resources, and import capacity resources

1 to participate in the Forward Capacity Auction¹ (“FCA”); implementing the
2 Federal Energy Regulatory Commission (“Commission” or “FERC”) approved
3 generator interconnection process; developing the ISO’s findings for
4 Transmission Cost Allocation; and supporting the capacity market in New
5 England.

6
7 Previously, I served as the ISO’s Director, Reliability and Operations Services. I
8 was also a former manager of the Rhode Island—Eastern Massachusetts—
9 Vermont Energy Control (“REMVEC”) center in Westborough, Massachusetts
10 and former manager of marketing operations for Northeast Utilities/Select Energy
11 Inc. in Berlin, Connecticut. I have over 30 years of experience in the operations
12 and planning of the New England bulk power system.

13
14 **Q: WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

15 A: The purpose of my testimony is to certify that resources participating in the ninth
16 FCA, which was held on February 2, 2015, were properly qualified in accordance
17 with Section III.13.1 of the Tariff. Section III.13.8.2 (b) of the Tariff requires that
18 documentation regarding the competitiveness of the FCA be filed with the
19 Commission. Section III.13.8.2 (b) states that such documentation may include a
20 certification from the ISO that all entities offering and bidding in the FCA were
21 properly qualified in accordance with Section III.13.1 of the Tariff. My testimony

¹ Capitalized terms used but not otherwise defined in this testimony have the meanings ascribed thereto in the ISO’s Transmission, Markets and Services Tariff (the “Tariff”). Section III of the Tariff is Market Rule 1.

1 provides such certification.

2
3 **Q: WERE ALL RESOURCES OFFERING AND BIDDING IN THE NINTH**
4 **FCA HELD ON FEBRUARY 2, 2015 PROPERLY QUALIFIED IN**
5 **ACCORDANCE WITH TARIFF SECTION III.13.1?**

6 A: Yes. Section III.13.1 of the Tariff sets forth the process for qualification in the
7 FCA. In my role as Vice President of System Planning, I was responsible for
8 overseeing the qualification of all resources in the ninth FCA held on February 2,
9 2015. I certify that all resources offering and bidding in the ninth FCA were
10 properly qualified in accordance with Section III.13.1 of the Tariff. In a
11 November 4, 2014 informational filing with the Commission, the ISO explained
12 the qualification process for resources to participate in the ninth FCA.² The
13 Commission approved the Informational Filing on January 16, 2015.³

14
15 **Q: WHAT WAS YOUR ROLE IN THE RELIABILITY REVIEW OF THE**
16 **VARIOUS DE-LIST BIDS?**

17 A: As the Vice President of System Planning, I oversaw the reliability review of all
18 submitted de-list bids.

19
20 **Q: PLEASE DESCRIBE THE ISO'S REVIEW OF DE-LIST BIDS.**

² *ISO New England Inc.*, Informational Filing for Qualification in the Forward Capacity Market, Docket No. ER14-329-000 (filed November 4, 2014) ("Informational Filing").

³ *Order Accepting Informational Filing*, 150 FERC ¶ 61,021 (2015) ("Informational Filing Order").

1 A: Under the Tariff, all existing resources participate in the FCA, unless the resource
2 submits a de-list bid.⁴ There are two types of review performed by the ISO on the
3 de-list bids.

4
5 **Q: WHAT IS THE FIRST TYPE OF REVIEW?**

6 As described in the Informational Filing, the ISO's Internal Market Monitor
7 ("IMM") reviews Permanent and Static De-List Bids to determine whether the
8 bids are consistent with the resource's net risk-adjusted going forward and
9 opportunity costs. This review is not performed for Dynamic De-List Bids, which
10 are submitted during the auction itself if the price drops below a prescribed
11 threshold. For the ninth FCA, this threshold was \$3.94/kW-month.

12
13 **Q. WHAT IS THE OTHER TYPE OF REVIEW THAT THE ISO PERFORMS**
14 **WITH REGARD TO DE-LIST BIDS?**

15 A: Prior to each FCA, pursuant to Section III.13.2.5.2.5 of the Tariff, the ISO
16 reviews each Permanent De-List Bid, Static De-List Bid, and Export Bid to
17 determine if the capacity associated with the bid is needed for reliability during
18 the Capacity Commitment Period associated with the FCA. The Tariff provides
19 that capacity will be needed for reliability if the absence of that capacity would
20 result in violation of any NERC, NPCC, or ISO criteria.⁵ If the capacity
21 associated with the de-list bid is determined not to be needed for reliability, and

⁴ Section III.13.2.3.2(c) of the Tariff.

⁵ Section III.13.2.5.2.5 of the Tariff.

1 the auction price falls below the de-list bid price, the capacity associated with the
2 bid is removed from the auction.

3
4 **Q: FOR THE NINTH FCA, HOW MANY DE-LIST BIDS DID THE ISO**
5 **REVIEW FOR RELIABILITY?**

6 A. A total of 8,301 MW of de-list bids were submitted for the ninth FCA. However,
7 pursuant to Tariff Section III.13.1.2.3.2.1.1.2, prior to the auction, some
8 participants elected to withdraw their Static De-list Bids. In addition, also prior to
9 the auction, 97 MW of the de-list bids were converted into Non-Price Retirement
10 Requests ("NPRRs"). As a result, a total of 5,537 MW of Static De-list Bids were
11 reviewed for reliability. Because the auction price did not go below \$3.94/kW-
12 month (*i.e.*, the threshold for review of Dynamic De-List Bids prescribed for the
13 ninth FCA), no Dynamic De-List Bids were submitted. Finally, no Permanent
14 De-list Bids or Export Bids were submitted for the ninth FCA.

15
16 **Q: DID THE ISO REVIEW SHOW THE NEED TO RETAIN FOR**
17 **RELIABILITY ANY RESOURCES THAT SUBMITTED DE-LIST BIDS**
18 **FOR THE NINTH FCA?**

19 A. No. The ISO did not reject any de-list bid that it studied for the ninth FCA.

20
21 **Q. FOR THE NINTH FCA, HOW MANY MW OF NPRRS DID THE ISO**
22 **REVIEW FOR RELIABILITY?**

1 A. For the ninth FCA, a total of 41 NPRRs representing 464 MW of retirements were
2 submitted⁶ and reviewed for reliability pursuant to Tariff Section III.13.2.5.2.5
3 and ISO Planning Procedure No. 10.⁷

4
5 **Q: DID THE ISO REVIEW SHOW THE NEED TO RETAIN FOR**
6 **RELIABILITY ANY RESOURCES THAT SUBMITTED NPRRS FOR**
7 **THE NINTH FCA?**

8 A. No.

9
10 **Q: DOES THIS CONCLUDE YOUR TESTIMONY?**

11 A: Yes.

⁶ NPRR submissions are available at: <http://www.iso-ne.com/system-planning/resource-planning/nonprice-retirement>

⁷ "Planning Procedure to Support the Forward Capacity Market"

1 I declare that the foregoing is true and correct.

2

3

4

5

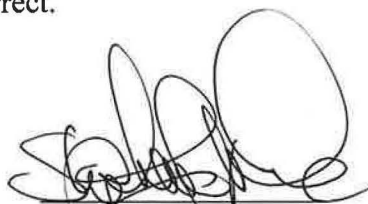
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Stephen J. Rourke

Attachment C

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

ISO New England Inc.

) **Docket No. ER15-____-000**

**TESTIMONY OF ROBERT G. ETHIER
ON BEHALF OF ISO NEW ENGLAND INC.**

1 **Q: PLEASE STATE YOUR NAME, TITLE AND BUSINESS ADDRESS.**

2 A: My name is Robert G. Ethier. I am employed by ISO New England Inc. (the
3 “ISO”) as Vice President of Market Operations. My business address is One
4 Sullivan Road, Holyoke, Massachusetts 01040.

5

6 **Q: PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**
7 **WORK EXPERIENCE.**

8 A: I have a Bachelor of Arts degree in Economics from Yale University, a Masters in
9 Resource Economics from Cornell University, and a Ph.D. in Resource
10 Economics from Cornell University. Since 2000, I have worked at the ISO in
11 various roles. I was responsible for Market Monitoring for nearly four years and
12 Resource Adequacy for more than two years before becoming Vice President of
13 Market Development in July 2008. In July 2014, I took on my current role as
14 Vice President of Market Operations. Before 2000, I was a Senior Associate at
15 Stratus Consulting with responsibility for energy market modeling.

16

17 **Q: WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

18 A: My testimony explains the auction prices resulting from the recently conducted

ninth Forward Capacity Auction (“FCA”).

Q: WHAT WAS YOUR ROLE IN THE DEVELOPMENT OF THE LIST OF RESOURCES THAT RECEIVED CAPACITY SUPPLY OBLIGATIONS IN THE NINTH FCA?

A. Section III.13.8.2 (a) of the ISO’s Transmission, Markets and Services Tariff (“Tariff”), requires the ISO to provide a list of resources that received Capacity Supply Obligations in each Capacity Zone and the size of the Capacity Supply Obligations. The ISO has provided this information in Attachment A to this filing. As the Vice President of Market Operations, Attachment A was developed under my supervision and direction

Q: WHAT CAPACITY ZONES WERE MODELLED IN THE NINTH FCA?

