



California ISO

Data Transparency Stakeholder Process

As part of the Interconnection Process Enhancements 2021

May 24, 2022

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1 Introduction and Background

The Interconnection Process Enhancements (“IPE”) Initiative is the ISO’s ongoing commitment to improve its Generator Interconnection and Deliverability Allocation Procedures (“GIDAP”) and make process enhancements as resource interconnection needs evolve. The 2021 IPE initiative is being conducted at a particularly critical inflection point in resource development in California, and in the ISO footprint in particular, as current circumstances have led to a confluence of issues that are needing consideration in the ISO’s interconnection processes, related transmission and resource planning occurring at the ISO and state agencies, the procurement activities of load serving entities, and state policy development. Meeting the challenges facing timely, effective, reliable and economic resource and transmission development over the next decade and beyond will require enhancements and improved coordination across all fronts, and progress on each front must be considered in the context of improvements occurring in other parallel paths as well.

At the ISO’s initial stakeholder meeting on this initiative was October 19, 2021, Gridwell Consulting made a presentation of proposed issues, including the need for suitable data so that the stakeholders can independently evaluate the interconnection queue trends and be able to develop data driven opinions of the various reforms. As part of the December 6th 2021 IPE Issue Paper and Straw Proposal the ISO agreed that additional data, in a usable format, may be made available to market participants as public data. The ISO requested stakeholders provide specific data items that they wanted to have as public information. As such, stakeholders provided further details and the ISO agreed to run a parallel process to discuss the specific data elements and their availability. A Data Transparency Stakeholder call was held on April 5, 2022 to review and discuss the data that the ISO currently publishes, in what location, and also seek further stakeholder input on specific data requests.

This paper is intended to present the scope and initial proposed solutions to near-term and long-term issues based on comments received from stakeholders. This paper is sectioned based on the following topics:

- General Comments
- Transmission Development Forum
- TPD Allocation Data
- Transmission Data
- Interconnection Queue Data and Site Exclusivity
- Queue Clean-up and RIMS

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The ISO understands the stakeholder's objective to obtain more information regarding the ISO's interconnection queue and transmission system in the ever-evolving quest to accurately identify the best solutions for siting and bringing projects on-line faster. There are many variables and considerations in the evaluation process and the ability to change or provide additional data over and above the information that the ISO already publishes is the focus of this process. A number of variables and considerations need to be addressed including, but are not limited to, the following:

- ❖ Is the data considered confidential by the tariff, by the customers, by the ISO, or by FERC?
- ❖ Can the data be shared publicly without consensus or specific tariff updates or approvals?
- ❖ Stakeholders are seeking certain data in a certain format which is not consistent, and may be inconsistent with the format the ISO has the data in.
- ❖ The resources (people-hours, technology, time, etc.) required to format and restructure data in other formats can be a very significant undertaking.

2 General Comments and Overview

The ISO received comments from eight stakeholders generally supporting the concepts that additional data transparency may reduce the queue size and avoid wasted resources. EDF-Renewables, AES Clean Energy, LSA, ACP-California, California Energy Storage Alliance ("CESA"), SDG&E, and CalWEA would like the additional data to improve decision making on how to proceed in the interconnection queue. The following are general comments that the stakeholders have raised that do not fall within the other categories identified in this paper.

LSA noted that they rely on responsive information from the ISO about the reasonableness of providing this information in different ways and asked the ISO to consider alternatives if specific information cannot be shared. The ISO understands the importance of timely and accurate data for all parties to efficiently and accurately evaluate any various set of information for various reasons. It is not clear, however, what is meant by an 'alternative' if certain information cannot be shared. Through this initiative, the ISO has and will continue to evaluate what can be shared, in what format, and in what timeframe.

EDF-R suggested the use of unique transmission upgrade numbers to eliminate confusion caused by changing transmission naming conventions between engineers and various reports. The ISO notes the implementation and timing of specific resource numbers to identify specific upgrades through their lifecycle can be beneficial and also a

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challenging effort. Upgrades change and evolve over time. The Phase I study may provide more generic results while the Phase II study results will likely be more specific, and, the annual reassessment study results will be even more specific and a likely change from the originally-proposed upgrade. Then once the upgrade moves to construction, testing and energization, different components can be grouped together and are then identified as a sub-project of the overall network upgrade. There are various identifiers that can be tied to upgrades as identified, however, there may not be consistency or a unified use of those identifiers. That said though, the ISO will evaluate this suggestion, discuss this concept with the Participating TOs, and consider implementing some sort of identification number for each upgrade identified in the study processes. This can be further discussed in the Transmission Develop Forum as described below.

