

RENEW AMENDMENT #1 TO ORDER 2023 PROPOSAL

CREATE NEW AS-AVAILABLE CAPACITY INTERCONNECTION REQUEST OPTION

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The Members of RENEW

The comments expressed herein represent the views of RENEW and not necessarily those of any particular member.



INTRODUCTION

RENEW developed six conceptual amendments to ISO's Order 2023 compliance proposal, [presented at the January 4, 2024 TC meeting](#).

At the January 23, 2024 TC meeting, RENEW narrowed this down to the following three amendments:

1. **Create new as-available capacity interconnection request option** [\[link\]](#)
2. Allocate study costs separately for NRIS and CNRIS portions of the cluster study [\[link\]](#)
3. Allow resources with a completed SIS to qualify for capacity market activities through FCA 19 in 2024 [\[link\]](#)

Topic of this presentation

Today RENEW offers only the first two amendments, as ISO has incorporated the third into their proposal.

- A customer goes through the interconnection study process to determine the upgrades required to obtain energy interconnection service
 - If the upgrades are reasonable, the project may move forward as energy-only and/or pursue capacity interconnection service
- The customer goes through the FCM qualification process to determine any incremental upgrades required to obtain capacity interconnection service
 - If no upgrades are identified, or the upgrade cost is manageable, the project may move forward with obtaining capacity interconnection service
 - If the upgrade cost is too high,
 - the project can forego capacity interconnection service and continue moving ahead with an energy only interconnection, **or**
 - **if the project isn't viable without capacity revenues, it would withdraw its interconnection request**
 - If the upgrades are too complex to determine during the qual process or would take too long to build, the project is not qualified for capacity and may move ahead as energy-only **or withdraw**

BACKGROUND – FEW RESOURCES PAY FOR CAPACITY UPGRADES

- As far as we are aware (there is little transparency), nearly all resources that have obtained capacity obligations to date have done so without paying for capacity-related network upgrades.
 - When overloads are identified in the overlapping impact test, our understanding is that most resources either
 - withdraw their capacity, or
 - are not not qualified for the FCM and do not pursue the upgrades through other processes in order to later qualify
- For many projects, capacity revenues are not sufficient to justify upgrade costs
 - Capacity-related upgrade costs can run anywhere from low millions to hundreds of millions of dollars depending upon the overloads that need to be resolved
 - At \$2.50/kW-mo capacity clearing price, a 50MW solar project with 25MW of summer-only CSO would expect to earn \$250,000/yr in capacity revenue
 - A 100 MW wind farm with 14MW summer, 40 MW winter CSO would expect to earn \$940,000/yr
 - Capacity revenues are not high enough to justify paying much for capacity-related upgrades
 - Wind and solar projects are often viable as energy-only

BACKGROUND – FEW RESOURCES PAY FOR CAPACITY UPGRADES

- Our expectation is that many customers will continue to only want capacity to the extent that it does not require network upgrades
- These customers
 - would withdraw upon receiving cluster study results allocating capacity-related network upgrade costs to them (significant study work wasted, restudies triggered), or
 - simply would not apply for capacity interconnection service (problematic for capacity market competition and efficiency)

BACKGROUND - ISO COMPLIANCE PROPOSAL

Presented 1/4/24
With **update**

- A customer with a CNR interconnection request must complete the process for obtaining both energy and capacity interconnection service or must fully withdraw from the cluster
 - Eliminates current optionality related to capacity interconnection
- The cluster study report may show upgrade requirements for energy interconnection service are reasonable and the project would be viable to move forward as energy-only
- However, if the report shows unexpectedly high incremental upgrade requirements for capacity interconnection service, such that the project would not be viable, it would be required to withdraw
 - This project could pursue an energy-only interconnection in the subsequent cluster
- When the project withdraws it could trigger a restudy of both the NR and CNR portions of the cluster study
- Despite the helpful information in the heat map, there is no way for a customer to estimate its upgrade requirements with confidence due to the unknown of who else will be in the cluster

BACKGROUND - CONCERNS WITH THE ISO PROPOSAL

Presented 1/4/24
With **update**

- An otherwise-viable energy-only project could be made non-viable due to its capacity upgrade requirements
 - Its only option would be to withdraw
 - Could pursue an energy-only interconnection in the subsequent cluster
 - Would be charged the withdrawal penalty and would have to pay for a second cluster study
 - Would delay project by at least 18 months
 - High risk – no guarantee the energy-related upgrades in the subsequent cluster will be similar to those identified in the completed cluster study
- For the remaining cluster members, restudy delays, restudy costs, and risk of cascading withdrawals due to shifting cost allocation would all be greater than if the project were allowed to **drop its capacity request prior to ISO identifying capacity upgrades**
 - A withdrawal that occurs in ISO's proposal could trigger the need for a restudy
 - Allowing the customer to drop its capacity request as we propose would not require any restudy

