

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

) )  
New York Independent System Operator, Inc. ) Docket No. ER19-467-000  
) )

**PROTEST OF PUBLIC INTEREST ORGANIZATIONS**

Pursuant to Rule 211 of the Federal Energy Regulatory Commission’s (“Commission”) Rules of Practice and Procedure,<sup>1</sup> Natural Resources Defense Council, Earthjustice, Sustainable FERC Project, Acadia Center, Sierra Club, and Association for Energy Affordability, Inc. (“Public Interest Organizations”) respectfully submit this protest and comments on the filing dated December 3, 2018 of the New York Independent System Operator, Inc. (“NYISO”) proposing tariff revisions to establish a participation model for electric storage resources as directed by Order No. 841.<sup>2</sup>

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<sup>1</sup> 18 C.F.R. §§ 385.211, 385.214.

<sup>2</sup> *Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators*, 162 FERC ¶ 61,127 (Feb. 15, 2018) (“Order No. 841”).

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**I. Introduction**

In Order No. 841, the Commission directed all Regional Transmission Organizations (“RTOs”) and Independent System Operators (“ISOs”) to establish a participation model consisting of market rules that, recognizing the physical and operational characteristics of energy storage resources, facilitate their participation in the RTO/ISO markets.<sup>3</sup> As detailed below, certain portions of NYISO’s compliance filing fall short of what Order No. 841 requires, erecting new barriers to energy storage resources’ participation in its markets and introducing changes beyond the scope of the order. The Commission should reject these portions of NYISO’s compliance filing and order it to expeditiously resubmit a participation model that complies with Order No. 841.

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<sup>3</sup> Order No. 841 at P 3.

Our protest focuses on three areas in which NYISO's compliance filing needs improvement. First, the Commission must reject NYISO's proposal to extend buyer-side mitigation screening to energy storage and generation resources under 2 MW. Numerous NYISO stakeholders opposed this very proposal in 2018, and the Commission should not allow the ISO to secure through a compliance filing changes that stakeholders would not approve. Moreover, the proposed expansion of buyer-side mitigation screening exceeds the proper scope of NYISO's compliance filing—under orders to *remove* barriers to energy storage resources' participation in its markets, the ISO cannot turn around and use its compliance filing to introduce new barriers to such participation. Extending buyer-side mitigation screening to resources under 2 MW would also render NYISO's rates unjust and unreasonable by artificially stifling competition and raising prices for consumers.

Second, the Commission should reject NYISO's prohibition on energy storage resources' dual participation in wholesale and retail markets. This prohibition contravenes Order No. 841's mandate that ISOs facilitate dual participation through changes in their accounting and metering practices, and it creates a new barrier for electric storage resources in NYISO's markets where none previously existed. Further, the prohibition on dual participation constitutes undue discrimination, as the ISO permits other resources to sell separate and distinct wholesale and retail services and has not advanced a valid basis for providing unequal treatment for energy storage resources.

Third, NYISO's requirement that energy storage resources selling capacity submit to ISO management of their state of charge in the Day-Ahead Market violates the plain text of Order No. 841, which states that energy storage resources *must* have the option to self-manage their state of charge. NYISO's particular state of charge management model also exposes energy storage

resources to significant operational and financial risks not faced by other resources types because it does not permit them to submit commitment parameters with their offers. The Commission should reject the NYISO's impermissible bar on state of charge self-management and order NYISO to improve its state of charge management model as an optional mode of participation for energy storage resources.

Beyond these shortcomings in NYISO's compliance filing, we urge the Commission to address an additional issue that is important to the future of the energy storage market in New York and elsewhere: rules for storage resources that are co-located with generation. We request the Commission to open a generic docket focused on tariff provisions needed to accommodate such resources.

**II. The Commission must reject NYISO's proposal to extend buyer-side mitigation screening to energy storage and generation resources under 2 MW.**

The Commission must reject NYISO's attempt to use its Order No. 841 compliance filing to extend buyer-side mitigation screening to energy storage and generation resources under 2 MW. NYISO's proposed tariff modifications (a) subvert its stakeholder process (where such changes were heavily opposed), (b) are outside the proper scope of its compliance filing because they do not respond to a specific directive from the Commission and are not ministerial or necessary in order to comply with Order No. 841, and (c) would render NYISO's capacity market rates unjust and unreasonable.

**A. NYISO's compliance filing subverts its stakeholder process.**

NYISO's decision to include new buyer-side mitigation rules in its Order No. 841 compliance filing for energy storage and other distributed energy resources under 2 MW subverts its stakeholder process by attempting to accomplish through a compliance filing what stakeholders

have refused to grant approval for under Federal Power Act section 205. The Commission should reject this ploy.

Previously, as part of its Distributed Energy Resources (“DERs”) roadmap initiative, NYISO proposed to subject some DERs to buyer-side mitigation rules while exempting others.<sup>4</sup> Its proposal to apply buyer-side mitigation screening to injecting DERs, which were exempt under its status-quo tariff rules, was met with an overwhelmingly negative reaction from stakeholders. New York Transmission Owners,<sup>5</sup> New York Department of Public Service and New York State Energy Research and Development Authority (“NYSERDA”),<sup>6</sup> New York City,<sup>7</sup> the Advanced Energy Management Alliance,<sup>8</sup> and Clean Energy Advocates<sup>9</sup> each filed comments strongly

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<sup>4</sup> Michael Lavillotti, *DER Market Design Updates*, New York Independent System Operator, at Slide 15 (June 1, 2018), <https://www.nyiso.com/documents/20142/1403297/DER%20Market%20Design%20Update%20MIWG%20June%201.pdf/4433c15c-96c8-07f4-9fb4-b1e2c169f52f>.

<sup>5</sup> Comments of the Indicated New York Transmission Owners on NYISO’s Buyer-Side Mitigation Proposals (June 15, 2018), <https://www.nyiso.com/documents/20142/1403297/FINAL%20NYTO%20Comments%20on%20NYISO%20BSM%20Proposal%206.18.18.pdf/02f5190b-b6c8-c3fb-2fb2-5dd3044478d0>.

