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|  | Planning Advisory Committee |
|  | Michael I. Henderson and Carissa P. Sedlacek |
|  | July 8, 2019 |
|  | RSP19 Comment Submittal |

ISO New England, Inc. (the ISO) has posted the draft 2019 Regional System Plan (RSP19) for review by interested stakeholders, especially the Planning Advisory Committee (PAC). Comments to RSP19 may be submitted to the ISO in writing via email to [pacmatters@iso-ne.com](mailto:pacmatters@iso-ne.com) no later than **July 24, 2019.** The attached form should be used to submit comments, and directions are listed below.

**Directions**

* Comments must be relevant to information previously presented to PAC and not introduce new scopes of work
  + ISO and PAC have discussed the scope of work and draft study results summarized in the report
  + The report is approximately 180 content pages and provides references to detailed information
* Please focus ***comments on the substance*** of the report
  + ISO’s Technical Editor will reflect comments in the report as appropriate to avoid repetition, etc.
  + The final report will be fully copy edited, contain revised footnotes with live links, and will reflect updates to items marked in yellow within the report
* Original comments will be publicly posted on the ISO website and as such should not discuss CEII materials. Although RSP does not discuss CEII materials, it does include links to CEII protected materials for those interested in more details.
* Those wishing to submit comments must submit them to [pacmatters@iso-ne.com](mailto:pacmatters@iso-ne.com) using the ***form*** attached to this memo
  + Please indicate the pages and section numbers
  + Individual comments pertaining to each page of the RSP should be entered separately into the form
  + Redlined comments to the draft RSP19 are acceptable, but need to appear in the appropriate column of the form for consideration
  + Do not send comments in PDF format

