



## Responses to Stakeholder Questions on Resource Interconnection Process

### 2021 Resource Interconnection Fair

Topic	Stakeholder	Stakeholder Question	CAISO Response
Policy	New Energy Consulting	Is CAISO intending to conduct another IPE process this year or next? What is the process to request topics for consideration under the next IPE?	We will be issuing a market notice soliciting topics in June.
Interconnection Application Options and Process	New Energy Consulting	Under ISP, if an applicant seeking to interconnect FCDS MWs passes ISP criteria, please confirm that no incremental study deposit is required to evaluate the deliverability portion of the ISP application as part of the next queue cluster.	Under an ISP, no additional study deposit is required for the portion of deliverability. The deliverability evaluation is included in the \$150,000 ISP study deposit.
Interconnection Application Options and Process	New Energy Consulting	If the ISP application is rejected, is the study deposit returned to IC or can it be, at the IC's option, be held and "rolled into" the next queue cluster?	If the ISP application does not meet the ISP criteria for eligibility or fails the independence test the unused portion of the study deposit is returned to the IC. The IC also has the option to have their application rolled into the queue cluster.
Interconnection Application Options and Process	New Energy Consulting	If an existing resource wishes to qualify existing or modified generating capacity as deliverable (FCDS) but not increase the maximum net-at-POI option, what is the path to submit a request? Put another way, can an Energy Only or Partially Deliverable resource enter the queue to secure FCDS or partially deliverable status?	There is no time limitation after going into commercial operation for an EO project to seek an allocation of TPD using allocation Group 7.



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Interconnection Application Options and Process	New Energy Consulting	<p>Please confirm that this is a feasible path for an Energy Only Resource to convert interconnected MWs to FC or PD status.</p> <p>The owner submits an IR for new MWs as FCDS at the exact same POI as the existing EO resource, either downsizes its EO resource (if it has not reached COD) or notifies of a retirement of MWs for the same amount as the MWs applied in the new FCDS IR and sets a retirement date just before the date of the online date of the new MWs in the FCDS IR.</p>	<p>These steps are not necessary. EO projects can use allocation Groups 4 - 7. Also, Interconnection customers at the same POI can transfer deliverability pursuant to Section 8.9.9 of Appendix DD. Interconnection customers cannot downsize to zero or retire before operational; they simply withdraw from queue.</p>
Interconnection Application Options and Process	New Energy Consulting	<p>Are rules regarding deliverability transfers written down anywhere? Are deliverability transfer requests managed by the Interconnection Study / Process team or by Queue Management?</p>	<p>Yes, Section 6.5.4 of the BPM for Generator Management</p>
Interconnection Application Options and Process	New Energy Consulting	<p>If a project that is 100 MW solar and 30 MW/ 120 MWh battery receives a TPD allocation of 50%, does it need to identify by a time certain how it wishes to apportion its allocated TPD? In the example given the project's study amount under SSN is ~ 90 MW (= ~ 60% x solar MW + 100 % battery MW) and ~ 40 MW under HSN (= ~ 10% x solar MW + 100 % battery MW). Under a TPD allocation of 50%, the project is likely to want to put all of the allocated TPD into the battery and the remainder, if any, into the solar. To secure this outcome, does the resource owner need to make a deliverability transfer request by a certain time after the initial partial TPD allocation? Remember also that HSN / SSN values can change at least for solar in subsequent restudies.</p>	<p>Apportionment could be done at the time of TPD allocation if different components have different status, or if the TPD allocation is for the hybrid interconnection request, the apportionment must be provided when the resource is added to the NQC list.</p>



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Interconnection Application Options and Process	Vistra Corp.	Can you explain how the Transmission Plan Deliverability available for allocation is determined?	TPD is determined by the deliverability assessment. The assessment first identifies overloads that are area constraints; then for each area constraint, the generation capacity behind the constraint is reduced until it is not overloaded. The remaining generation capacity is TPD.
Interconnection Application Options and Process	Vistra Corp.	Can you explain how the TP Deliverability available is allocated to eligible generating facilities?	In the TPD allocation, the generation capacity reduction is by the order of the allocation group, by the score within the same group, by the LDNU cost if same group and same score.
Interconnection Application Options and Process	Vistra Corp.	What are the eligibility criteria for the allocation?	GIDAP BPM section 6.2.9.4. Second Component of the Allocation Process: Allocating TP Deliverability to the Current Queue Cluster and Parked Projects is the best source of information for eligibility criteria, with the table that starts at the bottom of page 111 providing a good summary.
New Resource Implementation	New Energy Consulting	Why can't modifications requested after the NRI process has begun that that address inverter changes and COD changes be handled within the NRI process? What is the rational explanation that a design package submitted to the PTO under the project implementation process and under NRI (bucket 1) must also be submitted to CAISO (again) via an MMA? Note that nearly all solar / wind / battery projects do not make	Modifications can be made while a resource is going through the NRI process. Any change to approved inverters must be made via the MMA process with Queue Management. The inverter information supplied in the NRI process is the confirmation process that what was installed was what was