<sup>6</sup> Department of Public Service Staff and NYSERDA, Comments on Proposed Rules to Apply Buyer-Side Mitigation for Energy Storage and DER Market Participation (June 18, 2018), <https://www.nyiso.com/documents/20142/1403297/DPS%20NYSERDA%20Comments%20Proposed%20Mitigation%20of%20ESR%20DER.pdf/09ac6784-9184-1082-390d-e947da5f5948>.

<sup>7</sup> New York City, Comments Regarding Proposed Rules to Apply Buyer-Side Mitigation for Energy Storage and DER Market Participation (June 20, 2018), <https://www.nyiso.com/documents/20142/1403297/NYC%20Ltr%20to%20NYISO%20%20DER%20ESR%20BSM%20Comments%2062018.pdf/9599488d-5445-348f-1e3d-f22b61b2565b>.

<sup>8</sup> Advanced Energy Management Alliance Comments on Buyer-Side Mitigation for Distributed Energy Resources in New York Independent System Operator (June 18, 2018), <https://www.nyiso.com/documents/20142/1403297/AEMA%20Comments%20on%20NYISO%20BSMfinal.pdf/ba9e898f-21e6-0b99-32cb-e8a78450c2a0>.

<sup>9</sup> See Comments of the Clean Energy Advocates on NYISO’s Proposed Application of Buyer-side Mitigation Rules to DERs (June 25, 2018),

opposing NYISO's proposal and urging the ISO to instead categorically exempt all DERs from buyer-side mitigation. No comments were filed in support of NYISO's proposal or any other alternative proposal to expand NYISO's buyer-side mitigation rules.

After receiving this feedback, which indicated NYISO likely could not have secured the votes necessary in order to make a section 205 tariff filing for its previous proposal under its shared governance rules, NYISO appropriately reversed course. In an August 23, 2018 presentation on Capacity Market Rules for Energy Storage Resources, NYISO stated that it was "no longer recommending to modify the rules to subject new entrants less than 2 MWs to BSM."<sup>10</sup>

Now, however, NYISO has gone back on this commitment. It disregards the will of its stakeholders by attempting to secure through a compliance filing the same changes that stakeholders would not vote for under section 205. Not only does the ISO propose to expand buyer-side mitigation for energy storage resources (in contravention of Order No. 841's directive to *remove* market barriers for these resources),<sup>11</sup> it attempts to expand the rules for other generation

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<https://www.nyiso.com/documents/20142/1403297/20180615%20Clean%20Energy%20Advocates%20Comments%20re%20NYISO%20BSM%20Proposal%20for%20DERs.pdf/89ac3877-7822-a348-e8de-23838c529065>; Environmental Defense Fund, Comments Regarding Proposed Rules to Apply Buyer-Side Mitigation for Energy Storage and DER Market Participation (June 28, 2018), <https://www.nyiso.com/documents/20142/1403297/BSM%20Letter%2028June2018.pdf/d2a7ed52-99ff-f860-0bb7-8b240a251916>.

<sup>10</sup> Zachary T. Smith, *Capacity Market Rules for Energy Storage Resources*, New York Independent System Operator, at Slide 13 (Aug. 23, 2018), [https://www.nyiso.com/documents/20142/2182248/ESR%20Capacity%20Model\\_Tariff\\_8\\_23.pdf/f71bff33-834f-e4a5-fd27-bb354576576a](https://www.nyiso.com/documents/20142/2182248/ESR%20Capacity%20Model_Tariff_8_23.pdf/f71bff33-834f-e4a5-fd27-bb354576576a).

<sup>11</sup> See NYISO, Compliance Filing and Request for Extension of Time of Effective Date, Docket Nos. RM16-23, AD16-20, ER19-467, at 51-54 (Dec. 3, 2018) ("NYISO Compliance Filing").

resources under 2 MW as well.<sup>12</sup> NYISO should not be permitted to subvert its stakeholder process in this manner.

**B. NYISO’s proposed expansion of buyer-side mitigation rules to energy storage and other generation resources under 2 MW is outside the proper scope of its compliance filing.**

NYISO’s proposed expansion of buyer-side mitigation rules to energy storage and other generation resources under 2 MW exceeds the appropriate scope of its compliance filing. “The Commission has long established that compliance filings must be limited to the specific directives ordered by the Commission.”<sup>13</sup> Further, “the Commission’s focus in reviewing” a compliance filing is to determine whether it “compl[ies] with the Commission’s previously stated directives.”<sup>14</sup> NYISO’s proposal to apply buyer-side mitigation to energy storage and other generation resources under 2 MW does not respond to any specific directive from the Commission and therefore must be rejected.

Order No. 841 requires NYISO to “revise its tariffs to *remove barriers* to the participation of electric storage resources” in its market.<sup>15</sup> The sole *new* barrier permitted for in the order is the limited provision that the RTOs may impose new mitigation rules for the narrow purpose of addressing “market power concerns [that] arise as a result of electric storage resources de-rating

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<sup>12</sup> NYISO Compliance Filing at 51 (suggesting that “[g]iven the need for consistent rules across all generation types . . . BSM Rule revisions proposed in this compliance filing” should “also apply to generators that are not Energy Storage Resources”), 53-54 (proposing tariff language that would apply buyer-side mitigation screening to generators under 2 MW where such generators would otherwise not be subject to buyer-side mitigation screening).

<sup>13</sup> *AES Huntington Beach, LLC*, 111 FERC ¶ 61,079 at P 60 (Apr. 18, 2005).

<sup>14</sup> *Id.*

<sup>15</sup> Order No. 841 at P 20 (emphasis added).

capacity to provide capacity or other services.”<sup>16</sup> The fact that this narrow exception specifically dealt with mitigation rules demonstrates that had the Commission intended to permit the RTOs/ISOs to add additional mitigation rules, it would have specified precisely under what circumstances such rules would be permitted. As NYISO concedes, its proposed changes are intended to apply buyer-side mitigation to *all* generation resources under 2 MW, where its current tariff does not impose a screening test for those resources. That change does not respond to a specific directive from the Commission, as it has nothing to do with storage resources de-rating capacity.