A. The ISO modeled four Capacity Zones in the ninth FCA: Southeastern Massachusetts/Rhode Island (“SEMA/RI”), Connecticut, Northeastern Massachusetts/Boston (“NEMA/Boston”) and Rest-of-Pool. The SEMA/RI Capacity Zone includes the Southeastern portion of Massachusetts and the State of Rhode Island. The NEMA/Boston Capacity Zone includes the Greater Boston and North Shore regions of Massachusetts. The Rest-of-Pool Capacity Zone includes Maine, Western/Central Massachusetts, New Hampshire and Vermont. As in previous auctions, the NEMA/Boston and Connecticut zones have been determined to be import-constrained zones. In addition, for the first time, the

1 Southeast Massachusetts and Rhode Island¹ Load Zones have been modeled as a
2 single Capacity Zone in the 2018-2019 Capacity Commitment Period's FCA and
3 determined to be import-constrained. As detailed in the ISO's Informational
4 Filing for the ninth FCA, the Local Sourcing Requirements for the Connecticut,
5 SEMA/RI and NEMA/Boston Load Zones are 7,331 MW, 7,479 MW and 3,572
6 MW, respectively.²

7
8 **Q: PLEASE DESCRIBE THE PRICES RESULTING FROM THE AUCTION**

9 A. The auction commenced with a starting price of \$17.728/kW-month. In the
10 NEMA/Boston, Connecticut and Rest-of-Pool Capacity Zones, the descending
11 clock auction concluded after three rounds. Resources in those Capacity Zones
12 will be paid at the Capacity Clearing Price set pursuant to the system-wide sloped
13 demand curve, which was \$9.551/kW-month.³

14
15 In the SEMA/RI Capacity Zone, there were inadequate resources to meet the
16 zone's Local Sourcing Requirement. As a result, the Inadequate Supply
17 administrative pricing rules were triggered for the SEMA/RI Capacity Zone.
18 Under these rules, the 353 MW of new capacity in the zone will receive the
19 auction starting price of \$17.728/kW-month, while 6,632 MW of existing
20 resources in the zone will receive \$11.08/kW-month and 256 MW of existing

¹ The Commission accepted the SEMA/RI zonal boundary in a letter order dated May 29, 2014 in Docket No. ER14-1939-000.

² Informational Filing for Qualification in the Forward Capacity Market at page 9, filed on November 4, 2014 in Docket No. ER15-328-000.

³ Existing resources with multi-year obligations from previous auctions will be paid based on the Capacity Clearing Price in the auction in which they originally cleared. Self-supplied resources will not be paid through the FCM.

self-supply resources will not receive payments through the Forward Capacity Market.

Q: THIS WAS THE FIRST AUCTION IN WHICH A SYSTEM-WIDE SLOPED DEMAND CURVE WAS USED. PLEASE DESCRIBE THE SLOPED DEMAND CURVE

A. The system-wide sloped demand curve's shape is defined by pertinent financial and reliability parameters. At prices below the Forward Capacity Auction Starting Price of \$17.728/kW-month, the system-wide quantity demanded increases linearly as price decreases. The demand curve is designed to procure over time capacity sufficient to meet the resource adequacy requirement for the New England Control Area, the Net Installed Capacity Requirement ("NICR"). The demand curve is defined in part by an administrative Net CONE value of \$11.08/kW-month, which is the estimated capacity market revenue a combined cycle unit would need in its first year of operation. The demand curve is designed to ensure that prospective resource developers are able to recover just enough money in the New England markets to make it financially worth their while to build a power plant in New England when the region is short of its resource target. Therefore, the Net CONE value is used as the basis for the demand curve, setting its height (at 1.6 x Net CONE) and influencing its shape for the ninth FCA. The sloped portion of the demand curve begins at quantities less than NICR and reaches a price of zero well to the right of NICR. It intersects the Net CONE value to the right of NICR. The system-wide sloped demand curve

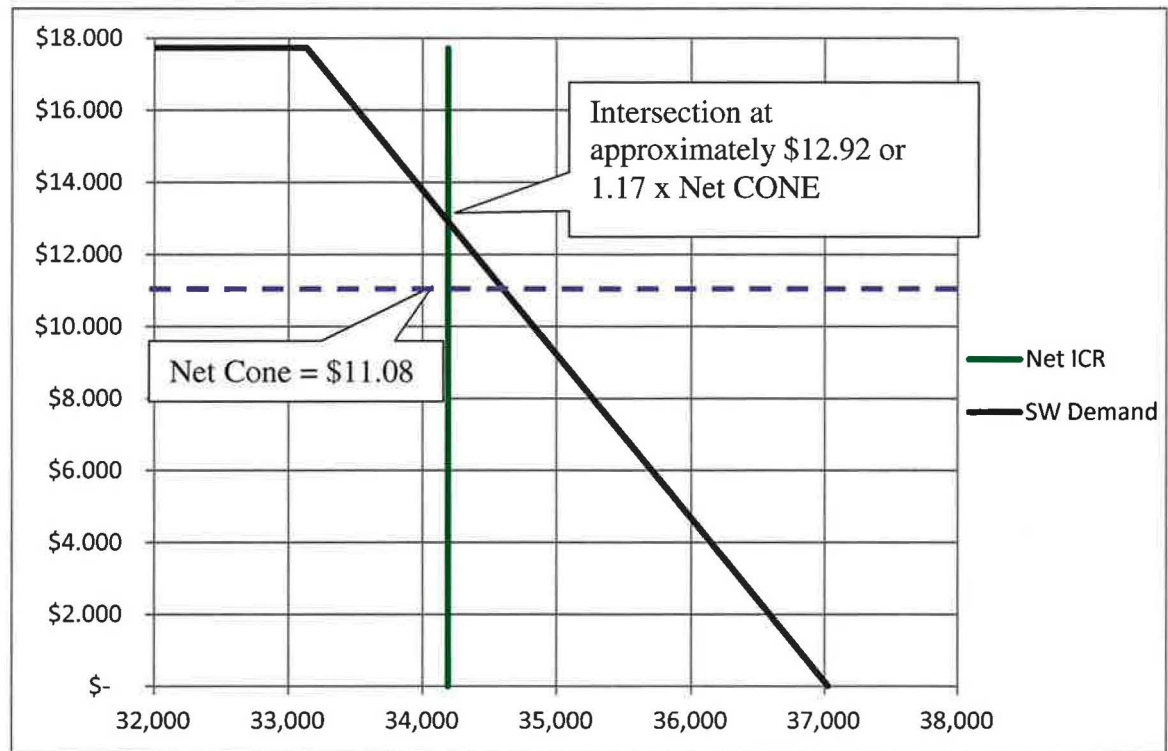
1 replaced NICR as the determinant of system-wide capacity demand for purposes
2 of clearing the Forward Capacity Auction. The Commission approved the
3 system-wide sloped demand curve on May 30, 2014.⁴

4
5 The system-wide sloped demand curve was applied in the ninth FCA to determine
6 the price at which system-wide aggregate supply intersected the system-wide
7 quantity demanded. For the ninth FCA, sloped demand curves were not applied
8 at the zonal level.

9
10 **Q: CAN YOU PROVIDE A GRAPH OF THE SYSTEM-WIDE DEMAND**
11 **CURVE FOR FCA 9?**

⁴ Order Accepting Tariff Provisions, 147 FERC ¶ 61,173 (2014).

- 1 A. Yes. Below is a graph of the system-wide sloped demand curve, Net CONE, and
2 NICR beginning at 32,000 MW:



3

4

5 **Q: WHAT CAUSED THE DESCENDING CLOCK AUCTION TO CLOSE?**

- 6 A. The auction bound system-wide when a new capacity offer was withdrawn,
7 resulting in aggregate supply falling short of demand in the third round of the
8 auction, after accounting for the 238 MW capacity shortfall in the SEMA/RI
9 Capacity Zone.

10

11 **Q: WHY WAS THE REST-OF-POOL CAPACITY CLEARING PRICE**
12 **\$9.551/KW-MONTH?**

- 13 A. In the ninth FCA, the Capacity Clearing Price was higher than the binding price.
14 This was because the marginal offer at the binding price was non-rationable.

1 Pursuant to the FCM rules, many offers from new capacity and many de-list bids
2 from existing capacity are non-rationable (sometimes called indivisible). That is,
3 the entire block must clear or not clear; it cannot be partially cleared. As a result
4 of this constraint, it is extremely unlikely that the auction will stop naturally at the
5 precise intersection of supply and demand, and in such a way as to require no
6 further work to determine the set of cleared resources and clearing prices.

7
8 **Q: HOW DOES THE FCA ADDRESS THIS ISSUE?**

9 A: While the descending-clock auction ably performs its role in winnowing the total
10 resources and prices to the right neighborhood, in the specific area where supply
11 and demand intersect, the presence of non-rationable offers may present a number
12 of potential solutions regarding which resources should clear and at what prices.
13 In order to determine which resources should clear, at what quantities and at what
14 price, the ISO utilizes the FCM clearing engine. The objective of the FCM
15 clearing engine is to maximize social surplus. Social surplus (sometimes called
16 social welfare) is in this case the sum of consumer surplus (the difference between
17 the amount that consumers would be willing to pay as defined by the demand
18 curve and the amount they actually pay) and supplier surplus (the difference
19 between the amount that suppliers are actually paid and the amount that they
20 would have been willing to accept). With exclusively rationable (sometimes
21 called divisible) offers and bids, the value is maximized by clearing all supply to
22 the left of the intersection with demand. When it is not possible to clear at the
23 precise intersection of supply and demand, there is a tradeoff between the

1 deadweight loss associated with clearing less supply or more supply than
2 demanded at the marginal offer price.

3
4 Under Section III.13.2.7.4 of the Tariff, where non-rationable offers prohibit the
5 descending clock auction from clearing the precise amount of capacity required,
6 the auctioneer analyzes the aggregate supply curve “to determine cleared capacity
7 offers and Capacity Clearing Prices that result in procuring at least the amount of
8 capacity required while seeking to maximize social surplus for the associated
9 Capacity Commitment Period.” With the sloped demand curve, the amount of
10 capacity required is dependent on price. Therefore, the optimal set of cleared
11 offers and bids that will maximize social surplus is determined in accordance with
12 the demand curve’s price and quantity coordinates. The capacity clearing engine
13 simultaneously analyzes every possible combination of offers in the region of the
14 supply curve that intersects with the demand curve in order to maximize social
15 surplus.

