

## MEMORANDUM

### VIA E-MAIL ONLY

To: John Wassam (Massachusetts Department of Energy Resources)  
Maureen Liddy (NYSERDA)  
Barbara Kappes (NYISO)  
Sarah Bresolin (Office of the Massachusetts Attorney General)

Cc: Devon Walton (APX, Inc.)  
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From: William P. Short III (Independent Consultant)  
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Date: November 13, 2018

Re: Potential Double Count of Renewable Energy and Capacity Between  
the NYISO and Massachusetts RPS Programs

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### **Executive Summary**

A review of the NYISO 2018 Load & Capacity Data report (“Gold Book”) reveals that 1,846 MW of capacity resources situated in the NYISO Control Area are also qualified to receive renewable energy credit under the Massachusetts’ Class I and/or Class II RPS Programs. ([DOER 2018a](#)) ([DOER 2018b](#)) ([NYISO 2018a](#)) In total, this capacity spans seventy wind, hydro-electric, and landfill gas units sited in New York<sup>1</sup> that correspond to fifty-one (51) unique NEPOOL GIS Asset IDs. (*Attachment A*)

More than 95% of this capacity (1,765 MW) is also counted in the NYISO’s winter capability total and also included in the NYISO’s 2018 assessment of resource adequacy and transmission security for the NYISO Control Area. ([NYISO 2018a](#), 45) ([NYISO 2018b](#), 2)

Massachusetts Department of Energy Resources (“DOER”) regulations 225 CMR 14.05(1)(e)(1) and 15.05(1)(e)(1) generally prohibit the capacity of Class I and II resources to be committed to Control Areas other than the ISO-NE Control Area. Yet, of those New York resources that are Massachusetts RPS-qualified, all but five are claimed as capacity resources in New York.<sup>2</sup> ([MA REG 2014](#)) ([MA REG 2016](#))

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<sup>1</sup> This difference in unit counts in New York and the NEPOOL GIS arises because the NYISO Gold Book counts individual units at certain landfill and hydro-electric facilities while the Massachusetts DOER counts only facilities.

<sup>2</sup> The five facilities include three landfill gas sites (Auburn Renewable Energy, Chautauqua, and Fulton LFG) and two wind facilities (Fenner Windpower and Steel Wind Energy).

Additionally, DOER regulations require non-intermittent<sup>3</sup> resources to secure Capacity Supply Obligations (“CSO”) under the ISO-NE Forward Capacity Market, but just six of the New York facilities participated in FCA #8 and only one participated in FCA #9.<sup>4</sup> Twenty of the New York-sited resources are landfills which would be categorized as non-intermittent resources under DOER regulations.<sup>5</sup>

Our analysis of publicly-available data suggests a potentially significant double counting (or claiming) of renewable energy and associated capacity by both the NYISO and DOER for the same New York-sited renewable generators participating as Massachusetts Class I and Class II resources. Such double counting produces inaccuracies in how renewable energy is credited and whether claims of emission reductions are rightfully recognized. In addition, a failure to correctly account for this double count could impact reliability assessment within the NYISO Control Area if not properly managed.

The purpose of this memo is to highlight the possible double-count of renewable resources between the NYISO Control Area and DOER and to present recommendations for addressing the issue.

## **Method of Review**

For this analysis, we compared the capacity resources<sup>6</sup> contained in the 2018 NYISO Gold Book with the list of New York-sited facilities qualified as Massachusetts Class I and/or Class II. From there we were able to assess where a possible double count was occurring. We also reviewed language in the Massachusetts Green Communities Act<sup>7</sup> and the applicable DOER regulations regarding capacity commitments for facilities located outside the ISO-NE Control Area.

Attachment A contains a spreadsheet of the New York facilities relevant to this memo and their status as capacity resources. Numbers cited in this memo are taken from Attachment A. The key findings of our review are itemized below.