NYISO’s attempt to extend buyer-side mitigation rules to non-storage resources is an even more egregious departure from the specific directives of the Commission. It is clear that Order No. 841 concerns energy storage resources. Adding a new market barrier for a different type of resource is plainly outside the scope of the filing, which may only appropriately address storage resources.

According to NYISO, the absence of any screening procedures for resources under 2 MW is a historical accident due to “housekeeping” revisions that were adopted to eliminate “outdated” rules.<sup>17</sup> But the reason behind the status quo rules is irrelevant in this context. NYISO may not include tariff revisions within a compliance filing that exceed the Commission’s specific directives for which the ISO is complying. Even if it were a mere housekeeping item, the appropriate mechanism to secure such tariff changes would be through a section 205 filing. NYISO even acknowledges that it attempted to include similar changes within a previous section 205 filing that

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<sup>16</sup> *Id.* at P 96.

<sup>17</sup> NYISO Compliance Filing at 52.



was voted down by stakeholders.<sup>18</sup> This admission only underscores the fact that the appropriate mechanism for any such changes would be section 205.

In fact, applying buyer-side mitigation screening to energy storage and other generation resources under 2 MW is far from mere housekeeping. NYISO neglects to mention that subsequent to the elimination of Category III facilities under NYISO's tariff, NYISO supported<sup>19</sup> and FERC approved further tariff revisions that exempted Special Case Resources (demand response) from buyer-side mitigation rules.<sup>20</sup> As discussed in the section II.C. below, the same reasons for adopting that exemption apply to other resources under 2 MW. NYISO states that Commission precedent supports applying buyer-side mitigation rules to resources under 2 MW,<sup>21</sup> but in support of that proposition it merely cites the Commission's order extending a categorical exemption to Special Case Resources. The portion of the order cited by NYISO merely quotes the requirements of NYISO's own tariff, which NYISO now concedes *does not* cover generation resources under 2 MW.<sup>22</sup> Further, the order endorses the proposition that individual or small aggregated sets of small resources do not "have the same ability to suppress ICAP market prices as a single, large market participant"<sup>23</sup> and therefore should not be subject to buyer-side mitigation screening.

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<sup>18</sup> *See id.* at 52 n. 153.

<sup>19</sup> Answer of the New York Independent System Operator, Inc., Docket No. EL16-92, at 3 (July 21, 2016) ("[T]he NYISO supports the Complaint's proposed blanket exemption.").

<sup>20</sup> *New York State Pub. Serv. Comm'n v. New York Indep. Sys. Operator, Inc.*, 158 FERC ¶ 61,137 (Feb. 3, 2017) ("NYISO SCR Order").

<sup>21</sup> NYISO Compliance Filing at 53.

<sup>22</sup> *See* NYISO Compliance Filing at 53 n.156 (quoting a passage from a Commission order that merely rehearses the requirements of NYISO's tariff).

<sup>23</sup> NYISO SCR Order at P 32.

NYISO attempts to characterize its proposed expansion of buyer-side mitigation rules as a mere ministerial revision necessary in order to provide “consistent rules across all generation types.”<sup>24</sup> Yet NYISO’s rules do the opposite; they affirmatively introduce inconsistency. As NYISO concedes, energy storage and other generation resources under 2 MW are not subject to buyer-side mitigation rules either (and for this reason proposes revisions relating to those resources as well). Further, new Special Case Resources are categorically exempt from buyer-side mitigation screening,<sup>25</sup> and renewable resources are exempt up to an annual capacity cap.<sup>26</sup>

Were NYISO to decide to expand its buyer-side mitigation rules to cover resources under 2 MW, it would have to engage in a substantive inquiry to determine whether energy storage resources shared characteristics with Special Case Resources or renewable resources that render an exemption appropriate. NYISO does not even attempt to engage in such an inquiry. As explained further below, had NYISO carried one out, the answer would be that energy storage resources under 2 MW *should* be categorically exempt because they do not have the incentive or ability to manipulate market prices, and because applying mitigation to such resources would raise prices for customers beyond the level necessary to ensure the region has adequate resources.

At a minimum, it is clear that NYISO’s proposed tariff changes are subject to vigorous dispute and are not mere ministerial revisions needed to clarify the tariff. This case is not analogous to prior revisions secured by NYISO pursuant to a Commission order that permitted NYISO to include revisions that are “ministerial and necessary to effectuate” the Commission’s specific

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<sup>24</sup> NYISO Compliance Filing at 51.

<sup>25</sup> *See* NYISO SCR Order.

<sup>26</sup> *See* NYISO Market Administration and Control Area Services Tariff, Attachment H § 23.2.1 (Dec. 3, 2018) (defining Exempt Renewable Technology) (“NYISO Market Services Tariff”).

directives.<sup>27</sup> Here, not only are the changes substantive, they are not needed to effectuate the Commission’s directive to “remove barriers” to market participation by energy storage resources. Rather, NYISO can easily provide rules to expand the market participation opportunities of energy storage resources without requiring a new buyer-side mitigation screening process.<sup>28</sup>

**C. Accepting NYISO’s proposed expansion of buyer-side mitigation rules would render the tariff unjust and unreasonable.**

NYISO’s proposed expansion of buyer-side mitigation rules would needlessly apply an onerous screening procedure to small energy storage and other generation resources, dissuading or blocking economic resources from entering NYISO’s capacity market. By artificially stifling competition and raising prices for consumers to a level higher than is required to ensure resource adequacy, NYISO’s proposed mitigation rule changes would render its tariff unjust and unreasonable.

Energy storage resources, as new and innovative technologies, often receive incentives external to Commission-supervised markets.<sup>29</sup> As such, many would not be able to take advantage of NYISO’s competitive entry exemption, and would instead be required to submit to a unit-specific exemption test in order to gain access to NYISO’s capacity market. Such a unit-specific

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<sup>27</sup> *New York Indep. Sys. Operator, Inc.*, 125 FERC ¶ 61,206 at P 41 (Nov. 20, 2008).