16
17 **Q: PLEASE EXPLAIN THE MECHANICS OF THE CAPACITY CLEARING**
18 **ENGINE IN THE NINTH FCA**

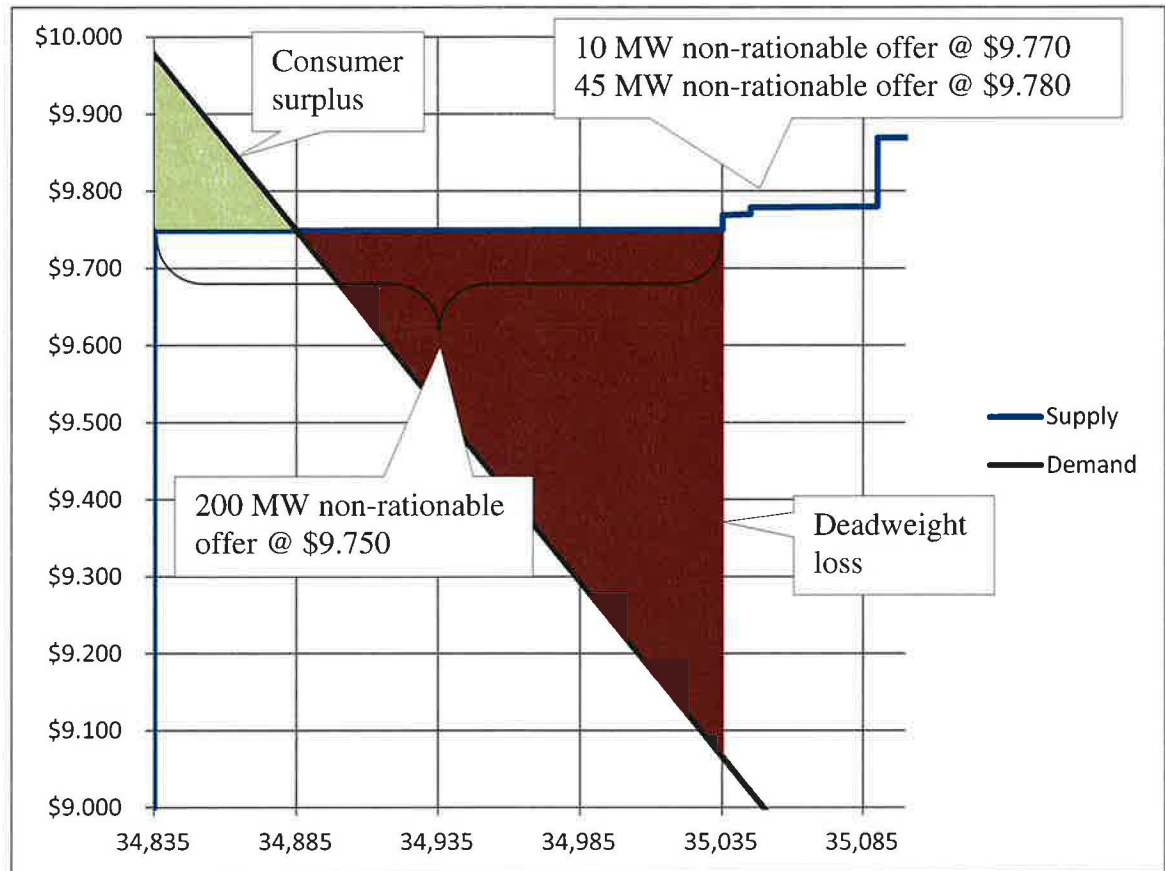
19 A. In the ninth FCA, the auction was closed by the withdrawal of an offer from new
20 capacity. The offer was non-rationable. I will refer to this offer hereafter as
21 “Offer Z” for ease of reference. At the pricing point just below Offer Z, system-
22 wide total offers were deficient of system-wide demand. Selecting Offer Z would
23 have resulted in excess capacity and, due to deadweight loss, would have reduced

1 social surplus by more than the needed portion of the capacity offer would have
2 added to social surplus. This would have produced a net reduction in social
3 surplus, and as a result, Offer Z was not selected. In this instance, the clearing
4 engine algorithm found smaller offers at prices slightly above the binding price in
5 the auction that increased social surplus. These smaller, new capacity offers were
6 offered at \$9.551/kW-month and also were non-rationable, but the small excess
7 capacity associated with clearing these offers did not produce deadweight loss
8 sufficiently large to cause a net reduction of social surplus. With these offers
9 selected, cleared supply exceeded demand at the Capacity Clearing Price of
10 \$9.551/kW-month by 3.634 MW. This solution maximized social surplus given
11 the submitted offers.

12
13 **Q: CAN YOU PROVIDE A GRAPH DEPICTING THE INTERSECTION OF**
14 **THE SYSTEM-WIDE SLOPED DEMAND CURVE AND A NON-**
15 **RATIONABLE OFFER IN A SAMPLE AGGREGATE SUPPLY CURVE?**

16 A. Yes. This general example illustrates a case when a non-rationable offer causes
17 the auction to bind, but does not maximize social surplus because the area of the
18 green triangle (consumer surplus) is smaller than the area of the red triangle

1 (deadweight loss).



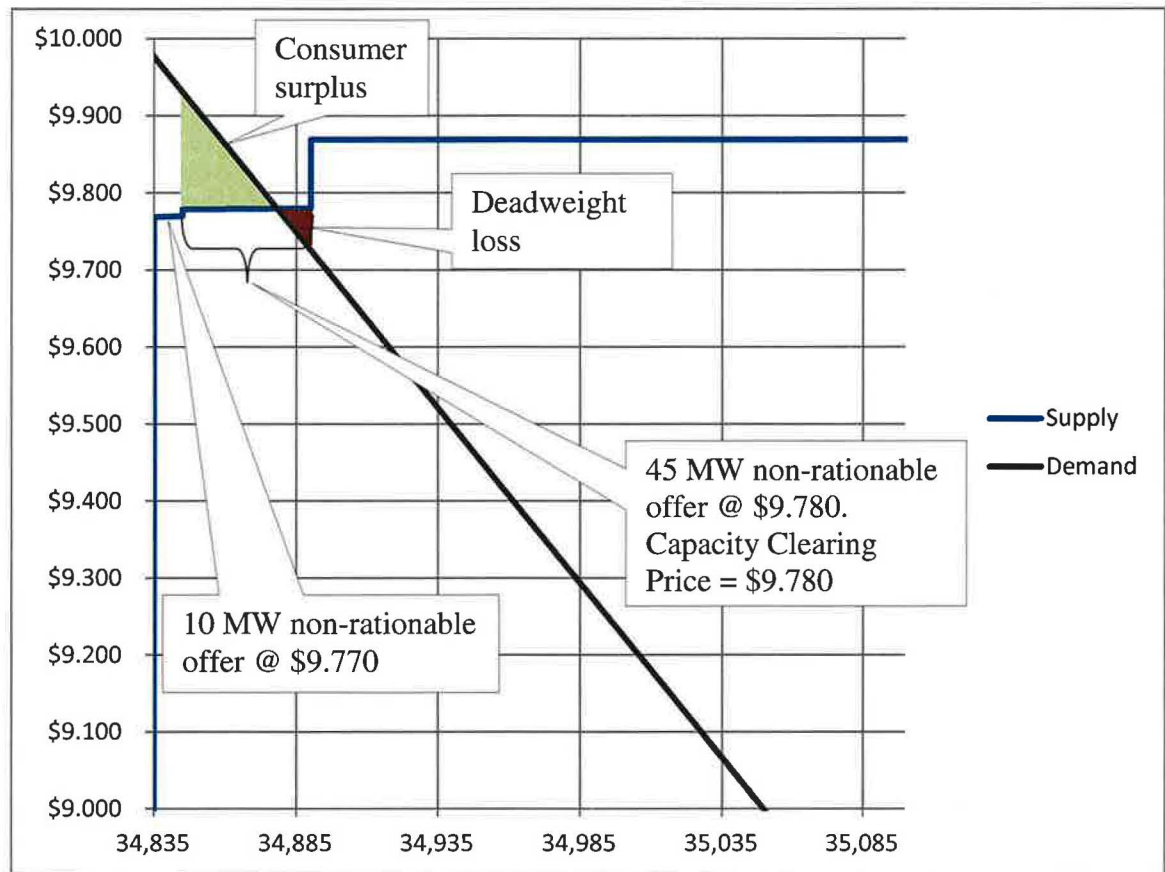
2

3

4 **Q: CONTINUING WITH THE SAME EXAMPLE, CAN YOU PROVIDE A**
5 **GRAPH DEPICTING THE INTERSECTION OF THE SYSTEM-WIDE**
6 **SLOPED DEMAND CURVE AND THE SAMPLE AGGREGATE SUPPLY**
7 **CURVE AFTER APPLICATION OF THE CLEARING ALGORITHM?**

8 **A:** Yes. This graph demonstrates that the 200 MW offer at \$9.750/kW-month does
9 not clear and has been removed from aggregate supply. In its place, two higher-
10 priced offers clear, which include the non-rationable 10 MW offer at \$9.770/kW-
11 month and the non-rationable 45 MW offer at \$9.780/kW-month. The 45 MW
12 offer at \$9.780/kW-month clears because it maximizes social surplus, which can

be seen by comparing the larger area of the green triangle (consumer surplus) to the smaller area of the red triangle (deadweight loss). The Capacity Clearing Price in this example is \$9.780/kW-month, the offer price of the highest-priced cleared offer.



Q: WHY WERE THE SEMA/RI CAPACITY CLEARING PRICE AND EXISTING CAPACITY PAYMENT RATE HIGHER THAN THE REST-OF-POOL CAPACITY CLEARING PRICE?

A. In the SEMA/RI Capacity Zone, there were inadequate resources to meet the zone's Local Sourcing Requirement. Therefore, the market power protection provisions in the Tariff relating to Inadequate Supply were triggered for the

SEMA/RI Capacity Zone. Pursuant to Section III.13.2.8.1.1 (a) of the Tariff, the 353 MW of new capacity in the zone will receive the auction starting price of \$17.728/kW-month, while the 6,632 MW of existing resources in the zone will receive the Net CONE value of \$11.08/kW-month.

Q: WHAT IS INADEQUATE SUPPLY?

A. Pursuant to Section III.13.2.8.1.1 of the Tariff, an import-constrained zone has Inadequate Supply, if at the start of the auction, the amount of new capacity offered in the Capacity Zone is less than the amount of “New Capacity Required” in that Capacity Zone. New Capacity Required is defined as the Capacity Zone’s Local Sourcing Requirement minus the quantity of existing capacity in the zone. When there is Inadequate Supply, auction rounds are not conducted for the import-constrained zone since the amount of capacity offered at the FCA Starting Price is less than the Local Sourcing Requirement.⁵

Q: WHAT WAS THE AMOUNT OF NEW CAPACITY REQUIRED IN THE SEMA/RI CAPACITY ZONE?

A. The Local Sourcing Requirement in SEMA/RI was 7,479 MW. There were 6,888 MW of existing capacity offers in the SEMA/RI Capacity Zone. Therefore, the amount of New Capacity Required was 591 MW. Since the 353 MW of qualified new capacity in SEMA/RI was less than the New Capacity Required, the administrative pricing provisions of Inadequate Supply were triggered.

