



July 13, 2018

To: PAC Matters

Subject: Feedback on the Second Maine Resource Integration Study (MRI 2)

RENEW appreciates the opportunity to submit the below comments regarding the ISO's initial presentation of the second Maine Resource Integration Study on June 13, 2018.

Where ISO has discretion regarding the conduct of the MRI 2 study, RENEW suggests that the ISO take into account the preferences of those projects that are eligible or may become eligible to join the cluster. While it is helpful and appreciated for all PAC members to be able to provide feedback on the MRI 2 plans, the feedback of these parties that are most directly impacted should take precedence.

Cluster Eligibility

0 MW Queue positions – The presentation identified queue positions 745, 746, 747, 748, and 749 as cluster eligible. From the information in the queue, it does not appear as though these five queue positions should be eligible for the second cluster. The queue shows that these CNR queue positions are for 0 net MW and the characteristics of these five queue positions appear to align closely with the five generator queue positions that are in the first Maine cluster. If ISO does believe these queue positions should be eligible, it would be helpful for ISO to explain why.

Queue Position with POI in Massachusetts - QP672, shown in the queue to be a 630 MW wind farm in Maine proposing to connect directly to the K Street substation in Boston, was not eligible for MRI 1 because the infrastructure needed to interconnect it to Boston was not common with the infrastructure required to interconnect the other MRI 1 projects to the AC network in Maine. For MRI 2 however, ISO has identified a need for the cluster to interconnect directly to southern New England. It has therefore determined that this project's interconnection infrastructure is common with that of the other cluster eligible projects, making this project cluster-eligible. The impact of this is that the interconnection study for QP 672, which the queue shows was under way prior to the June MRI 2 presentation, has been stopped mid-way through and the project will start over as part of this cluster rather than being allowed to continue with their serial study.

The cluster process was meant to address conditions where there is a queue backlog and projects are having trouble proceeding through the interconnection process because of it. From the information in the queue, it appears that QP 672 elected to interconnect directly to Boston utilizing an ETU in order to get around the backlog and as a result has been proceeding expeditiously through the process. If QP 672

would prefer to continue with the process it was in and does not feel that it needs to share its interconnection upgrades with members of the cluster, ISO should allow this project to remain outside of the cluster. It appears that the Tariff allows the ISO to do so, as this would be a determination that the project does not require significant common transmission infrastructure in order to interconnect. However, if QP 672 would prefer to share its interconnection upgrades with the cluster and to use common transmission infrastructure, then it would make sense for the project to be cluster eligible. In short, the ISO should rely on the preference of QP 672 when determining its eligibility.

Additionally, if any other queue positions are similarly situated at the time that the final eligibility determination is to be made, ISO should rely on the preference of those projects whether to be studied serially or in the cluster.

Oversubscribed MWs from First Cluster – QP 639 met all of the requirements for entry into the first cluster but, due to oversubscription, was not included in the Cluster System Impact Study. ISO noted its plan to study QP 639 serially following the first CSIS and prior to the MRI 2 study. There were a number of questions at the PAC meeting about this.

The Tariff language and ISO's FERC filing of the cluster study rules seem to indicate that if there is an oversubscribed project, ISO will immediately initiate a subsequent cluster study that would include both the oversubscribed project(s) as well as any new queue positions that are cluster eligible.¹ This assumes that the oversubscribed project would be eligible for a new cluster study (e.g., that it requires significant new transmission infrastructure in common with other projects in the queue).

Given that the QP 639 study is now proceeding in the serial study process, the PAC is not aware of what transmission upgrades ISO may or may not have identified as necessary for this project to interconnect. Assuming that QP 639 does not require new transmission infrastructure in order to interconnect that is common with other projects in the queue, then we agree with ISO's interpretation that it would not be eligible for a subsequent cluster and would need to be studied serially, as ISO is doing. However, if in the interconnection study process it is identified that QP 639 does in fact need new transmission infrastructure in order to interconnect and that infrastructure is similarly needed by another project in order to interconnect, then this should trigger the creation of a cluster.