<sup>28</sup> This is especially true because an Order No. 841 compliance filing that did not expand buyer-side mitigation would simply facilitate participate by energy storage resources on equal terms as generation resources (for which resources above 2 MW are subject to buyer-side mitigation screening and smaller resources are exempt), and on similar terms to Special Case Resources (which are entirely exempt based in part on the inability of small resources to manipulate market prices).

<sup>29</sup> Public policymakers at the federal and state level have determined that such incentives are appropriate due to the significant benefits that an expanded energy storage market will provide to customers in the future.

test would be highly burdensome for resources under 2 MW. The delay and costs inherent to providing information to a market monitor and waiting for results of unit-specific analysis could dissuade economically competitive resource owners from seeking market entry. NYISO appears to contemplate carrying out unit-specific mitigation tests for potentially hundreds of new resources, but does nothing to explain how such tests could possibly be administered in a timely and cost-effective manner. The uncertainty created by such a process will hamper investment in small energy storage resources and thereby reduce market competition. Further, this uncertainty will also impact market entry for other types of new resources. With the class year screening process potentially becoming clogged with hundreds of applications from small energy storage resources, it is highly foreseeable that NYISO's proposed changes could ultimately delay market entry for other types of new resources as well.

Unit-specific mitigation analysis would be unnecessary given small energy storage resources' inability to artificially suppress market prices. Like Special Case Resources, energy storage resources under 2 MW do not "have the same ability to suppress ICAP market prices as a single, large market participant."<sup>30</sup> The small size of energy storage resources under 2 MW prevents them from being used as an effective tool for exercising market power.<sup>31</sup> Further, NYISO has not put forth any evidence that maintaining the status quo exemption for resources under 2

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<sup>30</sup> NYISO SCR Order at P 32. NYISO's Part B of the mitigation exemption test includes such revenues in its three-year revenue projection because, as with revenues from sales of other non-jurisdictional products, revenues from sales of environmental credits or compensation for innovation benefits are rationally and economically included within a resource's offer prices.

<sup>31</sup> NYISO's tariff explains that "[i]n general, the ISO shall consider a Market Party's or its Affiliates' conduct to be inconsistent with competitive conduct if the conduct would not be in the economic interest of the Market Party or its Affiliates in the absence of market power." NYISO Market Services Tariff, Attachment H § 23.2.3.2.

MW would artificially suppress market prices. Where external incentives compensate energy storage resources for services such as emissions reduction that are not captured in NYISO's markets, such revenues would be appropriately reflected in a resource's market offers.<sup>32</sup>

At the same time, the structure of NYISO's mitigation screening process risks blocking market entry of economically competitive energy storage resources because it is tailored to natural gas and not energy storage resources. NYISO's Part B screening test compares a forecast of capacity prices in the first three years of a resource's operation to the unit-specific net Cost of New Entry of that resource.<sup>33</sup> The three-year time horizon makes sense to assess the competitiveness of natural gas resources, because such resources have relatively low up-front capital costs and higher operating costs. A gas plant may be financed upon a relatively short horizon of wholesale market revenues because its operating costs (which derive largely from natural gas fuel costs) will likely correlate closely with wholesale market prices (which also vary mostly according to the price of natural gas). But such a short time horizon is not appropriate for energy storage resources, which have relatively higher capital costs and very low operating costs. Financing energy storage resources naturally relies upon significantly more years of anticipated revenue in the wholesale markets.

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<sup>32</sup> See NYISO SCR Order at P 33 (indicating that payments for services that are "separate and distinct from the payments that [Special Case Resources] receive for participating in NYISO's ICAP market" do not artificially suppress prices); see *New York Pub. Serv. Comm'n v. New York Indep. Sys. Operator, Inc.*, 153 FERC 61,022 at P 48 (Oct. 9, 2015) (for renewable resources that are not otherwise exempt from buyer-side mitigation rules, Part B of the mitigation exemption test "takes into account certain incentives for owning renewable resources by reducing the unit-specific Net CONE").

<sup>33</sup> NYISO Market Services Tariff, Attachment H § 23.4.5.7.2(b).

By dissuading or blocking entry of economically competitive energy storage resources and other new generation resources under 2 MW into NYISO’s market, the proposed buyer-side mitigation screening measures would render rates unjust and unreasonable. As Order No. 841 states, the “effective integration of electric storage resources into the RTO/ISO markets would enhance competition and, in turn, help to ensure that these markets produce just and reasonable rates.”<sup>34</sup> Conversely, erecting a barrier that prevents such integration and hampers competition from new resources will induce artificially high rates. Further, to the extent that energy storage resources are developed according to state programs but unable to sell their capacity in NYISO markets, customers will be required to pay for more capacity in the NYISO market than is required to ensure adequate resource supply. Such capacity payments would not be just and reasonable.

In sum, the Commission must reject NYISO’s proposed expansion of buyer-side mitigation screening to energy storage and generation resources under 2 MW. This proposed change is tucked into NYISO’s Order No. 841 compliance filing despite not being responsive to any Commission directive in that order, concerns a highly contested subject and is opposed by NYISO stakeholders, and would affirmatively render rates unjust and unreasonable were it adopted.

**III. The Commission should reject NYISO’s prohibition on energy storage resources’ dual participation in wholesale and retail markets.**

NYISO’s proposal bars dual participation for energy storage resources in wholesale and retail markets in two ways. First, it contains express language temporarily prohibiting energy storage resources from engaging in dual participation in wholesale and retail markets, pending “subsequent tariff revisions”—which it does not promise to deliver on any specific timeline.<sup>35</sup>

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<sup>34</sup> Order No. 841 at P 12.