⁵ Tariff Section III.13.2.3.3 (a).

Q: THE AUCTION DID NOT PROCURE SUFFICIENT RESOURCES IN THE SEMA/RI CAPACITY ZONE FOR THE 2018-2019 CAPACITY COMMITMENT PERIOD. WHAT STEPS WILL THE ISO TAKE TO ADDRESS THE SHORTFALL?

A: The amount of capacity procured in the SEMA/RI Capacity Zone was 238 MWs less than the Capacity Zone's Local Sourcing Requirement. The ISO will seek to procure additional resources to make up for this shortfall in the upcoming reconfiguration auctions for the 2018-2019 Capacity Commitment Period.

Q: WHY WAS THE SEMA/RI CAPACITY ZONE SHORTFALL NOT ADDRESSED BY PROCURING CAPACITY FROM OUTSIDE SEMA/RI?

A. SEMA/RI is an import-constrained Capacity Zone. The FCA does not procure capacity from resources outside of an import-constrained Capacity Zone to satisfy the zone's Local Sourcing Requirement. The general purpose of Local Sourcing Requirements is to procure capacity resources in specific zones within the New England Control Area. These location-specific purchases are necessary to meet the Northeast Power Coordinating Council and ISO's bulk power system reliability planning criteria after considering the transfer capability of the transmission system. Therefore, the Local Sourcing Requirement is a minimum quantity of capacity that must be met by resources located within that zone. If supply offered at the FCA Starting Price in an import-constrained Capacity Zone falls short of the zone's Local Sourcing Requirement, additional capacity

1 procured from resources located outside the import-constrained Capacity Zone
2 cannot resolve the shortfall because they would not actually meet the reliability
3 need. To prevent the FCA from procuring supply from resources in other zones
4 to meet an import-constrained Capacity Zone's shortfall, the shortfall quantity is
5 subtracted from the system-wide supply sloped demand curve as if the shortfall
6 quantity were no longer demanded. Not doing this would result in the auction
7 incorrectly seeking to procure the import-constrained Capacity Zone's shortfall in
8 other zones, which would raise capacity costs without meeting local reliability
9 criteria.

10
11 **Q: WHAT WERE THE PRICES ON THE EXTERNAL INTERFACES?**

12 A. The auction continued for one additional round for New York AC Ties imports,
13 closing at \$7.967/kW-month and two additional rounds for New Brunswick
14 imports, closing at \$3.94/kW-month. The Capacity Clearing Price for the
15 remaining external interfaces was \$9.551/kW-month.

16
17 **Q: WHY WERE THE CAPACITY CLEARING PRICES FOR THE NEW**
18 **BRUNSWICK AND THE NEW YORK AC TIES EXTERNAL**
19 **INTERFACES LOWER THAN THE CAPACITY CLEARING PRICE FOR**
20 **THE REST-OF-POOL CAPACITY ZONE?**

21 A. The New Brunswick and New York AC Ties external interfaces had greater
22 amounts of capacity offered than the capacity transfer limits for the interfaces at
23 the Rest-of-Pool Capacity Clearing Price of \$9.551/kW-month. Accordingly,

1 pursuant to Section III.13.2.3.3 (d) of the Tariff, the New Brunswick and New
2 York external interfaces were treated in the auction as if they comprised
3 separately modeled export-constrained capacity zones. Therefore, additional
4 bidding was required to determine the Capacity Clearing Price for each of those
5 external interfaces.

6
7 **Q: DOES THIS CONCLUDE YOUR TESTIMONY?**

8 **A: Yes.**

1 I declare that the foregoing is true and correct.

2

3 Executed on February 27, 2015.

4

5

A handwritten signature in blue ink, appearing to read 'R. G. Ethier', is written over a horizontal line.

6

Robert G. Ethier

7

8

Attachment D

1 **UNITED STATES OF AMERICA**
2 **BEFORE THE**
3 **FEDERAL ENERGY REGULATORY COMMISSION**

4
5)
6 **ISO New England Inc.**) **Docket No. ER15-____-000**
7)

8 **TESTIMONY OF JEFFREY MCDONALD**

9
10 **Q: PLEASE STATE YOUR NAME, TITLE AND BUSINESS ADDRESS.**

11
12 A. My name is Jeffrey McDonald. I am Vice President of Market Monitoring within
13 ISO New England Inc. (the “ISO”), where I perform the role of the Internal
14 Market Monitor (“IMM”). My business address is One Sullivan Road, Holyoke,
15 Massachusetts 01040.

16
17 **Q: PLEASE DESCRIBE YOUR WORK EXPERIENCE AND EDUCATIONAL**
18 **BACKGROUND.**

19
20 A. I have a Bachelor of Science degree in Agriculture and Managerial Economics
21 from the University of California, Davis (“UC Davis”); a Masters of Science
22 degree in Natural Resource Economics from the University of Massachusetts-
23 Amherst; and a Ph.D. degree in Agriculture and Natural Resource Economics
24 from UC Davis. Before joining the ISO in April 2014, I worked at the California
25 ISO as Manager of Market Analysis and Mitigation in the Market Monitoring

1 Department. In the fourteen years I worked at the California ISO, I held positions
2 of increasing responsibility within the Department of Market Monitoring.
3 Before the California ISO, I worked for the State of California as a Staff
4 Economist in the Department of Industrial Relations and the Department of
5 Transportation.

6
7 **Q: WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

8
9 A. The purpose of my testimony is to certify that all offers and bids in the ninth
10 Forward Capacity Auction (“FCA”)¹ that were required by the applicable
11 provisions of the Tariff to be reviewed by the IMM were in fact properly
12 reviewed and whether the outcome of the ninth FCA was the result of a
13 competitive auction. Section III.13.8.2 (b) of the Tariff requires that, after each
14 FCA, documentation regarding the competitiveness of the FCA be filed with the
15 Commission.

16
17 **Q: WERE ALL DE-LIST BIDS FROM EXISTING RESOURCES AND**
18 **OFFERS FROM NEW RESOURCES PROPERLY REVIEWED BY THE**
19 **IMM AND QUALIFIED IN ACCORDANCE WITH SECTION III.13.1 OF**
20 **THE TARIFF PRIOR TO THE NINTH FCA CONDUCTED ON**
21 **FEBRUARY 2, 2015?**

22
23 A. Yes. Section III.13.1 of the Tariff sets forth the process for qualifying resources
24 to participate in the FCA. Section III.13.1.2.3.2 of the Tariff requires that the

¹ Capitalized terms used but not defined in this testimony have the meanings ascribed to them in the ISO New England Transmission, Markets and Services Tariff (the “Tariff”).

1 IMM review each Static De-List Bid, Export De-List Bid and Permanent De-List
2 Bid above \$3.94/kW-month to determine whether the bid is consistent with the
3 resource's net risk-adjusted going forward costs and opportunity costs.
4 Additionally, pursuant to Section III.A.21.2 of the Tariff, the IMM reviews
5 requests submitted by each New Capacity Resource to offer in the FCA below the
6 Offer Review Trigger Price for the applicable resource type. If the IMM
7 determines that the requested offer price is inconsistent with the IMM's capacity
8 price estimate, then the resource's New Resource Offer Floor Price is set to a
9 level that is consistent with the capacity price estimate, as determined by the
10 IMM.

11
12 As Vice President of Market Monitoring and IMM, I am responsible for
13 overseeing the review of all of these bids and offers, and I certify that such review
14 was performed in accordance with the provisions of Section III.13.1 of the Tariff.
15 The IMM's determinations with respect to these bids and offers were filed with
16 the Commission in Docket No. ER15-328-000, and were accepted by the
17 Commission on January 16, 2015.² The IMM's determinations regarding the
18 New Resource Offer Floor Price for New Import Capacity Resources requesting
19 to submit an offer below the relevant Offer Review Trigger Price were filed with
20 Commission in Docket No. ER15-640-000 and were accepted by the Commission
21 on January 13, 2015.³

² *Order Accepting Informational Filing*, 150 FERC ¶ 61,021 (2015) ("Informational Filing Order").

³ See, Letter Order issued in Docket No. ER15-640-000 issued on January 13, 2015.

1
2 **Q: WAS THE OUTCOME OF THE NINTH FCA CONDUCTED FOR THE**
3 **2018-2019 CAPACITY COMMITMENT PERIOD THE RESULT OF A**
4 **COMPETITIVE AUCTION?**
5

6 A. Yes. The outcome of the ninth FCA system-wide was the result of a competitive
7 auction. System-wide there were insufficient existing resources to meet the
8 Installed Capacity Requirement. Therefore, all participants with existing
9 resources were determined by the IMM to be pivotal suppliers. As a result, the
10 IMM reviewed the cost basis of all submitted de-list bids and imposed mitigation,
11 where necessary, on submitted de-list bids. The IMM mitigation determinations
12 were accepted by the Commission in the Informational Filing Order. Under the
13 Tariff, new resources, with the exception of New Import Capacity Resources
14 associated with pivotal suppliers, can leave the auction at any price at or above
15 their New Resource Offer Floor Price. However, sufficient new resources
16 remained in the auction long enough such that, with the IMM mitigation of
17 existing resources and New Import Capacity Resources associated with pivotal
18 suppliers, the outcome of the auction system-wide was competitive. I base this
19 conclusion on the rigorous qualification requirements, the competitive bidding of
20 new resources, and the absence of any anti-competitive behavior affecting the
21 auction outcome.
22
23

1 **Q: WHAT ARE THE “RIGOROUS QUALIFICATION REQUIREMENTS” YOU**
2 **REFERENCE IN THE PREVIOUS ANSWER?**

3
4 A. During qualification, the IMM review of de-list bids and new capacity offers that
5 request to submit an offer below the relevant Offer Review Trigger Price ensures
6 that bids and offers submitted during qualification are consistent with each
7 resource’s costs.

8
9 **Q: PLEASE EXPLAIN WHAT YOU MEAN BY THE COMPETITIVE**
10 **BIDDING OF NEW RESOURCES.**

11
12 A. New resources, except for New Import Capacity Resources associated with
13 pivotal suppliers, can leave the auction at any price at or above their New
14 Resource Offer Floor Price. However, sufficient new resources stayed in the
15 auction long enough, such that, even at the beginning of the last round of the
16 auction, there was about 1,200 MW of system-wide excess capacity.