HVDC ETU Eligibility

During the PAC discussion it was mentioned that there is an HVDC ETU from Maine to Massachusetts that has completed its SIS and that there are other similar HVDC ETUs in the queue under study. Since none of these have been identified yet as

¹ McBride Testimony at 55 in ISO's September 1, 2017 filing of the cluster study proposal.

potentially cluster eligible, we assume that their serial interconnection studies will continue to proceed. If an HVDC ETU that would otherwise be eligible to take the place of the CETU identified in MRI 2 has completed its System Impact Study prior to the final MRI 2 report being issued, will it be possible for the cluster eligible generators to work with that ETU in place of the CETU or would ISO only allow HVDC ETUs that have not completed their SIS and have been identified as cluster-eligible to take the place of the CETU?

Other Queue Positions Under Consideration

It was discussed at the PAC meeting that ISO is considering additional queue positions for cluster eligibility. It would be helpful for ISO to share which other queue positions are being considered and what ISO is looking at to determine final eligibility.

Going Beyond the Minimum Interconnection Standard

The interconnection standards specify that projects within a cluster will not be dispatched against each other to resolve system overloads in the interconnection study. As with serial studies, the cluster may be dispatched against any other existing or higher-queued generators. Though it is clear that interconnecting the second Maine cluster to the AC network in Maine and dispatching it against Maine resources would lead to significant congestion, this appears to be what the interconnection standards call for.

With the exception of QP 672, all of the cluster-eligible projects selected a point of interconnection within Maine. Given what is now known about congestion within Maine that was not known at the time these interconnection requests were first submitted, it would be reasonable to offer the option for these projects to change their POI to southern New England such that they can be studied in a cluster that bypasses the Maine congestion and interconnects directly in Southern New England. However, if these projects do not elect to change their POI to Southern New England, then it would only be appropriate to proceed with an interconnection study (cluster or otherwise) using their proposed POIs within Maine.

Although interconnecting these projects to Southern New England would lead to a much stronger interconnection with reduced congestion, an ability to qualify for the FCM, and likely a simpler study, it also increases the expected price tag associated with the cluster interconnection upgrades by an order of magnitude. Only the project sponsors can evaluate whether the benefit of interconnecting directly to southern New England outweighs the significant added cost.

While it may not be the ISO's desired outcome, or that of the existing and higher-queued generators in Maine, the interconnection procedures appear to call for the minimal interconnection within Maine unless the project sponsors elect to change their POIs.

If the ISO were to continue ahead with a requirement that the cluster eligible projects interconnect directly to Southern New England due to a desire not to interconnect more generation within Maine beyond the first cluster and QP 639, what would happen if the first cluster were to collapse and/or QP639 were to withdraw later on? Would ISO then revert to studying these second cluster projects interconnecting within Maine? As with the serial process, would it not be better to allow the project sponsors to make their decisions regarding their choice of POI and simply study that?

Over-Building the Generation on the CETU

If the MRI 2 study ultimately concludes that the cluster must interconnect directly to southern New England via a radial transmission line, the cost of the CETU will be quite high. Though ISO has said the radial line rating will be limited to 1,200 MW, if all of the generators interconnecting to the line are wind, solar, and battery storage projects with variable output, it likely makes sense to allow more than 1,200 MW of generation to interconnect to the line.

Finding the right balance between reduced per-MW transmission costs by over-subscribing the line versus the expected congestion that this will cause on the transmission line is something that would need additional exploration. The optimal over subscription quantity would depend on the mix of technologies connecting to the line and their locations. This is worth further discussion at the PAC, and the input of the cluster-eligible projects should be encouraged before any determination is made.

Batteries in the Cluster

Battery projects may join the cluster and operate in two ways. The battery could interconnect as a regular generator would, enabling it to discharge at full output at the same time as the other generators in the cluster. Alternatively, the battery projects could indicate that they will be limited to discharging when one or more cluster generators are not at full output. In the second scenario, adding battery storage MWs does not increase the total maximum MW output of the cluster.

If a battery storage project selects to be limited as in the second scenario, it raises questions about how cost allocation would work given that this is not addressed in the cluster cost allocation rules. It also raises the question of whether the battery MWs count towards the total number of MWs allowed to join the cluster or not. These two issues should be discussed and made clear at future PAC discussions of the MRI 2 study so that project sponsors of battery storage projects can plan for possible entry into the cluster.

Thank you for your consideration of these comments.

Sincerely,
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On behalf of RENEW Northeast