<sup>35</sup> NYISO Compliance Filing at 55 (“Resources will not be permitted to aggregate or engage in dual participation until the tariff changes permitting those market concepts become effective, and

Second, it creates a de-facto barrier to dual participation by requiring any energy storage resource located behind a customer meter to be separately metered and to charge and discharge independently of customer load.<sup>36</sup> These prohibitions contravene Order No. 841's mandate that RTOs/ISOs facilitate dual participation. Without facilitating dual participation, NYISO cannot cure the Commission's Federal Power Act section 206 finding that existing rates are not just and reasonable due to the presence of barriers that hamper competition from energy storage resources. NYISO's compliance filing also ignores the fact that demand response resources are permitted to participate in both wholesale and retail markets. The temporary ban for energy storage resources and failure to promise to facilitate dual participation on a concrete timeline discriminates unduly against energy storage resources. The Commission should order NYISO to allow energy storage resources to engage in dual participation in wholesale and retail markets, and to expeditiously make tariff changes to bring its accounting and metering practices into compliance with Order No. 841.

**A. NYISO's prohibition on dual participation violates Order No. 841.**

NYISO's explicit and de-facto prohibitions on dual participation violate Order No. 841, which requires RTO/ISOs to facilitate dual participation.

Several aspects of Order No. 841 make clear that dual participation must be permitted. First, the order mandates that RTO/ISOs implement metering and accounting reforms to distinguish between wholesale and retail activity because "[i]t is possible for electric storage

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may be subject to new or additional generally applicable minimum run-time obligations." We note that NYISO's statement on this topic is contained in a section specifically discussing capacity market participation. It is thus not clear whether NYISO's bar on dual participation applies only to capacity market participation or whether it affects the sale of any service in NYISO markets.

<sup>36</sup> NYISO Compliance Filing at 61.

resources that are selling retail services also to be technically capable of providing wholesale services, and it would adversely affect competition in the RTO/ISO markets if these technically capable resources were excluded from participation.”<sup>37</sup> The Commission thereby plainly states that resources must be able to sell both wholesale and retail services. Such metering reforms would not be necessary were dual participation not possible. Further, the Commission recognized that “some electric storage resources (such as those located on a distribution system or behind a customer meter) may be subject to other metering requirements that could be used in lieu of a direct metering requirement by an RTO/ISO.”<sup>38</sup> Accordingly, the Commission recognized that a separate meter would not necessarily be required, contemplating that energy storage resources *could* provide retail services such as reducing retail demand charges while also selling separate and distinct services at wholesale.

Second, Order No. 841 broadly requires RTO/ISOs to allow energy storage resources to sell all of the energy, capacity, and ancillary services that they are technically capable of providing.<sup>39</sup> The New York Public Service Commission has already launched an energy storage initiative that explicitly contemplates compensating energy storage resources for “separate and distinct” retail services.<sup>40</sup> Because the business model of many energy storage resources

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<sup>37</sup> Order No. 841 at P 320.

<sup>38</sup> *Id.* at P 317.

<sup>39</sup> *See* Order No. 841 at P 20 (requiring elimination of barriers that inhibit energy storage resources from providing “all capacity, energy, and ancillary services that these resources could otherwise provide”); Order No. 841 Summary (“The participation model must (1) ensure that a resource using the participation model is eligible to provide all capacity, energy, and ancillary services that the resource is technically capable of providing in the RTO/ISO markets.”).

<sup>40</sup> New York Public Service Commission, Case 18-E-0130, Order Establishing Energy Storage Goal and Deployment Policy, at 96 (Dec. 13, 2018).



participating in the state’s program will necessarily rely on multiple revenue streams, a ban on dual participation is tantamount to a bar on allowing these resources to sell all of the wholesale services they are technically capable of providing. This finding comports with Commission precedent, such as its 2017 clarification of orders addressing whether and how energy storage resources may receive both cost-based and market-based revenue.<sup>41</sup> The Commission has observed that “[e]nabling electric storage resources to provide multiple services (including both cost-based and market-based services) ensures that the full capabilities of these resources can be realized, thereby maximizing their efficiency and value for the system and to consumers.”<sup>42</sup> The Commission has also noted that some energy storage resources “may only be cost competitive for the cost-based service if expected market revenues are considered.”<sup>43</sup> It follows that an energy storage resource’s competitiveness in wholesale markets is similarly affected by its ability to avail itself of other sources of revenue in retail markets; if wholesale market rules prevent energy storage resources from also selling retail services they are technically capable of providing, wholesale market competition suffers.

Third, Order No. 841 includes the full range of energy storage resources within its scope, including “resources located on the interstate transmission system, on a distribution system, or behind the meter.”<sup>44</sup> This broad scope, and refusal to allow states to adopt regulations that permit

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<sup>41</sup> *Utilization of Electric Storage Resources for Multiple Services When Receiving Cost-Based Rate Recovery*, 158 FERC ¶ 61,051 (Jan. 19, 2017).

<sup>42</sup> *Id.* at P 2; *see also id.* at P 11, (“[E]lectric storage resources can provide a variety of services to multiple entities. An electric storage resource receiving cost-based rate recovery for providing one service may also be technically capable of providing other market-based rate services.”).

<sup>43</sup> *Id.* at P 12.

<sup>44</sup> Order No. 841 at P 29.

utilities to “opt out” of letting such resources participate, naturally contemplates dual participation. The Commission recognized that “retail metering infrastructure, which is subject to state jurisdiction, may be able to work in concert with the RTO/ISO requirements to lower the overall metering costs for electric storage resources.”<sup>45</sup> This language contemplates that the set of energy storage resources that must be integrated into wholesale markets includes resources that provide retail services.

NYISO’s suggestion that dual participation rules are too complex to be addressed now, or that they may be included in a subsequent section 205 filing, does not comport with Order No. 841.<sup>46</sup> The Commission expressly noted that it is “not persuaded by commenters who argue that developing metering practices that distinguish between wholesale and retail activity is impractically complex.”<sup>47</sup> It noted that CAISO has already accomplished this goal, and explained that while “[d]eveloping new accounting practices for electric storage resources in response to this requirement will be complex, . . . we nevertheless find that they are feasible to develop.”<sup>48</sup> In contrast, beyond not accomplishing market reforms to facilitate dual participation, NYISO fails to even provide a timeline or any guarantee that such changes will be implemented. Because Order No. 841 found that the failure to facilitate such metering (and by implication, dual participation) created an unjust and unreasonable barrier to market participation, NYISO may not defer this issue

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<sup>45</sup> *Id.* at P 318.