17
18 **Q: ON WHAT BASIS DID YOU CONCLUDE THAT THERE WAS NO ANTI-**
19 **COMPETITIVE CONDUCT DURING THE AUCTION?**

20
21 A. The IMM reviewed the auction activity in each round of the ninth FCA and the
22 final results of the FCA conducted on February 2, 2015. Each round of the
23 auction was evaluated by the IMM and no evidence of manipulative behavior was
24 noted. Based on my role as Vice President of Market Monitoring and IMM, I
25 certify that no anti-competitive behavior was evident.

1 **Q: WAS THE OUTCOME OF THE AUCTION IN THE SOUTHEAST**
2 **MASSACHUSETTS/RHODE ISLAND CAPACITY ZONE BASED ON A**
3 **COMPETITIVE AUCTION?**
4

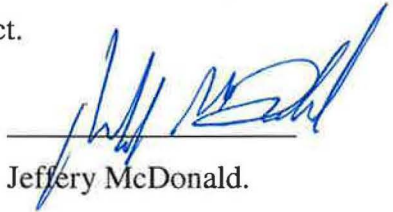
5 A. No. The outcome in the Southeast Massachusetts/Rhode Island (“SEMA/RI”)
6 Capacity Zone was determined by an administrative pricing provision rather than
7 an auction. Specifically, in the SEMA/RI Capacity Zone, even before the start of
8 the auction, there were inadequate resources to meet the Local Sourcing
9 Requirement for that zone. As a result of the inadequate resources in the
10 SEMA/RI Capacity Zone, an auction was not held in the SEMA/RI Capacity
11 Zone. Instead, the results of the ninth FCA in the SEMA/RI Capacity Zone were
12 determined by the Tariff provision relating to Inadequate Supply. Dr. Ethier’s
13 testimony, which is being filed concurrently with my testimony, describes the
14 Inadequate Supply provision and what caused it to be triggered in the SEMA/RI
15 Capacity Zone.

16
17
18 **Q: DOES THIS CONCLUDE YOUR TESTIMONY?**
19

20 A. Yes.
21

1
2
3
4
5
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7
8

I declare that the foregoing is true and correct.



Jeffery McDonald.

Attachment E

1 **UNITED STATES OF AMERICA**
2 **BEFORE THE**
3 **FEDERAL ENERGY REGULATORY COMMISSION**

4
5
6
7 **ISO New England Inc.**

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)
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Docket No. ER15-__-000

8
9
10 **TESTIMONY OF LAWRENCE M. AUSUBEL**

11
12 **Q. PLEASE STATE YOUR NAME, TITLE AND BUSINESS ADDRESS.**

13 A. My name is Lawrence M. Ausubel. I am the Chairman and Founder of Power
14 Auctions LLC, the company that has helped to design, implement, and administer
15 the Forward Capacity Auction (“FCA”) for ISO New England Inc. (the “ISO”).
16 I am also the President of Market Design Inc. and a Professor of Economics at the
17 University of Maryland. My business address is 3333 K St. NW Suite 425,
18 Washington, DC 20007.

19
20 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**
21 **WORK EXPERIENCE.**

22 A. I have an A.B. in Mathematics from Princeton University, an M.S. in
23 Mathematics from Stanford University, an M.L.S. in Legal Studies from Stanford
24 University, and a Ph.D. in Economics from Stanford University.
25 I am the Chairman of Power Auctions LLC, a provider of auction implementation
26 services and software worldwide. I am also the President of Market Design Inc.,
27 an economics consultancy that offers services in the design of auction markets.
28 In recent years, I have played a lead role in the design and implementation of:

1 electricity auctions in France, Germany, Spain, Belgium and the US; gas auctions
2 in Germany, France, Hungary and Denmark; the world's first auction for
3 greenhouse gas emission reductions in the UK; and a prototype airport slot
4 auction in the US. I have advised the US Federal Communications Commission,
5 Industry Canada and the Australian Communications and Media Authority on
6 spectrum auctions. I have also advised BOEM (the US Bureau of Ocean Energy
7 Management) and ICANN (the Internet Corporation for Assigned Names and
8 Numbers) on auction design. I designed the 2005 Trinidad and Tobago GSM
9 auction and served as its auction manager. I hold 22 U.S. patents related to
10 auction technology and I have published numerous articles on auction design,
11 bargaining, industrial organization and financial markets. My curriculum vitae,
12 which includes a list of publications and other experience, is attached.

13
14 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

15 A. The purpose of this testimony is to certify that the recently concluded FCA was
16 conducted in accordance with the relevant filed market rules. Section
17 III.13.8.2(b) of the ISO New England Transmission, Markets and Services Tariff
18 (the "Tariff") requires that after each FCA, documentation regarding the
19 competitiveness of the FCA be filed with the Federal Energy Regulatory
20 Commission ("Commission"). Section III.13.8.2(b) states that such
21 documentation may include certification from the auctioneer that the FCA was
22 conducted in accordance with the provisions of Section III.13 of the Tariff.
23 Section III.13.2 of the Tariff provides the rules relating to the mechanics of the

1 FCA. My testimony certifies that the FCA was conducted in accordance with
2 Section III.13.2.

3
4 **Q. PLEASE DESCRIBE POWER AUCTIONS LLC**

5 A. Power Auctions LLC designs, implements and conducts high-stakes electronic
6 auctions utilizing proprietary software, processes, and other intellectual property.
7 The PowerAuctions software platform designed by Power Auctions LLC has been
8 used to implement over 200 auctions worldwide in the electricity, gas and
9 resource sectors. In the electricity sector, the software platform was used to
10 operate 42 quarterly EDF Generation Capacity Auctions in France. It was also
11 used for the Endesa-Iberdola Virtual Power Plant Auctions in Spain, the
12 Electrabel Virtual Power Plant Auctions in Belgium and the E.ON Virtual Power
13 Plant Auction in Germany. Recently, our software platform has begun to be used
14 to implement the UK's Capacity Market auctions. Further, Power Auctions LLC
15 is part of the team that the Federal Communications Commission has assembled
16 to design and implement incentive auctions for the United States, and is the prime
17 contractor to the Governments of Australia and Canada for implementation of
18 spectrum auctions.
19 Power Auctions LLC worked with the ISO to design and implement (on the
20 PowerAuctions platform) the previous FCAs held on February 4-6, 2008;
21 December 8-10, 2008; October 5-6, 2009; August 2-3, 2010; June 6-7, 2011;
22 April 2-3, 2012; February 4-5, 2013; and February 3, 2014.

1 Q. WHAT WAS POWER AUCTIONS LLC'S ROLE IN THE FORWARD
2 CAPACITY AUCTION HELD ON FEBRUARY 2, 2015?

3 A. The ISO retained Power Auctions LLC as the independent auction manager
4 ("Auction Manager") for the ninth FCA. As the Auction Manager, Power
5 Auctions LLC worked with the ISO to design and implement the FCA in
6 conformance with the Tariff. By design, the Auction Manager conducted the
7 auction independently, with limited involvement by the ISO. The auction was
8 implemented using the PowerAuctions software platform.

9

10 Q. WAS THE FCA, HELD ON FEBRUARY 2, 2015 CONDUCTED IN
11 ACCORDANCE WITH SECTION III.13.2 OF THE TARIFF?

12 A. Yes. In accordance with Section III.13.8.2(b) of the Tariff, I certify that, to the
13 best of my knowledge, the FCA of February 2, 2015 was conducted in
14 conformance with the provisions of Section III.13.2 of the Tariff.

15

16 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

17 A. Yes.

18

19 I declare that the foregoing is true and correct.

20

21 Executed on 2/17/2015

22

23

24

25



Lawrence M. Ausubel

Curriculum Vitae

LAWRENCE M. AUSUBEL

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Personal

Year of Birth: 1959
Place of Birth: New York City

Education

Ph.D. (1984) Stanford University, Economics
M.L.S. (1984) Stanford Law School, Legal Studies
M.S. (1982) Stanford University, Mathematics
A.B. (1980) Princeton University, Mathematics

Honors: Fellow of the Econometric Society
Phi Beta Kappa
Sigma Xi
Magna cum laude in mathematics
Stanford University Economics Department, graduate fellowship, 1982
Stanford Law School, fellowship in law and economics, 1983

Fields of Concentration

Microeconomic Theory and Game Theory
Auctions and Bargaining
Market Design
Credit Cards, Bankruptcy and Banking
Industrial Organization
Law and Economics

Professional Experience

Professor of Economics, University of Maryland (August 1992 – present).

Chairman and Founder, Power Auctions LLC (2003 – present).

A technology provider of auction software, auction design and implementation services. The PowerAuctions™ software platform has been used in more than 200 high-stakes auctions, with transaction value in the tens of billions of dollars.

President, Market Design Inc. (2003 – present).

A consultancy of leading economists and game theorists (Peter Cramton, R. Preston McAfee, Paul Milgrom, Robert Wilson, et al) that works with governments and companies worldwide to design and implement state-of-the-art auctions and markets.

Assistant Professor of Managerial Economics and Decision Sciences, Kellogg School, Northwestern University (September 1984 – August 1992).

Visiting Assistant Professor, New York University (January 1990 – May 1990).

Recent Consulting Experience

Provided expert bidding advice to bidders in more than a dozen large spectrum auctions, including Bharti Airtel in India's 900/1800 MHz auction, Orange in Slovakia's Multi-Band spectrum auction, Three (Hutchison) in the UK 4G auction, Eircom in Ireland's 800/900/1800 MHz auction, Aircel in India's 3G/BWA auctions, Spain's Telefónica in the UK, German, Italian and Austrian UMTS/3G spectrum auctions, Ericsson in the US PCS spectrum auctions, MTN in the Nigerian spectrum auctions, MCI in the US Direct Broadcast Satellite auction, US Airwaves in the US C-Block Auction, Mobile Media in the US Narrowband Auction, and other confidential clients.

Advisor to the US government (Federal Communications Commission) on the design and implementation of incentive auctions for spectrum, 2011 – present.

Advisor to the Canadian government (Industry Canada) on the design and implementation of the 700 MHz and 2.5 GHz spectrum auctions, 2010 – present.

Advisor to the Australian government (ACMA) on the design and implementation of the Australian Digital Dividend auction, 2011 –2013.