## **Findings**

1. There are 1,846 MW of capacity resources<sup>8</sup> listed in the NYISO Gold Book that are qualified as Class I and/or Class II under the Massachusetts RPS. Of that capacity, more than 95% (1,765 MW<sup>9</sup>) is also recorded in the Gold Book as capacity resources for the NYISO Control Area. This capacity is also cited in the NYISO’s 2018 Reliability Needs Assessment (“RNA”) report. ([NYISO 2018b](#), 2)

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<sup>3</sup> DOER defines non-intermittent resources as those with capacity factors of 50% or more.

<sup>4</sup> Furthermore, there appears to be no language in the DOER regulations for Class I and/or Class resources that would permit a system CSO to substitute for a unit CSO for a resource lacking a unit CSO.

<sup>5</sup> According to the NYISO Gold Book, more than half of the thirteen hydro-electric facilities had capacity factors greater than 50% in 2017. If this is typical annual production, these facilities may be subject to the DOER’s required CSO for non-intermittent facilities.

<sup>6</sup> The term used in the Gold Book is Capability.

<sup>7</sup> Chapter 169 of the Acts of 2008, [An Act Relative to Green Communities](#), Section 105.

<sup>8</sup> 1,676 MW of wind resources, 116.2 MW of landfill resources and 53.9 MW of hydro-electric resources.

<sup>9</sup> 1,609.8 MW of wind resources, 100.9 MW of landfill resources and 53.8 MW of hydro-electric resources.

2. An overlap of capacity resources is prohibited under Massachusetts DOER regulations 225 CMR 14.05(1)(e)(1) and 15.05(1)(e)(1) and potentially signals a double-count of renewable energy between the NYISO Control Area and DOER.
3. The NEPOOL GIS shows that in 2017, nearly 1,800 GWh of *unit-specific* renewable energy was generated in NYISO from these resources, and delivered into New England, in order to satisfy various New England RPS requirements. (*NEPOOL GIS*) For 2017, unit-specific renewable energy exports to ISO-NE from NYISO accounted for 41% of all imports from NYISO to ISO-NE across the Northern New York interface with New England. ([ISO-NE 2017](#))
4. It appears that none of 1,800 GWh of unit-specific renewable energy located in New York has been subtracted from New York's 2017 generation totals, nor is there any indication that the NYISO recognizes this energy as being exported to ISO-NE for the purposes of satisfying various New England-based RPS programs. ([NYISO 2018a](#))
5. A review of NYISO-sourced FCM resources for January through May 2018 (FCA#8) shows that just six Massachusetts RPS-qualified facilities secured CSOs.<sup>10</sup> For FCA#9, the number of unit-specific resources in New York with CSOs dropped to just one facility.<sup>11</sup> Massachusetts Class I and Class II qualified resources that are located outside the ISO-NE control area and are non-intermittent are required to have individual CSOs. ([MA REG 2014](#)) ([MA REG 2016](#)) Given the lack of public data on FCM re-configuration auctions,<sup>12</sup> it is not possible to determine if other non-intermittent Class I or Class II qualified resources outside of New England have obtained individual CSOs tied to their respective units.

## Conclusions

Our review suggests that the Massachusetts Green Communities Act and associated DOER regulations have not been followed by a majority of NYISO-located renewable energy imports. Consequently, the data show a potentially significant double counting (or claiming) of renewable energy and associated capacity by both the NYISO and DOER for the same New York-sited renewable generators participating as Massachusetts Class I and Class II resources.

For Massachusetts, imports of unit-specific renewable energy from NYISO should lower New England's emissions and contribute to the region's efforts to eliminate base-load coal and oil units. For New York, the opposite would apply. As unit-specific renewable energy is exported to New England, the NYISO is likely to dispatch more expensive fossil-fired plants to account for the exports. This, in turn, would increase emissions and place upward pressure on Energy Clearing Prices. Yet, according to available information, New York-sited resources appear to

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<sup>10</sup> WM Chaffee, High Acres I, High Acres, Madison County, WM Mill Seat Landfill, Monroe-Livingston, and Auburn Renewable Energy Facility.