<sup>46</sup> NYISO states that it is “exploring” with stakeholders concepts such as aggregating energy storage resources and dual participation of these resources in wholesale and retail markets, and that it “intends [sic] address these concepts in subsequent tariff revisions as part of a Section 205 filing concerning distributed energy resources.” NYISO Compliance Filing at 55.

<sup>47</sup> Order No. 841 at P 318.

<sup>48</sup> *Id.* at P 319.

to a subsequent section 205 filing. Approving NYISO's compliance filing without rejecting the prohibition on dual participation would perpetuate unjust and unreasonable rates.

Further, the feasibility of facilitating dual participation is underscored by the actions of other RTO/ISOs. Besides NYISO, all other RTO/ISOs have attempted to follow this directive, such as through proposed metering and accounting procedures to ensure that energy storage resources do not pay twice for energy.<sup>49</sup> NYISO's failure to even attempt to facilitate such dual participation is especially disappointing given the priority the state has placed on advancing the energy storage market at both the wholesale and retail level. The RTO/ISO's responsibility is to facilitate just and reasonable rates in light of the state's public policies. By failing to efficiently facilitate the state's goal of 3,000 MW of energy storage resources, NYISO will increase costs for wholesale customers without providing corresponding benefits.

NYISO has not articulated a reason for affirmatively banning dual participation, nor explained how this failure to follow through on Order No. 841's requirement to facilitate it fits in with ongoing deliberations regarding distributed resource aggregation. Imposing a new prohibition on dual participation in wholesale and retail markets runs counter to Order No. 841's express purpose to "remove barriers to the participation of electric storage resources in the RTO/ISO markets."<sup>50</sup>

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<sup>49</sup> See, e.g., Midcontinent Independent System Operator, Inc., Filing to Revise Tariff Necessary in Compliance with Order No. 841, Docket No. ER19-467, at 18 (Dec. 3, 2018).

<sup>50</sup> Order No. 841 at P 20.

**B. NYISO’s prohibition on dual participation unduly discriminates against energy storage resources.**

NYISO’s bar on dual participation also constitutes undue discrimination, because NYISO permits other resources to sell separate and distinct wholesale and retail services and the ISO has not advanced a valid basis for providing unequal treatment for energy storage resources.

NYISO’s current rules contemplate dual participation by demand response resources. The Commission found in approving an exemption from buyer-side mitigation screening for Special Case Resources (“SCRs”) that such resources’ market offers may properly factor in revenue earned from selling “retail-level . . . services that are separate and distinct” from the wholesale services sold through the SCR program.<sup>51</sup> The Commission took the step beyond simply permitting dual participation to affirmatively exempt SCRs from buyer-side mitigation rules in order to eliminate “unnecessary barriers to[] the participation of demand response in the wholesale markets.”<sup>52</sup> In doing so, it responded to the risk that competition would suffer because demand response providers could be compelled “to choose between wholesale- and retail-level demand response programs.”<sup>53</sup>

NYISO now proposes without adequate justification to force energy storage resources to choose between wholesale and retail markets. It is true that unlike with demand response, NYISO should develop market rules to affirmatively facilitate such dual participation for energy storage resources because metering and accounting practices need to account for their potential to withdraw from and inject into the system under separate regulatory regimes. But energy storage

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<sup>51</sup> NYISO SCR Order at P 33.

<sup>52</sup> *Id.* at P 34.

<sup>53</sup> *Id.* at P 5.

resources are nevertheless similarly situated to demand response. The Commission specifically stated in Order No. 841 that the complexity in addressing metering and accounting concerns stemming from that distinction is not a valid basis for failing to provide a dual participation model: “We are not persuaded by [the] suggestion that electric storage resources must choose to participate in either wholesale or retail markets due to the complexity of the metering and accounting practices.”<sup>54</sup> Energy storage resources and demand response are similarly situated in that both are capable of providing both wholesale- and retail-level services, and that the ability of each resource type to perform both functions will increase wholesale market competition.

The Commission should order NYISO to remove its prohibition on energy storage resources’ dual participation in wholesale and retail markets and to make tariff changes to bring its accounting and metering practices into compliance with Order No. 841.

**IV. The Commission should reject NYISO’s bar on self-scheduling for energy storage resources selling capacity and order NYISO to improve its state of charge management model as an additional participation option.**

NYISO’s filing requires energy storage resources that serve as Installed Capacity Suppliers to allow the ISO to manage their energy level in Day-Ahead Market bids.<sup>55</sup> This restriction violates Order No. 841’s requirement that energy storage resources be able to self-manage their state of charge, forcing energy storage resources to choose between participating in the installed capacity market and engaging in state of charge self-management. The Commission should order NYISO to remove this unsupported and unlawful restriction on energy storage resources’ participation in its capacity market. Further, while NYISO’s provision for ISO-managed state of charge could help

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<sup>54</sup> Order No. 841 at P 320.

<sup>55</sup> NYISO Compliance Filing at 43.

energy storage resources if it were *optional*, the manner in which NYISO has implemented its proposed mechanism falls short. By failing to allow energy storage resources to provide commitment parameters while permitting that option for other resources, NYISO exposes energy storage resources to increased costs and risks. This unequal treatment violates the Federal Power Market’s prohibition on undue discrimination. The Commission should require NYISO to develop the software tools necessary to allow energy storage resources to participate on equal terms by providing commitment parameters.

**A. NYISO’s prohibition against self-managing state of charge for energy storage resources violates Order No. 841.**

NYISO’s proposal violates the plain text of Order No. 841, which states that “resources using the participation model for electric storage resources **must** have the ability to self-manage their state of charge and it is often desirable to allow them to do so.”<sup>56</sup> The Commission should reject the aspects of NYISO’s proposal that require energy storage resources to submit to ISO management in order to participate in the capacity market.