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		final inverter procurement until after NRI is initiated (In Service date minus 210 days).	approved.
New Resource Implementation	Vistra Corp.	When in the new resource implementation timeline are the Reliability Network Upgrades (RNU), Local Deliverability Network Upgrades (LDNU), and Area Delivery Network Upgrades (ADNU), Area Off-Peak Network Upgrades (AOPNU), or Local Off-Peak Network Upgrades (LOPNU) expected to be completed?	RNUs need to be in-service before connecting the project to the grid. However a limited operations study can be performed to potentially allow limited operations, including testing, until the RNU is completed. Required delivery network upgrades are needed before the project can obtain FCDS and can be after COD. Off-peak network upgrades are not needed before obtaining FCDS.
Studies, Study Results, and Project Responsibility	New Energy Consulting	Many batteries will use a mix of onsite generation and the transmission grid. Also, certain storage project that want to capture ITC benefits by using on-site solar only will still use the grid on occasion to charge or will use it a lot after 5 years. What should the applicant put here? What kind of projects should select "other"?	Energy Storage could use both charging source. Select "transmission grid" if using both.
Studies, Study Results, and Project Responsibility	New Energy Consulting	If a project has been in through the interconnection study process was studied with "on-site generation only" selected, is the project prevented from using the grid to charge? Or charge from the grid above some threshold? Does the project need to submit an MMA to charge from the grid at any level or above some threshold?	If studied for "on-site generation only", the Energy Storage does not charge from the grid. MMA is required to change the charging source to "transmission grid".



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Studies, Study Results, and Project Responsibility	New Energy Consulting	What is the modeling consequence of this selection? I.e., what interconnection facilities or RNUs are triggered as a result of this selection?	There could be IF and RNU changes when selecting a different charging source. IF difference would be the metering. RNU is rarely required for charging. Typically the overloads identified in the charging studies are mitigated through the congestion management.
Studies, Study Results, and Project Responsibility	New Energy Consulting	If a project shows less than 4 hours of discharge duration, how is it modeled for deliverability? For example, if a 100 MW / 200 MWh resource requests FCDS, is it studied as 50 MW for purposes of deliverability assessment?	Yes. Deliverability assessment studies 4-hour discharging capacity for Energy Storage. If not provided, it is set to MWh/4.
Studies, Study Results, and Project Responsibility	New Energy Consulting	2021 Participating transmission owner per proposed unit costs were recently posted on 2/22 and a meeting to review them with stakeholders was held on March 1. When can we expect these costs to be finalized? When can we expect these costs, once finalized, to be used in GIR study results?	The CAISO allows two weeks following the stakeholder meeting for stakeholder to review and comment. Following these two weeks, the CAISO and the PTO have two weeks to make any changes. The final per unit cost guide should be posted on the CAISO website by the end of March/early April. The new costs will be used in the C13 Phase II studies.
Studies, Study Results, and Project Responsibility	Vistra Corp.	Does CAISO use a specific software such as Power World or PSS@E?	GE PLSF and TARA are the study tools used.



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Studies, Study Results, and Project Responsibility	Vistra Corp.	How does the CAISO perform the study and what is the time period that is studied?	See presentation.
Studies, Study Results, and Project Responsibility	Vistra Corp.	How are solar and wind modelled in the studies?	<p>In reliability assessment, they are dispatched at full output to achieve interconnection service capacity initially.</p> <p>In deliverability assessment, they are modeled at reduced output level and vary for different location and different study scenarios. Please refer to on-peak and off-peak deliverability methodologies.</p> <p><a href="http://www.aiso.com/Documents/On-PeakDeliverabilityAssessmentMethodology.pdf">http://www.aiso.com/Documents/On-PeakDeliverabilityAssessmentMethodology.pdf</a>  <a href="http://www.aiso.com/Documents/Off-PeakDeliverabilityAssessmentMethodology.pdf">http://www.aiso.com/Documents/Off-PeakDeliverabilityAssessmentMethodology.pdf</a></p>
Studies, Study Results, and Project Responsibility	Vistra Corp.	Is on-shore versus off-shore wind modelled differently in the studies?	Dispatch assumptions for on-shore and off-shore winds are the same.
Agreements and Retirements	New Energy Consulting	Why are some PTOs allowed to file with FERC signed and conforming GIAs and others not? For example, PG&E does not file conforming signed GIAs at FERC but SCE does file such agreements?	In accordance with FERC rules a conformed GIA is filed with FERC through the Electronic Quarterly Reporting process. SCE has a business practice of filing the GIAs directly with FERC, not through the EQR process. But all GIAs are filed with FERC.



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Agreements and Retirements	Vistra Corp.	How does deliverability retention work at a site when a generating facility retires?	At the time the generator provides notice of retirement they have different options they can exercise. For additional information please see Section 12 of the BPM for Generator Management.
Queue Management	New Energy Consulting	<p>The tariff and Queue Management BPM allow a queue cluster project to extend its COD beyond seven (7) years provided the project meets certain CVC, including securing a PPA. If the criteria are not met the consequence is that the project loses its Full Capacity status.</p> <p>If the project is Energy Only or Partially Deliverable, does this mean it can be assured it can extend COD beyond seven years for the portion of MWs that are EO?</p>	Yes
Queue Management	New Energy Consulting	A project can meet CVC under all criteria except having a PPA and get an extension for COD beyond 7 years provided it secures a PPA within a year of requesting the "1x exemption". Does the delivery date of that PPA need to be on or before a certain date? For example, if a project is given the 1x extension and secures a PPA (that requires deliverability) by the date request by CAISO but that PPA has a COD that is 9- or 10-years beyond the date of the IR submission date, would that be accepted?	Yes, the project can align the Project's COD with the PPA date.