<sup>11</sup> Nanticoke LFG2 (Broome 2).

<sup>12</sup> Annual, Bi-lateral and Monthly Re-configuration Auctions. Bi-lateral and Monthly Re-Configuration Auctions results appear not to satisfy the Green Communities Act requirement for an annual CSO.

benefit both the ISO-NE and NYISO equally. The reality may be that New England ratepayers are getting renewable energy, lower power prices and cleaner air while New York ratepayers are getting fossil-fired energy, higher power prices, dirtier air plus a false sense of electric reliability.

## **Recommendations**

A number of steps can be taken to address the situation and move Massachusetts closer to the intent of the Green Communities Act. Below are several recommendations that we encourage the DOER and NYISO to consider:

1. As a first step, we recommend that the DOER suspend 2018 Massachusetts Class I or II treatment for qualified imported resources and all such existing NEPOOL GIS Certificates be embargoed in an escrow account, controlled by the DOER, until such time that the imported resources satisfy DOER rules governing capacity commitments.
2. DOER should develop a test to qualify independent verifiers for imported renewable energy. Independent verifiers should be required for all Massachusetts Class I and Class II renewable resources located in adjacent control areas to ISO-NE.<sup>13</sup>
3. NYISO should examine all holders of CSOs in ISO-NE sourced from New York to ensure that these capacity resources have not been counted in the Gold Book as well as the RNA.
4. In the Gold Book and the RNA, NYISO should restate its capacity and annual generation values for New York-sited renewable energy resources for such resources qualified as Massachusetts Class I and/or II resources.

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<sup>13</sup> Independent verifiers have been required by the DOER since 2009 for behind-the-meter generators located in the ISO-NE Control Area.

## Reference Documents

- DOER. 2018a. "[RPS Class I Renewable Generation Units.](#)" Last Updated November 9.
- DOER. 2018b. "[RPS Class II Renewable Generation Units.](#)" Last Updated August 15.
- ISO-NE. 2017. "[Net Energy and Peak Load by Source.](#)" May 17.
- ISO-NE. 2018. "[FCA Obligations.](#)" Last Updated March 2018
- MA REG. 2014. "[225 CMR 15.05: Renewable Energy Portfolio Standard - Class II Regulations.](#)" DOER.
- MA REG. 2016. "[225 CMR 14.05: Renewable Energy Portfolio Standard - Class I Regulations.](#)" DOER.
- NEPOOL GIS. 2018. "[Public Reports: 2017 Certificate Statistics report of Imported Certificates.](#)" Last visited November 11, 2018.
- NYISO. 2018a. "[Load & Capacity Data report \('Gold Book'\).](#)" April 2018.
- NYISO. 2018b. "[Reliability Needs Assessment \(RNA\).](#)" October 16, 2018.