Order No. 841’s requirement for RTO/ISOs to allow self-management is grounded in the Commission’s responsibility to ensure just and reasonable rates. The Commission explained that state of charge self-management allows energy storage resources “to optimize their operations to provide all of the wholesale services that they are technically capable of providing, similar to the operational flexibility that traditional generation resources have to manage the wholesale services that they offer.”<sup>57</sup> Self-management also allows energy storage resource operators to prevent “excessive wear and tear” by ensuring that their resources are operated in a manner consistent with

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<sup>56</sup> Order No. 841 at P 247 (emphasis added).

<sup>57</sup> *Id.* at P 246.

design limitations, including maximum and minimum states of charge.<sup>58</sup> The Commission correctly observed that such design limitations may be “dynamic values” that depend on the operational characteristics of the energy storage resource, such as when “multiple services and needs to reserve part of its state of charge for another service.”<sup>59</sup> Because such values cannot yet be accommodated in an ISO-managed system, the self-management requirement contributes to two of the order’s core requirements for energy storage resource participation models in RTO/ISO-managed markets that were found necessary to guarantee just and reasonable rates: ensuring that energy storage resources are eligible to provide all services they are technically capable of providing, and accounting for the physical and operational characteristics of energy storage resources through bidding parameters and other means.<sup>60</sup>

NYISO cites energy storage resources’ “unique characteristics” as reason for the energy level management requirement, which it states will allow the ISO to “fully control and optimize” an energy storage resource’s energy injections and withdrawals and ensure that the energy storage resource is given a “feasible schedule” in light of its physical parameters.<sup>61</sup> NYISO asserts that this level of control is necessary to prevent infeasible Day-Ahead Market schedules that could “could cause insufficient capacity to be procured in the Day-Ahead Market to meet real-time need.”<sup>62</sup> However, the Commission addressed concerns regarding state of charge self-management

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<sup>58</sup> *Id.* at PP 210, 247.

<sup>59</sup> *Id.* at P 210.

<sup>60</sup> *Id.* at P 4.

<sup>61</sup> NYISO Compliance Filing at 43.

<sup>62</sup> *Id.*

and reliability in Order No. 841, observing that RTO/ISOs could establish telemetry or other communication requirements to monitor energy storage resources' capabilities in real time.<sup>63</sup> The Commission concluded that this “flexibility will ensure sufficient visibility of a resource using the participation model for electric storage resources to safeguard operational reliability and market integrity.”<sup>64</sup>

The Commission also noted that energy storage resources remain subject to any penalties for non-performance in RTO/ISO tariffs,<sup>65</sup> which includes penalties for capacity non-performance. NYISO's Market Services Tariff already contains penalties for shortfalls and deficiencies by Installed Capacity Providers.<sup>66</sup> To the extent existing rules do not account for the unique operational qualities of energy storage resources, NYISO could propose additional economic incentives and rule changes that address specific issues without removing energy storage resource's ability to self-manage their state of charge.

Given the many varying types of energy storage resources and the complex operational issues that may arise from their resources' versatility, energy storage resource owners must be afforded the option to manage their participation in NYISO's markets. Without such a provision, competition will be hampered and rates will not be just and reasonable. Consistent with its conclusion that self-managed storage resource energy levels do not prevent RTO/ISOs from maintaining reliability, the Commission should order NYISO to revise its compliance filing to

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<sup>63</sup> Order No. 841 at P 250.

<sup>64</sup> *Id.*

<sup>65</sup> *Id.*

<sup>66</sup> NYISO Market Services Tariff, Section 5.14.2.



allow energy storage resources serving as Installed Capacity Suppliers to self-manage their state of charge in Day-Ahead Market bids.

**B. NYISO’s proposed exclusive means of participation in its capacity market exposes energy storage resources to undue financial and operational risks.**

The unjustness of NYISO’s failure to offer a self-management option is compounded by the fact that its proposed tariff provisions for ISO-managed state of charge expose energy storage resources to significant operational and financial risk not faced by other resource types. In contrast to NYISO’s rules for “traditional” generators, which allow offers to include commitment parameters<sup>67</sup> in addition to dispatch parameters,<sup>68</sup> NYISO’s proposal for energy storage resources does not permit them to include commitment parameters within their offers.<sup>69</sup> This results in requiring energy storage resources to participate on an “always available” basis, essentially requiring a premium service from energy storage resources that many technologies may be incapable of providing, while at the same time providing no additional financial compensation for that premium service.<sup>70</sup>

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<sup>67</sup> Commitment parameters include certain physical characteristics such as minimum-run-time and costs such as start-up costs, which together dictate what is required to bring a resource to its minimum generation level for a given interval (i.e., they dictate what is necessary to bring a resource to the state of being online and operating).

<sup>68</sup> Dispatch parameters include costs and time required to bring a resource to a particular unit of output.

<sup>69</sup> NYISO Compliance Filing at 18-21.

<sup>70</sup> In contrast to Behind-the-Meter Net Generation resources, for which an “always available” requirement is less burdensome because such generation is necessarily online and operating to meet local load prior to injecting into the wholesale market, energy storage resources may have cost or operational variables that influence the decision whether to commit to inject in any given interval for which they are submitting an offer.

NYISO states that its proposal “is designed to best accommodate Energy Storage Resources that have a continuous operating range from withdrawal to injection that does not include an ‘infeasible operating region’ around zero MW where the Resource cannot operate.”<sup>71</sup> It thereby acknowledges that its proposed participation model does not work for resources that do not have a continuous operating range. Further, even for storage resources that *do* have a continuous operating range, NYISO’s model is highly problematic. Resources that are technically capable of dispatching may nevertheless incur significant costs by doing so. For example, if cycling too frequently is harmful to a battery, the inability to include commitment parameters in its offer may expose a resource to significant risk from NYISO-controlled operation because that preference against frequent cycling cannot be accounted for under NYISO’s proposal.