Provided auction design advice to the IDA Singapore on their Auction of Public Cellular Mobile Telecommunication Services Spectrum Rights, 2007 – 2008.

Design and implementation of the Trinidad and Tobago GSM auction, 2005.

Design and implementation of the UK Capacity Market auction (electricity, 2014 – present).

Design and implementation of auctions for offshore wind energy tracts for the Bureau of Ocean Energy Management (BOEM), US Department of Interior (2010 – present).

Design and implementation of the Forward Capacity Auction for ISO New England (electricity, 2007 – present).

Design and implementation of the quarterly Electricité de France generation capacity auctions (2001 – 2011) and Long-Term Contract auctions (2008 – 2009).

Design and implementation of the quarterly Spanish Virtual Power Plant (VPP) auctions (electricity, 2007 – 2009).

Design and implementation of the E.ON VPP auction in Germany (2007).

Design and implementation of the quarterly Electrabel Virtual Power Plant (VPP) auctions in Belgium (2003 – 2005).

Design and implementation of auctions for new gTLDs for ICANN (Internet Corporation for Assigned Names and Numbers (2008 – present).

Design and implementation of rough diamond auctions for Okavango Diamond Company, Botswana (2013 – present).

Design and implementation of rough diamond auctions for BHP Billiton/Dominion Diamonds (2007 – 2014).

Design and implementation of the annual E.ON Földgáz Trading gas release programme auction in Hungary (2006 – 2013).

Design and implementation of the annual Danish Oil and Natural Gas (DONG Energy) gas release programme auction (2006 – 2011).

Design and implementation of the annual E.ON Ruhrgas gas release programme auction in Germany (2003 – 2008, 2010).

Design and implementation of the Gaz de France gas storage auction (2006).

Design and implementation of the Gaz de France gas release programme auction (2004).

Design and implementation of the Total gas release programme auction (2004).

Design and implementation of the UK Emissions Trading Scheme auction to procure greenhouse gas emission reductions for the UK Government (2002).

Design and implementation of a demonstration auction of landing and takeoff slots for LaGuardia Airport, for the US Federal Aviation Administration (2005).

Teaching

Econ 456	Law and Economics (Undergraduate; Maryland)
Econ 603	Microeconomic Analysis (Ph.D.; Maryland)
Econ 661	Industrial Organization (Ph.D.; Maryland)
Econ 704	Game Theory, Bargaining and Auctions (Ph.D.; Maryland)
Mngl Econ D30	Intermediate Microeconomics (M.B.A.; Northwestern)
Mngl Econ D45	Regulation and Deregulation (M.B.A.; Northwestern)

Publications

“Demand Reduction and Inefficiency in Multi-Unit Auctions” (with Peter Cramton, Marek Pycia, Marzena J. Rostek and Marek Weretka), *Review of Economic Studies*, forthcoming, 2015.

“Sequential Kidney Exchange” (with Thayer Morrill), *American Economic Journal: Microeconomics*, Vol. 6, No. 3, pp. 265-85, August 2014.

“Market Design and the Evolution of the Combinatorial Clock Auction” (with Oleg V. Baranov), *American Economic Review: Papers & Proceedings*, Vol. 104, No. 5, pp. 456-451, May 2014.

“Common-Value Auctions with Liquidity Needs: An Experimental Test of a Troubled Assets Reverse Auction” (with Peter Cramton, Emel Filiz-Ozbay, Nathaniel Higgins, Erkut Ozbay and Andrew Stocking), Chapter 20 of *Handbook of Market Design* (Nir Vulkan, Alvin E. Roth, and Zvika Neeman, eds.), Oxford University Press, 2013.

“Non-Judicial Debt Collection and the Consumer’s Choice among Repayment, Bankruptcy and Informal Bankruptcy” (with Amanda E. Dawsey and Richard M. Hynes), *American Bankruptcy Law Journal*, Vol. 87, pp. 1-26 [lead article], March 2013.

“Virtual Power Plant Auctions” (with Peter Cramton), *Utilities Policy*, Vol. 18, No. 4, pp. 201-208, December 2010.

“Using Forward Markets to Improve Electricity Market Design” (with Peter Cramton), *Utilities Policy*, Vol. 18, No. 4, pp. 195-200, December 2010.

“An Efficient Dynamic Auction for Heterogeneous Commodities,” *American Economic Review*, Vol. 96, No. 3, pp. 602-629, June 2006.

“An Efficient Ascending-Bid Auction for Multiple Objects,” *American Economic Review*, Vol. 94, No. 5, pp. 1452-1475, December 2004.

“Dynamic Auctions in Procurement” (with Peter Cramton), Chapter 9 of *Handbook of Procurement* (N. Dimitri, G. Piga, and G. Spagnolo, eds.), pp. 220-245, Cambridge: Cambridge University Press, 2006.

- “The Lovely but Lonely Vickrey Auction” (with Paul Milgrom), Chapter 1 of *Combinatorial Auctions* (P. Cramton, Y. Shoham, and R. Steinberg, eds.), pp. 17-40, Cambridge: MIT Press, 2006.
- “Ascending Proxy Auctions” (with Paul Milgrom), Chapter 3 of *Combinatorial Auctions* (P. Cramton, Y. Shoham, and R. Steinberg, eds.), pp. 79-98, Cambridge: MIT Press, 2006.
- “The Clock-Proxy Auction: A Practical Combinatorial Auction Design” (with Peter Cramton and Paul Milgrom), Chapter 5 of *Combinatorial Auctions* (P. Cramton, Y. Shoham, and R. Steinberg, eds.), pp. 115-138, Cambridge: MIT Press, 2006.
- “Auctioning Many Divisible Goods” (with Peter C. Cramton), *Journal of the European Economics Association*, Vol. 2, Nos. 2-3, pp. 480-493, April-May 2004.
- “Vickrey Auctions with Reserve Pricing” (with Peter C. Cramton), *Economic Theory*, 23, pp. 493-505, April 2004. Reprinted in Charalambos Aliprantis, et al. (eds.), *Assets, Beliefs, and Equilibria in Economic Dynamics*, Berlin: Springer-Verlag, 355-368, 2003.
- “Auction Theory for the New Economy,” Chapter 6 of *New Economy Handbook* (D. Jones, ed.), San Diego: Academic Press, 2003.
- “Ascending Auctions with Package Bidding” (with Paul Milgrom), *Frontiers of Theoretical Economics*, Vol. 1, No. 1, Article 1, August 2002.
<http://www.bepress.com/bejte/frontiers/vol1/iss1/art1>
- “Bargaining with Incomplete Information” (with Peter Cramton and Raymond Deneckere), Chapter 50 of *Handbook of Game Theory* (R. Aumann and S. Hart, eds.), Vol. 3, Amsterdam: Elsevier Science B.V., 2002.
- “Package Bidding: Vickrey vs. Ascending Auctions” (with Paul Milgrom), *Revue Economique*, Vol. 53, No. 3, pp. 391-402, May 2002.
- “Implications of Auction Theory for New Issues Markets,” *Brookings-Wharton Papers on Financial Services*, Vol. 5, pp. 313-343, 2002.
- “Synergies in Wireless Telephony: Evidence from the Broadband PCS Auctions” (with Peter Cramton, R. Preston McAfee, and John McMillan), *Journal of Economics and Management Strategy*, Vol. 6, No. 3, Fall 1997, pp. 497-527.
- “Credit Card Defaults, Credit Card Profits, and Bankruptcy,” *American Bankruptcy Law Journal*, Vol. 71, Spring 1997, pp. 249-270; recipient of the Editor's Prize for the best paper in the American Bankruptcy Law Journal, 1997.
- “Efficient Sequential Bargaining” (with R. Deneckere), *Review of Economic Studies*, Vol. 60, No. 2, April 1993, pp. 435-461.
- “A Generalized Theorem of the Maximum” (with R. Deneckere), *Economic Theory*, Vol. 3, No. 1, January 1993, pp. 99-107.

- “Durable Goods Monopoly with Incomplete Information” (with R. Deneckere), supercedes “Stationary Sequential Equilibria in Bargaining with Two-Sided Incomplete Information,” *Review of Economic Studies*, Vol. 59, No. 4, October 1992, pp. 795-812.
- “Bargaining and the Right to Remain Silent” (with R. Deneckere), *Econometrica*, Vol. 60, No. 3, May 1992, pp. 597-625.
- “The Failure of Competition in the Credit Card Market,” *American Economic Review*, Vol. 81, No. 1, March 1991, pp. 50-81; reprinted as Chapter 21 in *Advances in Behavioral Finance* (D. Thaler, ed.), Russell Sage Foundation, 1993.
- “Insider Trading in a Rational Expectations Economy,” *American Economic Review*, Vol. 80, No. 5, December 1990, pp. 1022-1041.
- “Partially-Revealing Rational Expectations Equilibrium in a Competitive Economy,” *Journal of Economic Theory*, Vol. 50, No. 1, February 1990, pp. 93-126.
- “A Direct Mechanism Characterization of Sequential Bargaining with One-Sided Incomplete Information” (with R. Deneckere), *Journal of Economic Theory*, Vol. 48, No. 1, June 1989, pp. 18-46; reprinted as Chapter 15 in *Bargaining with Incomplete Information* (P. Linhart, R. Radner, and M. Satterthwaite, eds.), Academic Press, 1992.
- “Reputation in Bargaining and Durable Goods Monopoly” (with R. Deneckere), *Econometrica*, Vol. 57, No. 3, May 1989, pp. 511-531; reprinted as Chapter 13 in *Bargaining with Incomplete Information* (P. Linhart, R. Radner, and M. Satterthwaite, eds.), Academic Press, 1992.
- “One is Almost Enough for Monopoly” (with R. Deneckere), *Rand Journal of Economics*, Vol. 18, No. 2, Summer 1987, pp. 255-274.

Patents

- “System and Method for an Auction of Multiple Types of Items” (with Peter Cramton and Wynne P. Jones), U.S. Patent Number 8,762,222, issued June 24, 2014.
- “System and Method for the Efficient Clearing of Spectrum Encumbrances” (with Peter Cramton and Paul Milgrom), U.S. Patent Number 8,744,924, issued June 3, 2014.
- “System and Method for a Dynamic Auction with Package Bidding” (with Paul Milgrom), U.S. Patent Number 8,566,211, issued October 22, 2013.
- “System and Method for an Efficient Dynamic Multi-Unit Auction,” U.S. Patent Number 8,447,662, issued May 21, 2013.
- “System and Method for a Hybrid Clock and Proxy Auction” (with Peter Cramton and Paul Milgrom), U.S. Patent Number 8,335,738, issued December 18, 2012.