**ATTACHMENT A: Analysis of Massachusetts RPS Class I and II Renewable Energy Resources Sited in New York**

| No | NYISO Ref #                | NEPOOL GIS Asset ID #  | NYISO (MA RPS) Plant - Unit        | NYISO City/Town | Fuel/Resource/Technology | NYISO Nameplate (MW) | NYISO 2018 Capability (MW) | MA RPS Nameplate (MW) | NYISO 2017 Generation (GWH) | MA RPS CLASS | ISO-NE Unit Specific CSO | Notes                                       |
|----|----------------------------|--|------------------------------------|-----------------|--------------------------|----------------------|----------------------------|-----------------------|-----------------------------|--------------|--------------------------|---|
| 1  | R1001                      | Not yet assigned   | MM Albany LLC                      | Albany          | LFG                      | 5.6                  | 5.6                        | 6.6                   | 26.4                        | I            |                          |   |
| 2  | R1111                      | IMP36447   | Nanticoke LFG2 (Broome 2)          | Binghamton      | LFG                      | 2.1                  | 2.0                        | 2.5                   | 17.7                        | I            | FCA9                     |   |
| 3  | R1313                      | IMP32644   | WM Chaffee Landfill                | Chaffee         | LFG                      | 6.4                  | 6.4                        | 6.4                   | 50.7                        | I            | FCA8                     |   |
| 4  | R1314                      | IMP32592   | High Acres I                       | Fairport        | LFG                      | 3.2                  | 3.2                        | 3.2                   | 24.3                        | II           | FCA8                     |   |
| 5  | R1315                      | IMP32690   | High Acres                         | Fairport        | LFG                      | 6.4                  | 6.4                        | 6.4                   | 48.2                        | I            | FCA8                     |   |
| 6  | R1317                      | IMP32907   | Madison County LF                  | Wampsville      | LFG                      | 1.6                  | 1.6                        | 1.6                   | 5.4                         | I            | FCA8                     |   |
| 7  | R1318                      | IMP32645   | WM Mill Seat Landfill              | Riga            | LFG                      | 6.4                  | 6.4                        | 6.4                   | 52.5                        | I            | FCA8                     |   |
| 8  | R1319                      | IMP32530   | Monroe-Livingston                  | Scottville      | LFG                      | 2.4                  | 2.4                        | 2.4                   | 7.6                         | II           | FCA8                     |   |
| 9  | R1353                      | Not yet assigned   | Auburn Renewable Energy Facility   | Auburn          | LFG                      | 2.1                  | 0.0                        | 3.2                   | 0.0                         | I            |                          |   |
| 10 | R1354                      | IMP32894   | Chautauqua                         | Jamestown       | LFG                      | 9.6                  | 0.0                        | 9.6                   | 42.6                        | I            |                          |   |
| 11 | R1355                      | IMP32730   | Clinton                            | Morrisonville   | LFG                      | 6.4                  | 6.4                        | 6.4                   | 30.8                        | I            |                          |   |
| 12 | R1356                      | IMP32584   | Colonie Landfill Gas Facility      | Colonie         | LFG                      | 6.4                  | 6.4                        | 4.8                   | 35.2                        | I            |                          |   |
| 13 | R1357                      | IMP32723   | Devel Authority of North Country   | Watertown       | LFG                      | 6.4                  | 6.4                        | 6.4                   | 29.7                        | I            |                          |   |
| 14 | R1358                      | IMP32957   | Fulton LFGE                        | Johnstown       | LFG                      | 3.2                  | 0.0                        | 3.2                   | 12.6                        | I            |                          |   |
| 15 | R1359                      | IMP32717   | Hyland                             | Angelica        | LFG                      | 4.8                  | 4.8                        | 4.8                   | 38.1                        | I            |                          |   |
| 16 | R1440                      | IMP32515   | Model City Energy Facility         | Lewiston        | LFG                      | 5.6                  | 5.6                        | 5.6                   | 39.6                        | I            |                          |   |
| 17 | R1441                      | IMP32580   | Modern LFG                         | Lewiston        | LFG                      | 6.4                  | 6.4                        | 6.4                   | 21.4                        | I            |                          |   |
| 18 | R1491                      | IMP32676   | Nanticoke LFG (Broome 1)           | Binghamton      | LFG                      | 2.4                  | 2.1                        | 3.4                   | 9.6                         | I            |                          |   |
| 19 | R1683                      | IMP32561   | Ontario Landfill Gas Facility      | Canandaigua     | LFG                      | 11.2                 | 11.2                       | 11.2                  | 67.2                        | I            |                          |   |
| 20 | R1684/ R1685               | IMP32513/<br>IMP32528/<br>IMP32832/<br>IMP32847/<br>IMP32879 | Seneca Energy 1 & 2 (Seneca Falls) | Seneca Falls    | LFG                      | 17.6                 | 17.6                       | 22.6                  | 122.0                       | I, II        |                          | Class I - 17 MW<br>Class II - 5.6 MW        |
| 21 | R1144/ R1145/ R1146/ R1147 | IMP123765  | Eagle 1, 2, 3, 4                   | Watson          | WAT                      | 6.2                  | 6.2                        | 6.0                   | 37.8                        | I, II        |                          | Class I - 0.5136 MW<br>Class II - 5.49 MW   |