BACKGROUND - CONCERNS WITH THE ISO PROPOSAL, CONTINUED

Presented 1/4/24
With **update**

- O2023 intended to reduce speculative interconnection requests and their subsequent withdrawals
- There is no way for a customer to reliably estimate its CNR upgrade costs before entering the cluster study process given the unknowns about other customers in the cluster
- RENEW **shares ISO's desire to create certainty for cluster participants and** prevent cascading withdrawals from the cluster, but believes the ISO proposal would exacerbate the concern rather than minimizing it
- The ISO proposal would prevent **certain** otherwise-viable energy-only projects from moving forward to commercial operation on a timely basis, result in additional withdrawals, reallocation of costs, and further withdrawals.
- The ISO proposal may create an incentive for customers to **delay or altogether avoid pursuing** a capacity interconnection
 - This would add costs and delays for interconnection customers
 - **This could reduce new supply available in the capacity market**

RENEW AMENDMENT #1 CONCEPT

- Extend the optionality of a capacity request that exists today into the new cluster process
- When a customer submits a CNR or CNRI interconnection request in the cluster study process (or when it elects to enter the transitional cluster study using an existing CNR or CNRI interconnection request) it would have two options:
 - **Option 1 (the option in the ISO proposal)** - a full CNR request in which ISO would identify all incremental upgrades required to achieve full capacity deliverability, and the customer must accept these upgrades or withdraw the full interconnection request
 - **Option 2 (new option created by this amendment)** - an as-available capacity interconnection, where the customer indicates that it requests capacity interconnection service only to the extent that it can do so without requiring incremental network upgrades

HOW THIS WORKS PROCEDURALLY – ISO PROPOSAL

- When submitting an Interconnection Request (or when submitting the transitional cluster study agreement), customers select NR (energy only) or CNR (energy + capacity)
- ISO performs cluster study
 - ISO identifies upgrade requirements for all energy requests
 - ISO sets up the capacity study case, which includes all resources at their established or requested capacity interconnection levels and any energy-related upgrades from the prior step
 - ISO determines whether there are any thermal overloads related to the requested capacity, according to the capacity capability interconnection standard
 - ISO identifies upgrade requirements to resolve all of these overloads
- ISO issues cluster study report, listing upgrade requirements and cost allocation
 - Customers must take it or leave it; they may accept all upgrades allocated to them for energy and capacity and move ahead in cluster, or else they must withdraw.

HOW THIS WORKS PROCEDURALLY – AMENDMENT

- When submitting an Interconnection Request (or when submitting the transitional cluster study agreement), customers select NR (energy only) or CNR (energy + capacity)
 - If they select CNR, they check off either Full CNR or As-Available CNR
- ISO performs cluster study
 - ISO identifies upgrade requirements for all energy requests
 - ISO sets up the capacity study case, which includes all resources at their established or requested capacity interconnection levels and any energy-related upgrades from the prior step
 - ISO determines whether there are any thermal overloads related to the requested capacity, according to the capacity capability interconnection standard
 - Any as-available capacity requests that contribute to the identified overloads are changed to energy-only requests and their capacity removed from the capacity study case
 - ISO determines remaining overloads related to remaining capacity requests
 - ISO identifies upgrade requirements to resolve all of these remaining overloads
- ISO issues cluster study report, listing upgrade requirements and cost allocation
 - Customers must take it or leave it; they may accept all upgrades allocated to them for energy and capacity and move ahead in cluster, or else they must withdraw.

HOW THIS WORKS PROCEDURALLY – AMENDMENT

- When submitting an Interconnection Request (or when submitting the transitional cluster study agreement), customers select NR (energy only) or CNR (energy + capacity)
 - If they select CNR, they check off either Full CNR or As-Available CNR
- ISO performs cluster study
 - ISO identifies upgrade requirements for all energy requests
 - ISO sets up the capacity study case, which includes all resources at their established or requested capacity and their interconnection levels and any energy-related upgrades from the prior study
 - ISO determines whether there are any thermal overloads related to the capacity capability interconnection standard
 - Any as-available capacity requests that contribute to the identified overloads are changed to energy-only requests and their capacity removed from the capacity study case
 - ISO determines remaining overloads related to remaining capacity requests
 - ISO identifies upgrade requirements to resolve all of these remaining overloads
- ISO issues cluster study report, listing upgrade requirements and cost allocation
 - Customers must take it or leave it; they may accept all upgrades allocated to them for energy and capacity and move ahead in cluster, or else they must withdraw.

This step takes a little extra time

But this step gets faster with fewer overloads to resolve

And fewer withdrawals happen in this step, making any restudies faster and reducing likelihood of a second restudy

HOW THIS WORKS PROCEDURALLY – AMENDMENT

- In the cluster study report, ISO would list
 - any capacity-related overloads initially identified,
 - the extent of the overloads,
 - which projects' interconnection service types were changed as a result of the overloads, and
 - which overloads were eliminated once these service types were changed
- Customers entering the next cluster cycle can use this information together with the heat map to make as informed a decision as possible about their capacity requests
- This information would create transparency for the region about where resources are unable to provide capacity due to deliverability challenges