“System and Method for a Hybrid Clock and Proxy Auction” (with Peter Cramton and Paul Milgrom), U.S. Patent Number 8,224,743, issued July 17, 2012.

“System and Method for the Efficient Clearing of Spectrum Encumbrances” (with Peter Cramton and Paul Milgrom), U.S. Patent Number 8,145,555, issued March 27, 2012.

“Computer Implemented Methods and Apparatus for Auctions,” U.S. Patent Number 8,065,224, issued November 22, 2011.

“Ascending Bid Auction for Multiple Objects,” U.S. Patent Number 7,966,247, issued June 21, 2011.

“System and Method for an Auction of Multiple Types of Items” (with Peter Cramton and Wynne P. Jones), U.S. Patent Number 7,899,734, issued March 1, 2011.

“System and Method for an Efficient Dynamic Multi-Unit Auction,” U.S. Patent Number 7,870,050, issued January 11, 2011.

“Computer Implemented Methods and Apparatus for Auctions,” U.S. Patent Number 7,774,264, issued August 10, 2010.

“System and Method for a Hybrid Clock and Proxy Auction” (with Peter Cramton and Paul Milgrom), U.S. Patent Number 7,729,975, issued June 1, 2010.

“System and Method for an Efficient Dynamic Multi-Unit Auction,” U.S. Patent Number 7,467,111, issued December 16, 2008.

“System and Method for an Efficient Dynamic Multi-Unit Auction,” U.S. Patent Number 7,343,342, issued March 11, 2008.

“Ascending Bid Auction for Multiple Objects,” U.S. Patent Number 7,337,139, issued February 26, 2008.

“Computer Implemented Methods and Apparatus for Auctions,” U.S. Patent Number 7,249,027, issued July 24, 2007.

“System and Method for an Efficient Dynamic Multi-Unit Auction,” U.S. Patent Number 7,165,046, issued January 16, 2007.

“System and Method for an Efficient Dynamic Multi-Unit Auction,” U.S. Patent Number 7,062,461, issued June 13, 2006.

“System and Method for an Efficient Dynamic Auction for Multiple Objects,” U.S. Patent Number 6,026,383, issued February 15, 2000.

“Computer Implemented Methods and Apparatus for Auctions,” U.S. Patent Number 6,021,398, issued February 1, 2000.

“Computer Implemented Methods and Apparatus for Auctions,” U.S. Patent Number

5,905,975, issued May 18, 1999.

Book Reviews and Encyclopedia Entries

“Auction Theory,” *New Palgrave Dictionary of Economics*, Second Edition, Steven N. Durlauf and Lawrence E. Blume, eds., London: Macmillan, 2008.

“Credit Cards,” *McGraw-Hill Encyclopedia of Economics*, McGraw-Hill, 1994.

“Book Review: The Credit Card Industry, by Lewis Mandell,” *Journal of Economic Literature*, Vol. 30, No. 3, September 1992, pp. 1517-18.

“Credit Cards,” *New Palgrave Dictionary of Money and Finance*, Stockton Press, 1992.

Working Papers

“A Practical Guide to the Combinatorial Clock Auction” (with Oleg V. Baranov), June 2015.

“The Combinatorial Clock Auction, Revealed Preference and Iterative Pricing” (with Oleg V. Baranov), February 2014.

“Core-Selecting Auctions with Incomplete Information” (with Oleg V. Baranov), working paper, University of Maryland, August 2010.

“Penalty Interest Rates, Universal Default, and the Common Pool Problem of Credit Card Debt” (with Oleg V. Baranov and Amanda E. Dawsey), mimeo, University of Maryland, June 2010.

“A Troubled Asset Reverse Auction” (with Peter Cramton), working paper, University of Maryland, October 2008.

“Time Inconsistency in the Credit Card Market” (with Haiyan Shui), mimeo, University of Maryland, January 2005.

“Informal Bankruptcy” (with Amanda E. Dawsey), mimeo, University of Maryland, April 2004.

“Adverse Selection in the Credit Card Market,” mimeo, University of Maryland, June 1999.

“The Credit Card Market, Revisited,” mimeo, University of Maryland, July 1995.

“Walrasian Tâtonnement for Discrete Goods,” mimeo, University of Maryland, July 2005.

“Bidder Participation and Information in Currency Auctions” (with Rafael Romeu), Working Paper WP/05/157, International Monetary Fund, 2005.

“A Mechanism Generalizing the Vickrey Auction,” mimeo, University of Maryland, September 1999.

“The Ascending Auction Paradox” (with Jesse Schwartz), mimeo, University of Maryland, July 1999.

“The Optimality of Being Efficient” (with Peter Cramton), mimeo, University of Maryland, June 1999.

“Sequential Recontracting Under Incomplete Information” (with Arijit Sen), mimeo, University of Maryland, June 1995.

“Separation and Delay in Bargaining” (with Raymond Deneckere), mimeo, University of Maryland, April 1994.

“A Model of Managerial Discretion and Corporate Takeovers,” mimeo, University of Maryland, March 1993.

“Rigidity and Asymmetric Adjustment of Bank Interest Rates,” mimeo, University of Maryland, August 1992.

“Oligopoly When Market Share Matters,” mimeo, Stanford University, May 1984.

“Partially-Revealing Equilibria,” Stanford University, Department of Economics, August 1984. Dissertation committee: Mordecai Kurz (principal advisor); Peter J. Hammond; Kenneth J. Arrow.

Works in Progress

“The Hungarian Auction” (with T. Morrill)

“Bargaining and Forward Induction” (with R. Deneckere)

Op-Eds

“Making Sense of the Aggregator Bank” (with Peter Cramton), *Economists’ Voice*, Vol. 6, Issue 3, Article 2, February 2009.

“No Substitute for the ‘P’-Word in Financial Rescue” (with Peter Cramton), *Economists’ Voice*, Vol. 6, Issue 2, Article 2, February 2009.

“Auction Design Critical for Rescue Plan” (with Peter Cramton), *Economists’ Voice*, Vol. 5, Issue 5, Article 5, September 2008.

Research Grants

Principal Investigator, “Common-Value Auctions with Liquidity Needs” (with P. Cramton, E. Filiz-Ozbay and E. Ozbay), National Science Foundation Grant SES-09-24773, September 1, 2009 – August 31, 2013.

Principal Investigator, “Dynamic Matching Mechanisms” (with P. Cramton), National Science Foundation Grant SES-05-31254, August 15, 2005 – July 31, 2008.

Co-Principal Investigator, “Slot Auctions for U.S. Airports” (with M. Ball, P. Cramton and D. Lovell), Federal Aviation Administration, September 1, 2004 – August 31, 2005.

Co-Principal Investigator, “Rapid Response Electronic Markets for Time-Sensitive Goods” (with G. Anandalingam, P. Cramton, H. Lucas, M. Ball and V. Subrahmanian), National Science Foundation Grant IIS-02-05489, Aug 1, 2002 – July 31, 2005.

Principal Investigator, “Multiple Item Auctions” (with P. Cramton), National Science Foundation Grant SES-01-12906, July 15, 2001 – June 30, 2004.

Principal Investigator, “Auctions for Multiple Items” (with P. Cramton), National Science Foundation Grant SBR-97-31025, April 1, 1998 – March 31, 2001.

Co-Principal Investigator, “Auctions and Infrastructure Conference” (with P. Cramton), National Science Foundation, April 1, 1998 – March 31, 1999.

Principal Investigator, “Bargaining Power, Sequential Recontracting, and the Principal-Agent Problem” (with A. Sen), National Science Foundation Grant SBR-94-10545, October 15, 1994 – September 30, 1997.

Principal Investigator, “Insider Trading and Economic Efficiency,” The Lynde and Harry Bradley Foundation, May 15, 1989 – May 14, 1992.

Principal Investigator, “Bargaining with One- and Two-Sided Incomplete Information” (with R. Deneckere), National Science Foundation Grant SES-86-19012, June 1, 1987 – May 31, 1989.

Principal Investigator, “Information Transmission in Bargaining and Markets” (with R. Deneckere), National Science Foundation Grant IST-86-09129, July 1, 1986 – June 30, 1987.

Conference Presentations

“On Generalizing the English Auction,” Econometric Society Winter Meetings, Chicago, January 1998.

“The Optimality of Being Efficient,” Maryland Auction Conference, Wye River, May 1998.

“Adverse Selection in the Credit Card Market,” Western Finance Association, Monterey,

June 1998.

“The Optimality of Being Efficient,” Econometric Society Summer Meetings, Montreal, June 1998.

“Bargaining and Forward Induction,” Northwestern Summer Microeconomics Conference, Evanston, IL, July 1998.

“Predicting Personal Bankruptcies,” National Conference of Bankruptcy Judges, Dallas, October 1998.

“Adverse Selection in the Credit Card Market,” NBER Behavioral Macroeconomics Conference, Boston, December 1998.

“The Ascending Auction Paradox,” Econometric Society Summer Meetings, Madison, June 1999.

“Adverse Selection in the Credit Card Market,” Econometric Society Summer Meetings, Madison, June 1999.

“Predicting Personal Bankruptcies,” Meeting of the National Association of Chapter Thirteen Trustees, New York, July 1999.

“The Ascending Auction Paradox,” Southeast Economic Theory Conference, Washington DC, November 1999.

“Adverse Selection in the Credit Card Market,” Utah Winter Finance Conference, Salt Lake City, February 2000.

“An Efficient Dynamic Auction for Heterogeneous Commodities,” Conference on Auctions and Market Structure, Heidelberg, Germany, July 2000.

“An Efficient Dynamic Auction for Heterogeneous Commodities,” Conference on Multiunit Auctions, Stony Brook, NY, July 2000.

“A Mechanism Generalizing the Vickrey Auction,” Econometric Society World Congress, Seattle, August 2000.

“Auctions for Financial E-Commerce,” New York Federal Reserve Bank Conference on Financial E-Commerce, New York, February 2001.