| 22 | R1152/ R1153               | IMP33467   | Elmer 1, 2                         | Belfort         | WAT                      | 1.6                  | 1.6                        | 2.0                   | 13.2                        | II           |                          |   |
| 23 | R1154/ R1155/ R1156        | IMP127702  | High Falls 1, 2, 3                 | Indian River    | WAT                      | 4.8                  | 4.8                        | 6.0                   | 34.9                        | II           |                          |   |
| 24 | R1173/ R1174/ R1175        | IMP123769  | Herrings 1, 2, 3                   | Herrings        | WAT                      | 5.4                  | 5.4                        | 5.4                   | 23.4                        | II           |                          |   |
| 25 | R1176/ R1177/ R1178        | IMP123766  | Kamargo 1, 2, 3                    | Black River     | WAT                      | 5.4                  | 5.4                        | 6.0                   | 24.5                        | II           |                          |   |
| 26 | R1179/ R1180               | IMP33462   | Sewalls 1, 2                       | Watertown       | WAT                      | 2.0                  | 2.0                        | 2.0                   | 14.1                        | II           |                          |   |
| 27 | R1204                      | IMP123768  | East Norfolk                       | East Norfolk    | WAT                      | 3.6                  | 3.5                        | 4.0                   | 10.8                        | I, II        |                          | Class I - 0.92 MW<br>Class II - 3.08 MW     |
| 28 | R1207/ R1208/ R1209/ R1210 | IMP61673   | Higley 1, 2, 3, 4                  | Colton          | WAT                      | 6.6                  | 6.6                        | 6.0                   | 42.2                        | I            |                          |   |
| 29 | R1211                      | IMP123767  | Norfolk                            | Norfolk         | WAT                      | 4.5                  | 4.5                        | 5.0                   | 29.9                        | I, II        |                          | Class I - 1.35 MW<br>Class II - 3.65 MW     |
| 30 | R1214/ R1215               | IMP123770  | Sugar Island 1, 2                  | Potsdam         | WAT                      | 5.0                  | 5.0                        | 4.0                   | 31.9                        | II           |                          |   |
| 31 | R1218                      | IMP127703  | Allens Falls                       | Allens Falls    | WAT                      | 4.4                  | 4.4                        | 4.2                   | 17.3                        | I, II        |                          | Class I - 0.3024 MW<br>Class II - 3.8976 MW |
| 32 | R1225                      | IMP127704  | Parishville                        | Parishville     | WAT                      | 2.4                  | 2.4                        | 3.0                   | 17.6                        | II           |                          |   |
| 33 | R1245/ R1254/ R1255/ R1256 | IMP33466   | Lower 1 & Upper 2,3,4 Newton Falls | Newton Falls    | WAT                      | 2.0                  | 2.0                        | 2.2                   | 13.3                        | II           |                          |   |
| 34 | R1077                      | IMP32827   | Cohocton Wind Farm (Canandaigua)   | Avoca           | WND                      | 125.0                | 125.0                      | 125.0                 | 264.6                       | I            |                          |   |
| 35 | R1078                      | IMP32487   | Fenner Windpower Project           | Fenner          | WND                      | 30.0                 | 0.0                        | 30.0                  | 44.4                        | I            |                          |   |
| 36 | R1114                      | IMP32637   | Munnsville Wind Farm               | Bouckville      | WND                      | 34.5                 | 34.5                       | 34.5                  | 96.7                        | I            |                          |   |
| 37 | R1322                      | IMP32665   | Maple Ridge II Wind Farm           | Lowville        | WND                      | 90.8                 | 90.8                       | 90.8                  | 218.6                       | I            |                          |   |
| 38 | R1323                      | IMP32620   | Maple Ridge I Wind Farm            | Lowville        | WND                      | 231.0                | 231.0                      | 231.0                 | 570.5                       | I            |                          |   |
| 39 | R1364                      | IMP102887  | Jericho Rise                       | Chateaugay      | WND                      | 77.7                 | 77.7                       | 77.7                  | 246.3                       | I            |                          |   |
| 40 | R1437                      | IMP32646   | Madison Windpower                  | Madison         | WND                      | 11.6                 | 11.6                       | 11.5                  | 20.8                        | I            |                          |   |
| 41 | R1438                      | IMP35435   | Marble River, LLC                  | Ellenburg       | WND                      | 215.3                | 215.3                      | 215.3                 | 542.2                       | I            |                          |   |
| 42 | R1439                      | IMP47317   | Marsh Hill Wind Farm               | Jasper          | WND                      | 16.2                 | 0.0                        | 16.2                  | 48.8                        | I            |                          |   |
| 43 | R1626                      | IMP32625   | Steel Wind Energy Project          | Lackawanna      | WND                      | 20.0                 | 0.0                        | 20.0                  | 51.8                        | I            |                          |   |
| 44 | R1629                      | IMP36308   | Noble Altona Windpark, LLC         | Altona          | WND                      | 97.5                 | 97.5                       | 97.5                  | 175.6                       | I            |                          |   |