CalWEA urged the ISO to establish a timeline for posting study data and include the anticipated posting dates as part of the study schedule in the study plans available on the Market Participant Portal (“MPP”). They suggested that study data should be posted a few weeks after the ISO completes the corresponding study task through the study process. Timely posting of the data helps developers make development decisions. The ISO tariff, Appendix DD, Section 2.3 Interconnection Base Case Data, provides that the ISO and Participating TOs will maintain and update base case data and provide guidelines on when it shall be posted. Additionally, the ISO works to post such study data and information as soon as reasonably possible following the conclusion of a given study.

CESA requested that the ISO consider ways to structure the information to make it easier for stakeholders to follow the “bread crumbs” of all the presented information. That is, the ISO should consider ways to establish a consistent list of data fields used in reports that flow between resource and transmission planners. The ISO understands the request to provide and structure data in a more useable format. The ISO will take this into consideration as it works to evaluate how changes in the publication of data could bring value to the stakeholders and the ISO alike. The ISO is not committing here to provide data in a single source, but will continue to review other methods of providing data in different formats.

AES Clean Energy requested that ISO review the process for gaining access to the Market Participant Portal. AES Clean Energy noted that the process can be lengthy which puts burden on the stakeholders to gain access to and utilize the information. The existing process for gaining access to MPP is that once the ISO receives an executed Non-Disclosure Agreement (“NDA”) and associated exhibit(s), the NDA review and implementation of the UAA generally takes the ISO roughly 30 days to complete. This, of course, is assuming the NDA and UAA forms are complete and accurate upon submittal. Extra time is required for all parties to cure any errors and re-review the

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documents prior to full implementation. There may also be extra time needed to provision access (to oneself or others) and download the security certificate to complete the process. Note that authorization to the MPP and individual data is provided based on business need and on a case-by-case basis. Users can only see the data that they have access to. Public data can also be obtained from the [CAISO's OASIS](#) or [\[software\] Developer site](#).

REV Renewables requested that the ISO include item 6.8 from the IPE Phase I Revised Straw Proposal (requesting the PTO/ISO should start planning for all upgrades after NTP that are required for a project to attain FCDS) into Phase II of IPE. This topic will continue to be included in the IPE Phase II paper. Please refer to the IPE stakeholder process for further discussion.

3 Transmission Development Forum

ACP-California and LSA appreciate and support the continued efforts of the Transmission Development Forum and requests that the following information be provided:

1. The original anticipated in-service date for the project was first approved/included in a LGIA
2. The expected in-service date that was presented at the prior Transmission Development Forum
3. The current expected in-service date
4. Metrics on the amount of capacity in the queue which are dependent on the relevant project to interconnect or achieve deliverability
5. Primary cause of any delays in development that are occurring
6. identify capacity that could reach COD before all upgrades for the cluster are complete

The ISO appreciates that stakeholders support the transmission development forum and, to that end, prefers to maintain consistency in the comments relative to the specific stakeholder process underway. As such, the ISO Transmission Planning team has noted the comments above and recommends that stakeholders also provide comments via the Transmission Development Forum stakeholder comment process.

Specific to LSA's comment to review which projects may achieve COD before upgrades are completed, the ISO would note that the ISO utilizes the Limited Operation Study

process, as further described in the BPM for Generator Management, Section 8 to determine if projects may be able to achieve COD in advance of completing all network upgrades. These efforts will continue in the Transmission Development Forum and not be considered as part of this data transparency effort.

4 TPD Allocation Data

Many stakeholders requested that project-specific Partial Capacity Delivery Status (“PCDS”) and Interim Deliverability Service (“IDS”) be made available. The ISO will continue to review its ability to report out on PCDS or IDS data. This topic is further discussed in Section 6 below and because the level of PCDS and IDS is currently considered confidential, the ISO will be included this issue for review in the 2021 IPE Phase 2 paper.

ACP California requested additional information from the TPD Allocation reports, and supports additional information or a new supplemental report to the Phase I study to illustrate where there is still TP Deliverability on the system. Where there is TP Deliverability remaining on the system within the TPD allocation report itself or as a supplemental report to the Phase I study. Also, ISO should provide the results of the TPD allocation study, the 5% dfax circle for identified constraints and deliverability in tabular or online map formats so they can be easily visualized by stakeholders and used for their assessments.