BENEFITS FOR RESOURCES SELECTING AS-AVAILABLE CAPACITY

- A project that is viable as energy-only and is unable to pay for capacity upgrades can still attempt to get a capacity interconnection to the extent no upgrades are needed
 - Just like in today's process
- If capacity upgrades would be needed, the project can continue with the energy portion of its request
 - no withdrawal penalties, no 18+ month delay, no repeating the cluster study process
- The project can pursue a capacity interconnection in a later cluster if conditions appear favorable for doing so
- ISO would not have to go through the time intensive, costly, and unnecessary process of identifying upgrade solutions for a project to achieve capacity deliverability when the project has no ability to pay for capacity-related upgrades

BENEFITS FOR RESOURCES SELECTING FULL CAPACITY

- Projects that need a capacity interconnection to be viable, or expect to be able to pay for capacity upgrades, would elect a full CNR interconnection request
 - ISO would identify the capacity upgrades needed for these projects, and only for these projects
 - The cluster study should be completed faster and at lower cost
 - These projects can trust the capacity upgrade requirements and cost allocation results in the cluster study report because they do not assign a share of capacity upgrade costs to projects that are unable to pay for capacity upgrades
 - A restudy is less likely to be needed, and any any restudy that is needed should have fewer changes to upgrade requirements and cost shifting

TARIFF REDLINES

- Amendment redlines are shown in red against the ISO's 2/9/24 version of redlines in Schedule 22 (similar changes are in Schedules 23 and 25)

Section 5.1.1.2 Transitional Cluster Study:

All of the following must be included when an Interconnection Customer returns the Transitional Cluster Study Agreement:

(1) A selection of either Network ~~Energy-Resource Interconnection Service~~ or Capacity Network Resource Interconnection Service, where a request for CNR Interconnection Service shall specify Full CNR Interconnection Service or As-Available CNR Interconnection Service.

(2) A deposit of five million dollars (\$5,000,000) for Interconnection Requests seeking NR

~~Interconnection Service or CNR Interconnection Service~~ and one million (\$1,000,000) for

TARIFF REDLINES

Section 7.3 Scope of Cluster Study:

For purposes of identifying Network Upgrades necessary for the Capacity Capability Interconnection Standard, the Cluster Study shall determine whether there are any thermal violations resulting from the CNR and CNI requests and which Interconnection Requests contribute to those violations. Any Interconnection Customer that selected As-Available CNR Interconnection Service in its Interconnection Request in the form of Appendix 1 to this LGIP that is found to contribute to such thermal violations shall retain its Queue Position, however its service type shall change from CNR Interconnection Service to NR Interconnection Service. Network Upgrades necessary to resolve the remaining thermal violations, after any such service type changes, shall then be identified for the remaining CNR and CNI Interconnection Service requests. The Cluster Study Report shall include a list of all initially identified thermal violations, the extent of each violation, which Interconnection Requests' service types were changed as a result of these violations, and which of the initially identified thermal violations were eliminated as a result of the service type changes.

TARIFF REDLINES

Appendix I, Interconnection Request:

2. The types of Interconnection Service requested:

_____ Network Resource Interconnection Service (energy capability only)

_____ Capacity Network Resource Interconnection Service (energy capability and capacity capability), check one:

_____ Full Capacity Network Resource Interconnection Service (energy capability and, regardless of whether Network Upgrades are required to achieve it, capacity capability)

_____ As-Available Capacity Network Resource Interconnection Service (energy capability and, to the extent Network Upgrades are not required to achieve it, capacity capability)

~~If Capacity Network Resource Interconnection Service, does Interconnection Customer request Long Lead Facility treatment? Check: ___ Yes or ___ No~~

TARIFF REDLINES

Appendix 6, Transitional Cluster Study Agreement:

2.0 Interconnection Customer elects, and System Operator shall cause to be performed, a Transitional Cluster Study, and Interconnection Customer elects that System Operator study the Large Generating Facility's request for.

Network Resource Interconnection Service (energy capability only)

Capacity Network Resource Interconnection Service (energy capability and capacity capability), check one:

Full Capacity Network Resource Interconnection Service (energy capability and, regardless of whether Network Upgrades are required to achieve it, capacity capability)

As-Available Capacity Network Resource Interconnection Service (energy capability and, to the extent Network Upgrades are not required to achieve it, capacity capability)

Interconnection Customers seeking to complete studies for CNRIS for Interconnection Requests for which NRIS milestones have already been completed shall check this box and fill in the table below and check one:

Full CNRIS (regardless of whether Network Upgrades are required)

As-Available CNRIS (only to the extent Network Upgrades are not required)

<u>Service Level</u>	<u>Requested Net MW Capability at the Point of Interconnection</u>
<u>CNR Capability Summer</u>	
<u>CNR Capability Winter</u>	

CONCLUSION

- This amendment reflects the unique capacity market optionality provisions in New England and appropriately carries them forward into the new cluster process
- This amendment reduces study time and cost and the risk of restudies by only identifying capacity-related upgrades for those customers with a willingness/ability to pay for them
- This amendment creates more certainty in the cluster study process
- This amendment enables the clean energy transition, preventing excess costs and delays for clean energy projects pursuing an interconnection
- This amendment enables new resources entry into the capacity market by lowering the risk related to requesting a capacity interconnection

THANK YOU.

Questions/feedback welcome to:
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