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|               |       |          |                                  |              |     |                |                |                |                |   |  |  |
|---------------|-------|----------|----------------------------------|--------------|-----|----------------|----------------|----------------|----------------|---|--|--|
| 45            | R1630 | IMP39207 | Noble Bliss Windpark, LLC        | Bliss        | WND | 100.5          | 100.5          | 100.5          | 210.4          | I |  |  |
| 46            | R1631 | IMP36309 | Noble Chateaugay Windpark, LLC   | Chateaugay   | WND | 106.5          | 106.5          | 106.5          | 208.5          | I |  |  |
| 47            | R1632 | IMP39206 | Noble Clinton Windpark I, LLC    | Clinton      | WND | 100.5          | 100.5          | 100.5          | 170.9          | I |  |  |
| 48            | R1633 | IMP39205 | Noble Ellenburg Windpark, LLC    | Ellenburg    | WND | 81.0           | 81.0           | 81.0           | 173.2          | I |  |  |
| 49            | R1634 | IMP36307 | Noble Wethersfield Windpark, LLC | Wethersfield | WND | 126.0          | 126.0          | 126.0          | 272.1          | I |  |  |
| 50            | R1695 | IMP32813 | High Sheldon Wind Farm           | Varysburg    | WND | 118.1          | 118.1          | 112.5          | 268.4          | I |  |  |
| 51            | R1698 | IMP41108 | Orangeville Wind Farm            | Warsaw       | WND | 93.9           | 93.9           | 94.4           | 279.9          | I |  |  |
| <b>TOTALS</b> |       |          |                                  |              |     | <b>1,846.1</b> | <b>1,764.5</b> | <b>1,849.6</b> | <b>4,856.2</b> |   |  |  |

**Sub-Totals**

|                |
|----------------|
| Landfill       |
| Hydro-electric |
| Wind           |

|                |                |                |                |
|----------------|----------------|----------------|----------------|
| 116.2          | 100.9          | 123.0          | 681.6          |
| 53.9           | 53.8           | 55.8           | 310.9          |
| <u>1,676.0</u> | <u>1,609.8</u> | <u>1,670.8</u> | <u>3,863.7</u> |
| 1,846.1        | 1,764.5        | 1,849.6        | 4,856.2        |
|                |                |                |                |
| 26.4           | 26.4           | 26.4           | 188.7          |
| 2.1            | 2.0            | 2.5            | 17.7           |

|         |
|---------|
| FCA # 8 |
| FCA # 9 |

Prepared by W. Short and L. Linowes November 13, 2018