The 2022 TPD Allocation Report posted under the 2022 Reassessment on the MPP provides information regarding where deliverability is available behind known constraints. The 5% dfax circle information is already provided in the diagrams included in the 2022 TPD Allocation Report. The report also provides information regarding where deliverability (TPD) is available and behind known constraints. The transmission capabilities paper also provides remaining deliverability availability.

Reference: <http://www.caiso.com/Documents/RevisedWhitePaper-2021TransmissionCapabilityEstimates-CPUCResourcePlanningProcess.pdf>

LSA requested the ISO identify areas where TP Deliverability has ‘run out’, where projects might drop out, and/or where there may be potential for deliverability-transfer opportunities. LSA understands the analytical difficulties involved with this estimation, but believes the information is critical for project siting analyses. As discussed above, that information is already in the various reports. LSA also requested the PCDS information and in which TPD allocation Group a project received its allocation, for projects as a whole and individual phases, so developers can see how much

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deliverability was awarded to those projects and phases. This subject is discussed further in Section 6 below.

CalWEA suggested that the TPD allocation report could include a PTO-level summary of how many candidates (and associated MW) received an allocation in the current cycle. CESA believes that several transmission data categories capture information that could be used to calculate remaining deliverability, such as the MW available without upgrades, as well as where and how much Transmission Plan Deliverability (TPD) remains. CESA supports efforts to make available deliverability information more centralized and readily available and accessible.

REV Renewables adds that it will be helpful to further discuss issues related to deliverability status if the project achieves COD and does not trigger the need of shared upgrade itself based on annual NQC studies. In this instance, REV Renewables strongly believes that giving FCDS status to projects creates financial incentive to bring the project online in a timely manner and reduces development risks for projects.

Acknowledging each of these requests, the CAISO performs an operational Deliverability Assessment as part of the Phase II Interconnection Study. The operational Deliverability Assessment is performed for each applicable Queue Cluster Study group for each applicable study year through the prior year before all of the required Delivery Network Upgrades are in-service. The study results for the operational Deliverability Assessment are advisory only, based on assumptions of the in-service date for Deliverability Network upgrades, and provided on a cluster-by-cluster level of detail for informational purposes only.

AES Clean Energy provided a number of suggestions as follows:

- The ISO should release the deliverability assessment base cases for each cluster as soon as they are created. This data can be provided in its existing format, but there is often a delay in publication, and we would like access to base cases sooner.
- The ISO TPD report should include the list of Non-Operational Prior Commitments by queue position and status.
- The ISO should provide more visibility in the TPD area reports of the results of the Local Capacity Technical Study reports, which shows the need of generation at each local area and sub area.

The ISO's master deliverability case is typically posted as soon as it is created on the MPP. Non-operational and associated TPD allocation information for each project is currently considered confidential as market sensitive information. With respect to the

request for more visibility, the ISO provides this information in the Local Capacity Technical Study reports already.

5 Transmission Data

Stakeholders provided a number of comments and suggestions related to the ISO transmission system; they are as follows:

LSA suggests to include in Phase II Studies an examination of the longest lead-time Network Upgrade and determine/state the MWs that could connect without it; and also allow projects with earlier requested CODs (before the upgrade would be triggered) to use a COD in their GIAs without the upgrade, subject to change if they later delay their CODs to be after others in the cluster. The ISO is concerned with this suggestion as the timelines for completing the cluster studies are already too tight. Adding more work to the scope would require more time to complete the cluster studies and delay the overall interconnection process. The ISO is not clear on LSA's second comment. If the suggestion is to allow projects to come online ahead of the upgrades being completed, a Limited Operation Study would be required prior to the project achieving synchronization and that process is already available to interconnection customers with earlier CODs.

CalWEA recommends all other Participating TO area reports include the boundary description like the SCE reports. The public document "Affected System Contact List" on the ISO website currently has a description of each study area. The description should be updated to match the area reports and clearly identify the electrical boundary, instead of the general geographic locations. The ISO notes that the study area boundaries are established for work load management purposes only and not intended to be a strict identifier of the electrical boundary. The group study areas are determined by the analysis tools; the electrical connectivity and impedances; and are provided in the study results. In addition, the study areas may change from time-to-time based on the amount of generation in an area for any given cluster study.

CESA supports the implementation of the proposal to differentiate POIs and locations by whether the interconnection is jurisdictional to the ISO controlled grid versus the Wholesale Distribution Access Tariff ("WDAT"). This information should be provided in Excel format in the near term, with long-term plans to make it available in an online map. AES Clean Energy asked for similar information. A list of ISO controlled facilities is provided in the ISO transmission register which is a confidential data base. Additionally, the ISO is not privy to, nor could the ISO share Participating TO WDAT data.