“An Efficient Dynamic Auction for Heterogeneous Commodities,” NSF General Equilibrium Conference, Providence, RI, April 2001.

“An Efficient Dynamic Auction for Heterogeneous Commodities,” NSF/NBER Decentralization Conference, Evanston, IL, April 2001.

“Informal Bankruptcy,” Association of American Law Schools Workshop on Bankruptcy, St. Louis, MO, May 2001.

- “An Efficient Dynamic Auction for Heterogeneous Commodities,” Econometric Society Summer Meetings, College Park, MD, June 2001.
- “Ascending Auctions with Package Bidding,” FCC, SIEPR and NSF Conference on Combinatorial Auctions, Wye River, MD, October 2001.
- “The Electricité de France Generation Capacity Auctions,” CORE-ECARES-LEA Workshop on Auctions, Brussels, Belgium, November 2001.
- “Informal Bankruptcy,” Utah Winter Finance Conference, Salt Lake City, February 2002.
- “Defictionalizing the Walrasian Auctioneer,” Conference on Market Design in Honor of Robert Wilson, Stanford, CA, May 2002.
- “Adverse Selection in the Credit Card Market,” Conference on the Economics of Payment Networks, Toulouse, France, June 2002.
- “Ascending Auctions with Package Bidding,” Econometric Society Summer Meetings, Los Angeles, June 2002.
- “An Efficient Dynamic Auction for Heterogeneous Commodities,” Conference in Honor of Mordecai Kurz, Stanford, CA, August 2002.
- “Adverse Selection in the Credit Card Market,” Conference on Credit, Trust and Calculation, San Diego, November 2002.
- “Package Bidding for Spectrum Auctions,” American Economic Association Meetings, Washington, DC, January 2003.
- “Auctioning Many Divisible Goods,” invited session, European Economic Association Meetings, Stockholm, August 2003.
- “Spectrum Auctions with Package Bidding,” TPRC Research Conference on Communication, Information and Internet Policy, Arlington, VA, September 2003.
- “Defictionalizing the Walrasian Auctioneer,” invited lecture, Conference on Auctions and Market Design: Theory, Evidence and Applications, Fondazione Eni Enrico Mattei, Milan, September 2003.
- “Clock Auctions, Proxy Auctions, and Possible Hybrids,” Workshop on Auction Theory and Practice, Pittsburgh, PA, November 2003.
- “Clock Auctions, Proxy Auctions, and Possible Hybrids,” FCC Combinatorial Bidding Conference, Wye River, MD, November 2003.
- “Time Inconsistency in the Credit Card Market,” Utah Winter Finance Conference, Salt Lake City, February 2004.

- “The Clock-Proxy Auction: A Practical Combinatorial Auction Design,” Conference on Auctions and Market Design: Theory, Evidence and Applications, Consip, Rome, Italy, September 2004.
- “Bidder Participation and Information in Currency Auctions,” Conference on Auctions and Market Design: Theory, Evidence and Applications, Consip, Rome, Italy, September 2004.
- “The Clock-Proxy Auction: A Practical Combinatorial Auction Design,” Market Design Conference, Stanford University, December 2004.
- “Dynamic Matching Mechanisms,” Econometric Society World Congress, London, August 2005.
- “The Clock-Proxy Auction, with Recent Applications,” SISL Workshop, Caltech, October 2005.
- “Dynamic Matching Mechanisms,” Conference on Matching and Two-Sided Markets, University of Bonn, May 2006.
- “The Hungarian Auction,” DIMACS Workshop on Auctions with Transaction Costs, Rutgers University, March 2007.
- “The Hungarian Auction,” PSE Lecture at the Paris School of Economics, June 2007.
- “Time Inconsistency in the Credit Card Market,” John M. Olin Conference on Law and Economics of Consumer Credit, University of Virginia, February 2008.
- “The Hungarian Auction,” 6th Annual International Industrial Organization Conference, Arlington, VA, May 2008.
- “The Hungarian Auction,” Frontiers of Microeconomic Theory and Policy, Symposium in Honour of Ray Rees, University of Munich, July 2008.
- “Common-Value Auctions with Liquidity Needs: An Experimental Test of a Troubled Assets Reverse Auction,” 2009 CAPCP Conference on Auctions and Procurement, Penn State University, March 2009.
- “Market Design for Troubled Assets,” NBER Workshop on Market Design, Cambridge, MA, May 2009.
- “Market Design for Troubled Assets,” Madrid Summer Workshop on Economic Theory, Universidad Carlos III de Madrid, June 2009.
- “Virtual Power Plant Auctions,” (with Peter Cramton), Workshop: Designing Electricity Auctions, Research Institute of Industrial Economics, Stockholm, Sweden, September 2009.

- “Using Forward Markets to Improve Electricity Market Design,” (with Peter Cramton), Workshop: Designing Electricity Auctions, Research Institute of Industrial Economics, Stockholm, Sweden, September 2009.
- “Virtual Power Plant Auctions,” (with Peter Cramton), Market Design 2009 Conference, Stockholm, Sweden, September 2009.
- “Using Forward Markets to Improve Electricity Market Design,” (with Peter Cramton), Market Design 2009 Conference, Stockholm, Sweden, September 2009.
- “Auctions with Multiple Objects,” 2009 Erwin Plein Nemmers Prize in Economics, Conference in Honor of Paul Milgrom, Northwestern University, November 2009.
- “Penalty Interest Rates, Universal Default, and the Common Pool Problem of Credit Card Debt” (with Oleg V. Baranov and Amanda E. Dawsey), Credit, Default and Bankruptcy Conference, University of California - Santa Barbara, June 2010.
- “Core-Selecting Auctions with Incomplete Information” (with Oleg V. Baranov), World Congress of the Econometric Society, Shanghai, China, August 2010.
- “Core-Selecting Auctions with Incomplete Information” (with Oleg V. Baranov), NBER Workshop on Market Design, Cambridge, MA, October 2010.
- “Core-Selecting Auctions with Incomplete Information” (with Oleg V. Baranov), NSF/CEME Decentralization Conference, Ohio State University, April 2011
- “Penalty Interest Rates, Universal Default, and the Common Pool Problem of Credit Card Debt” (with Oleg V. Baranov and Amanda E. Dawsey), Centre for Financial Analysis & Policy Conference on Consumer Credit and Bankruptcy, University of Cambridge, UK, April 2011.
- “Core-Selecting Auctions with Incomplete Information” (with Oleg V. Baranov), Center for the Study of Auctions, Procurements and Competition Policy Conference, Penn State University, April 2011.
- “Design Issues for Combinatorial Clock Auctions” (with Oleg V. Baranov), Annual Meeting of the Institute for Operations Research and the Management Sciences (INFORMS), Phoenix AZ, October 2012.
- “An Enhanced Combinatorial Clock Auction” (with Oleg V. Baranov), SIEPR Conference on the FCC Incentive Auctions, Stanford University, February 2013.
- “Enhancing the Combinatorial Clock Auction” (with Oleg V. Baranov), Ofcom Conference, Combinatorial Auctions for Spectrum, London School of Economics, September 2013.
- “The Combinatorial Clock Auction, Revealed Preference and Iterative Pricing” (with Oleg V. Baranov), NBER Workshop on Market Design, Stanford University, October 2013.

“Market Design and the Evolution of the Combinatorial Clock Auction” (with Oleg V. Baranov), invited session in honor of the Nobel Prize in Economics awarded to Market Design, American Economic Association meetings, Philadelphia, January 2014.

“Revealed Preference in Bidding: Empirical Evidence from Recent Spectrum Auctions” (with Oleg V. Baranov), NBER Market Design Conference, Palo Alto, CA, June 2014.

“Enhancing the Combinatorial Clock Auction” (with Oleg V. Baranov), Industry Canada Retrospective on the Canadian 700 MHz Spectrum Auction, Ottawa, Canada, November 2014.

Professional Service

Member of working group for the design and implementation of incentive auctions for the US Federal Communications Commission, 2011–present.

Advisor to Industry Canada and the Australian Communications and Media Authority for the design and implementation of 700 MHz and 2.5 GHz spectrum auctions, 2011–present.

Congressional Briefing on “How Fundamental Economic Research Improves People’s Lives,” Rayburn House Office Building, March 2010.

Testified before the Committee on Banking, Housing and Urban Affairs of the US Senate, Hearing on “Modernizing Consumer Protection in the Financial Regulatory System: Strengthening Credit Card Protections,” February 12, 2009.

Testified before the Subcommittee on Financial Institutions and Consumer Credit of the US House of Representatives, Hearing on “The Credit Cardholders’ Bill of Rights: Providing New Protections for Consumers,” March 13, 2008.

Member, National Science Foundation Economics Panel, 2004–2005.

Associate Editor, *Berkeley Electronic Journals of Theoretical Economics*, 2004–present.

Guest Associate Editor, *Management Science*, issue on Electronic Auctions, 2003.

Program Chair of the 2001 North American Summer Meeting of the Econometric Society (with Peter Cramton), University of Maryland, June 21–24, 2001.

Program Committee of the North American Summer Meeting of the Econometric Society, UCLA, June 2002, and University of Pennsylvania, June 1991.

Organized Maryland Auction Conference (with Peter Cramton), Wye River Conference Center, May 1998, sponsored by the National Science Foundation, the World Bank, and the University of Maryland.

Spoke at a Forum on Bankruptcy of the Financial Services Committee of the United States House of Representatives, February 28, 2001.

Testified before the Subcommittee on Commercial and Administrative Law of the United States House of Representatives, Hearing on the Consumer Bankruptcy Issues in the Bankruptcy Reform Act of 1998, March 10, 1998.

Testified before the Subcommittee on Financial Institutions and Regulatory Relief of the United States Senate, Hearing on Bankruptcy Reform, February 11, 1998.

Testified before the National Bankruptcy Review Commission, January 1997.

Referee for: *American Economic Review*, *Econometrica*, *European Economic Review*, *Games and Economic Behavior*, *International Journal of Game Theory*, *International Journal of Industrial Organization*, *Journal of Banking and Finance*, *Journal of Business*, *Journal of Economic Theory*, *Journal of Financial Intermediation*, *Journal of Political Economy*, *Quarterly Journal of Economics*, *Rand Journal of Economics*, *Review of Economic Studies*, and the National Science Foundation.

Professional Organizations

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