With regard to the risk that NYISO’s dispatch instructions could conflict with a resource’s operating requirements or cause equipment degradation, NYISO provides that energy storage market participants may “buy out of [its] position if [it] is dispatched to a level that falls within [its] infeasible operating range.”<sup>72</sup> While NYISO presents this as an accommodation, this rule transparently places a financial burden on energy storage resources that does not apply to fossil-fired generation, whose provision of commitment parameters will ensure that no such resource is dispatched within its infeasible operating range and thus that no such resource will incur a financial penalty for failing to operate under such circumstances.

We underscore that despite these criticisms of NYISO’s approach, the ISO’s proposal to provide ISO-managed state of charge would be an excellent step if the ISO offers this as an *option*

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<sup>71</sup> NYISO Compliance Filing at 19.

<sup>72</sup> NYISO Compliance Filing at 21.

to energy storage resources, and if the ISO follows through on implementing a software solution that allows for multi-parameter bidding.<sup>73</sup> We urge the Commission to require NYISO to follow up on this option.

NYISO's justification for restricting energy storage resources' ability to make offers that include a commitment parameter is that its software would be incapable of accommodating such a change.<sup>74</sup> We respectfully suggest that the Commission require NYISO to try harder. NYISO explains that it worked with its software vendor to develop a prototype to accommodate non-continuous energy storage resources, but that the prototype could not handle the necessary computations.<sup>75</sup> But NYISO presents no evidence that it tried any other measures, or that this challenge is insurmountable. Respectfully, we contend that a participation model affecting what could soon constitute a significant portion of the market warrants a greater level of effort to find an efficient solution. Surely the necessary software capabilities can be developed if more resources devoted to finding a solution. Finding an efficient solution for energy storage dispatch is of paramount importance in a region where the state has already adopted a goal of deploying 3,000

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<sup>73</sup> For more on the benefits of an RTO/ISO offering an option for the RTO/ISO to manage a resource's state of charge, *see* Docket No. RM16-23, Comments of the Energy Storage Association on Electric Storage Participation in Regions with Organized Wholesale Markets, at 6, 17 n.24 (Feb. 13, 2017).

<sup>74</sup> NYISO explains that it worked with its "software vendor to develop a prototype and test the feasibility of implementing software that would accommodate non-continuous Energy Storage Resources," but found that "the time it took to solve its Day-Ahead Security Constrained Unit Commitment" under such a scenario "exceed[ed] currently acceptable standards." NYISO Compliance Filing at 19.

<sup>75</sup> NYISO Compliance Filing at 19.

MW of energy storage resources by 2030.<sup>76</sup> Without a specific directive from the Commission, NYISO's stakeholder process is very unlikely to devote adequate resources to this problem because incumbent generation (for whom storage is a competitor)<sup>77</sup> holds more voting power than energy storage developers who might potentially enter the market under such a scenario.

In sum, Order No. 841 makes clear that RTO/ISOs must allow energy storage resources the option of state of charge self-management, as it plays an important role the successful integration of energy storage resources into wholesale markets. NYISO should devote more resources to implementing an effective *option* for ISO-dispatch of energy storage resources that allows them to participate on equal terms with other resources, but it would not be just and reasonable for that to be the sole means for energy storage resources to sell in the capacity market.

**V. The Commission should open a generic docket to develop market rules for storage resources that are co-located with generation.**

NYISO's Order No. 841 compliance filing is focused solely on stand-alone energy storage resources. It has become apparent, however, that resource developers will also seek to co-locate energy storage with generation at a shared point of interconnection. Already, the New York State Energy Research & Development Authority ("NYSERDA") has awarded several long-term renewable energy certificate contracts to projects that include both a renewable energy and an energy storage component. NYSEDA's 2017 large-scale renewables solicitation awarded

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<sup>76</sup> See New York Public Service Commission, Case 18-E-0130, Order Establishing Energy Storage Goal and Deployment Policy, at 96 (Dec. 13, 2018).

<sup>77</sup> While many incumbent suppliers may seek to develop energy storage projects themselves, they will earn more under a scenario in which such resources are not fully utilized and more incumbent generation than necessary clears in NYISO's capacity market. While load serving entities can be expected to support cost-reducing measures such as this software deployment, their incentive to put significant weight behind these preferences is not as strong as the incentive of incumbent suppliers to oppose the change because wholesale market costs are passed on to consumers.

renewable energy credits (“RECs”) to the 121.8 MW Bluestone project, which also features 6.2 MW of energy storage.<sup>78</sup> NYSERDA’s 2018 large-scale renewables solicitation awarded RECs to three different projects that included both a generation and an energy storage component.<sup>79</sup> It may be economically efficient for one or more of these projects to co-locate the generation and storage project components behind a single point of interconnection into the NYISO system. In order to facilitate that, NYISO would need to address questions such as what is the capacity value of such resources, how do they interconnect, and what resource type they should register as. We anticipate that similar issues will come up in other RTO/ISOs. Accordingly, we request the Commission to open a new docket to address this matter.

## **VI. Conclusion**

For the foregoing reasons, Public Interest Organizations respectfully request that the Commission reject NYISO’s compliance filing and set a deadline upon which the ISO must resubmit a participation model for energy storage resources that complies with Order No. 841. We also request the Commission to open a docket to address energy-storage resources that are co-located with generation.

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<sup>78</sup> See NYSERDA, 2017 Large-Scale Renewables Fact Sheet, <https://www.nyserda.ny.gov/-/media/Files/Programs/Clean-Energy-Standard/2017-RES-RFP-Results-Factsheet.pdf>; Craig Richmond, *Wind wins big in New York RFP*, Wind Power Monthly (Mar. 12, 2018), <https://www.windpowermonthly.com/article/1459285/wind-wins-big-new-york-rfp>.

<sup>79</sup> NYSERDA, 2018 Large-Scale Renewables Fact Sheet, <https://www.nyserda.ny.gov/-/media/Files/Programs/LSR/RES-Solicitation-Fact-Sheet.pdf>.

Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, DC this 7<sup>th</sup> day of February 2019.

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