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| **RSP19 Comment Form** | | | | |
| **Page Number** | **RSP Section** | **Commenter (Name/Organization)** | **Comment** | **Initial ISO Response** |
| 1 | Executive Summary, first bullet | Synapse, on behalf of Maine OPA and PowerOptions | Suggest change from “reliability issues have risen” to “reliability issues may arise”. We have not actually suffered any such reliability or energy-security issues. To date we have had only market price spikes and shifts between fuel. |  |
| 1 | Executive Summary, second bullet | Synapse, on behalf of Maine OPA and PowerOptions | Suggest change from “Transmission improvements are needed” to “Transmission improvements may be needed”. We have not built a major transmission project for reliability in several years. New offshore wind projects may land at well-connected points on the existing system, such as Brayton Point, and the same may be true for Mystic. Depending upon what is proposed, we cannot say that new projects will be needed, only that they might be. |  |
| 1 | Executive Summary, third bullet | Synapse, on behalf of Maine OPA and PowerOptions | Suggest changing the entire parenthetical “(which use power electronics…power systems)” to “(which operate asynchronously)”. As written, it implies that they operate at a different frequency, which we don’t think is what is intended. |  |
| 1 | Executive Summary, third bullet | Synapse, on behalf of Maine OPA and PowerOptions | Suggest change from “requires transmission upgrades and control system improvements” to “may require transmission equipment” |  |
| 2 | Executive Summary | Synapse, on behalf of Maine OPA and PowerOptions | The sentence “The development of renewable resources, EE, and imports and the continued investment in gas-efficiency measures will help mitigate these risks” should also include energy storage. |  |
| 2 | Executive Summary | Synapse, on behalf of Maine OPA and PowerOptions | Suggest an explanation of the difference between the published “$1.3 billion of planned transmission upgrades over the next 10 years” to the value in slide 4 of the 5-year RNS rate forecast slides, which states > $3.5b over the next 4 years. The $1.3b value also contradicts the $4b value found on page 93. Please verify the correct value and provide additional information about how this value was calculated.  How much of the $1.3b will be charged to customers? And which projects are included in this cost estimate? |  |
| 3 | 1.1.1 | Synapse, on behalf of Maine OPA and PowerOptions | Suggest the ISO state clearly whether or not energy storage is included in the RSP19 peak demand forecasts. Anyone who installs on-site storage (i.e., BTM) will always use it to reduce their load during peak hours to avoid transmission and capacity costs. ISO should assume that every MW of storage that exists is discharged during the peak hour.  We suggest that storage merits its own bullet point in the list below. Even if the ISO doesn’t assume any value from storage, the ISO could state that they know some value exists, they cannot yet predict how much and that they are watching it and will include it in RSP21. |  |
| 5 | 1.1.2 | Synapse, on behalf of Maine OPA and PowerOptions | In the sentence “Transmission improvements can continue to help reduce or eliminate operating-reserve needs in the major import areas” – we suggest including energy storage, since providing reserves is a key benefit of storage. |  |
| 5 | 1.1.2 | Synapse, on behalf of Maine OPA and PowerOptions | In the sentence “This includes 11,316 MW of wind resources and 3,070 MW of large-scale PV” – we suggest including the amount of storage (1,381 MW). And please specify if this includes behind-the-meter, front-of-the-meter, or both. |  |
| 10 | 1.1.5 | Synapse, on behalf of Maine OPA and PowerOptions | Suggest deleting “System events, as well as...” and just starting with “Several interregional and ISO studies”.  We have not had any system reliability events, even during cold snaps. Studies show that it might happen, but it has not happened. |  |
| 11 | 1.1.5.2 | Synapse, on behalf of Maine OPA and PowerOptions | Pertaining to paragraph starting with “Renewable resources play a valuable…” –We suggest that the ISO explain whether or not battery storage currently in the queue was modeled as an option to mitigate these risks. |  |
| 11 | 1.1.5.2 | Synapse, on behalf of Maine OPA and PowerOptions | Suggest adding language to clarify the intensity of this cold snap. We could say “historic” or the “deepest cold snap recorded in New England in 100 years”. This was not just a regular cold snap; it was much more severe and still “regional demand was met”, as is stated at the end of this paragraph. |  |
| 11 | 1.1.5.3 | Synapse, on behalf of Maine OPA and PowerOptions | Pertaining to the sentence ending with “LNG or CNG storage would also benefit the New England system” -- This statement is too broad to be considered accurate. Certain types of infrastructure additions would improve reliability metrics during a small subset of hours but would be a very costly investment. If the phrase was limited to “benefit the reliable operation of the New England system but could be costly” that would be more accurate. |  |
| 12 | 1.1.6 | Synapse, on behalf of Maine OPA and PowerOptions | Suggest that the ISO state the quantity of offshore wind and HQ ties. It is a very large number and omitting the quantity leaves the reader with an inaccurate picture. If it is possible to do so briefly, please add in-service dates as well, as that would be helpful to the reader. |  |
| 13 | 1.1.7 | Synapse, on behalf of Maine OPA and PowerOptions | To the sentence ending in “present protection and control issues”, we suggest adding “unless and until these inverters provide these ancillary services, as smart inverters are capable of doing”. This is described in Section 9.2. |  |
| 15 | 1.1.7.3 | Synapse, on behalf of Maine OPA and PowerOptions | To the sentence “Natural gas will remain an important source of fuel for electric power generators” we suggest adding “during the planning period” |  |
| 15 | 1.1.7.3 | Synapse, on behalf of Maine OPA and PowerOptions | Suggest deleting the clause “the higher cost of new entry for renewables and”, as this phrase is no longer accurate. |  |
| 16 | 1.1.7.3 | Synapse, on behalf of Maine OPA and PowerOptions | Pertaining to the clause, “which showed an inability to satisfy the installed capacity of all natural-gas-fired generating units across the six resource-expansion scenarios” -- Suggest rewording this or deleting. Earlier in the Executive Summary the ISO states that natural gas will grow for a few years, and then shrink. That is inconsistent with this finding. Further, it is probably not necessary for the natural gas system to “satisfy the installed capacity of all natural-gas-fired … units”. There is no requirement that all of the gas units are running at one time, and might not ever be necessary, now or in the future, to meet load in real-time. |  |
| 16 | 1.2 | Synapse, on behalf of Maine OPA and PowerOptions | Suggest replacing “NERC and NPCC will drive” with “NERC and NPCC may drive”, as is done elsewhere. This is not necessarily true, especially if smart inverters increase transfer limits, improve power system quality, provide voltage regulation, and more (as noted elsewhere in the draft plan) |  |
| 17 | 1.2 | Synapse, on behalf of Maine OPA and PowerOptions | Suggest adding “during historic cold snaps” after the words “can pose reliability issues and lead to price spikes in the wholesale electricity markets”. This would more accurately describe to the reader when that situation might occur. |  |
| 17 | 1.2 | Synapse, on behalf of Maine OPA and PowerOptions | The sentence “The greater development of renewable resources, energy efficiency…” does not include battery storage. Suggest including or adding an explanation why it is not included. |  |
| 35 | 3 | Synapse, on behalf of Maine OPA and PowerOptions | In the sentence beginning “Energy efficiency is considered…”, we request that the ISO clarify if “BTM distributed generation” includes BTM storage. |  |
| 162 | 9.4.2 | Synapse, on behalf of Maine OPA and PowerOptions | Paragraph starting with “Smart-inverter applications to DERs provide…” – we suggest that some of this language should be reflected in the Executive Summary. They can, if implanted well, “increase transfer limits”, “improve power quality”, “provide voltage regulation”, etc. |  |
| 163 | 9.4.4 | Synapse, on behalf of Maine OPA and PowerOptions | Suggest removing the sentence beginning with, “Interestingly, the more storage added to system, the less economical…”. While potentially true, it is misleading because it provides a one-sentence treatment of a very complicated issue. Changes in the pattern of load or renewable energy could drastically change how we view storage today or provide reserve opportunities equal to or greater than energy arbitrage. Storage used to capture solar or wind power clipped by inverters may be a big opportunity. There are so many possibilities that, when omitted, offered only a skewed perspective. |  |
| 166 | 9.6.3 | Synapse, on behalf of Maine OPA and PowerOptions | Suggest removing “and less predictable” from the second-to-last paragraph. Price responsive demand might actually be more predictable if we can see a clear response to time-varying rates at the distribution level. |  |
| 166 | 9.6.4 | Synapse, on behalf of Maine OPA and PowerOptions | Suggest including the quantity of MW that have been processed in the queue, to inform the reader of that magnitude. |  |
| 168 | 9.6.6 | Synapse, on behalf of Maine OPA and PowerOptions | Suggest slight change of words from “to obtain a CSO” to “the potential to obtain a CSO” to be clear that the substitution auction does not fully “enable” or guarantee a CSO … it only happens if enough existing resources choose to exit, which was not true in FCA-13 and unlikely to be true in FCA-14, for example. |  |