AES Clean Energy provided a number of additional comments and requests as follows:

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- The ISO should provide Monthly or Quarterly updates on ongoing studies status done by ISO. The ISO should also include in the interconnection report when a queued project impacts an affected system and which system is affected.
- The ISO should provide more information on Short Circuit Duty capacity per main substation equipment type. Ideally, this data should be provided through a heat map that shows a short circuit duty gradient per substation voltage/ bus.
- The ISO should provide an open bay position list or list of substations able to be expanded within existing fence. This information could be provided as a PDF list, excel sheet, or map.

Interconnection cluster studies and transmission planning studies follow known timelines specified in the ISO tariff. Interconnection customers are notified of all potentially affected systems, and the [ISO Affected System Contact](#) list, by study area, can be found on caiso.com. Short circuit duty information is already included in the Cluster reports. With respect to open bay positions at substations, Participating TOs are better situated than the ISO to provide open bay positions list or list of substations able to be expanded within existing fence lines and would need to agree to provide such lists.

SDG&E suggested that the ISO should consider consistency in the Generation Types as they are entered in RIMS. For example,

- i. For mixed generation types, Solar, Wind or any other should be listed first, with BESS listed second. A BESS should be listed first only for stand-alone BESS systems.
- ii. Consistency in naming convention for POI locations.
- iii. Solicit Participating TO input for preferred naming convention for each POI.
- iv. Consider adding POI to ISO Grid Assets (non-granular)
- v. Use a different method of uploading the POI information from the IC. A field that is automatically filled from the Interconnection Request to RIMS would be preferable.
- vi. This request aligns with stakeholders' request for all POIs within the PTO's study area to be made available.

The ISO appreciates SDG&E's suggestions, however the ISO utilizes the information on the interconnection request form when a project is created in RIMS by the

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interconnection customer. This data is parsed from the Microsoft Word interconnection request document (Appendix 1) and automatically uploaded into RIMS. There are a number of limitations that ISO currently has with its use of the Word document and transfer of that information into RIMS. With respect to generation type, there is currently no logic to consider what is identified first, second, or third and would require all Interconnection Customers to fill out the document a certain way. Similar to the generation type, there is currently no method for automating the use of POI locations in the interconnection request or RIMS. The data is based on the interconnection request form and what information is provided by the interconnection customer. The ISO teams work hard to manually update the POI names in RIMS if the interconnection customer uses a naming convention that is different than a typical name for the POI. If a stakeholder has a specific update noted, please contact the project manager and the ISO project managers can update accordingly. For the substation naming convention, the ISO generally uses the following: 'substation name voltage level' (i.e. Parks Substation 230kV).

The ISO is unsure of this request/suggestion made for item (iv) and therefore has no comment at this time. The remaining requests were previously discussed.

EDF-R and other stakeholders made a number of very specific transmission data and mapping requests as identified in the following table:

Requested data to share:	ISO Response:
Mapping – similar to MISO	<p>Please refer to the map that the ISO publishes to the ISO Board (see below). The ISO did some high-level review of MISO and the maps did not provide specific details or information that would seem to be beneficial to developers. The ISO is not prepared to develop a GIS mapping system or provide detailed, project-specific mapping resources. The ISO notes that in the annual Summer Assessment, as shown below, there is a queue map that provides the number of projects and MW in county.</p> <p>Link to Map: Microsoft PowerPoint - Briefing on Renewables and Energy Storage in the Generator Interconnection Queue- Presentation-July2021_k (caiso.com)</p>
1. Transmission Planning data improvement opportunities:	
a. Share study report data available across multiple reports in an excel document (posted on NDA site)	1a. This information is not available in a single excel document. There is a lot of data produced as part of the study process. This request is not clear as to what specific data is being requested. See responses below with respect to more specific data items.
b. Create a transmission project tracking report with information from TPP appendices and RIMS Transmission module	1b. The ISO implemented the Transmission Development Forum to provide this information.
c. Ideally transmission data would include, element upgrade name, description, region, expected in service date, From_Sub, To_Sub, model identifier, voltage, project status, line miles, and facility rating MVA	1c. The upgrades being identified in the study reports are being shared and presented in the Transmission Development Forum. If this comment relates to the data being requested in 1.a. above, the ISO will review the specific data points during the development of other data reports.
d. Implement online maps for the transmission system that details where capacity is available, similar to existing distribution information	1d. See response to mapping above.

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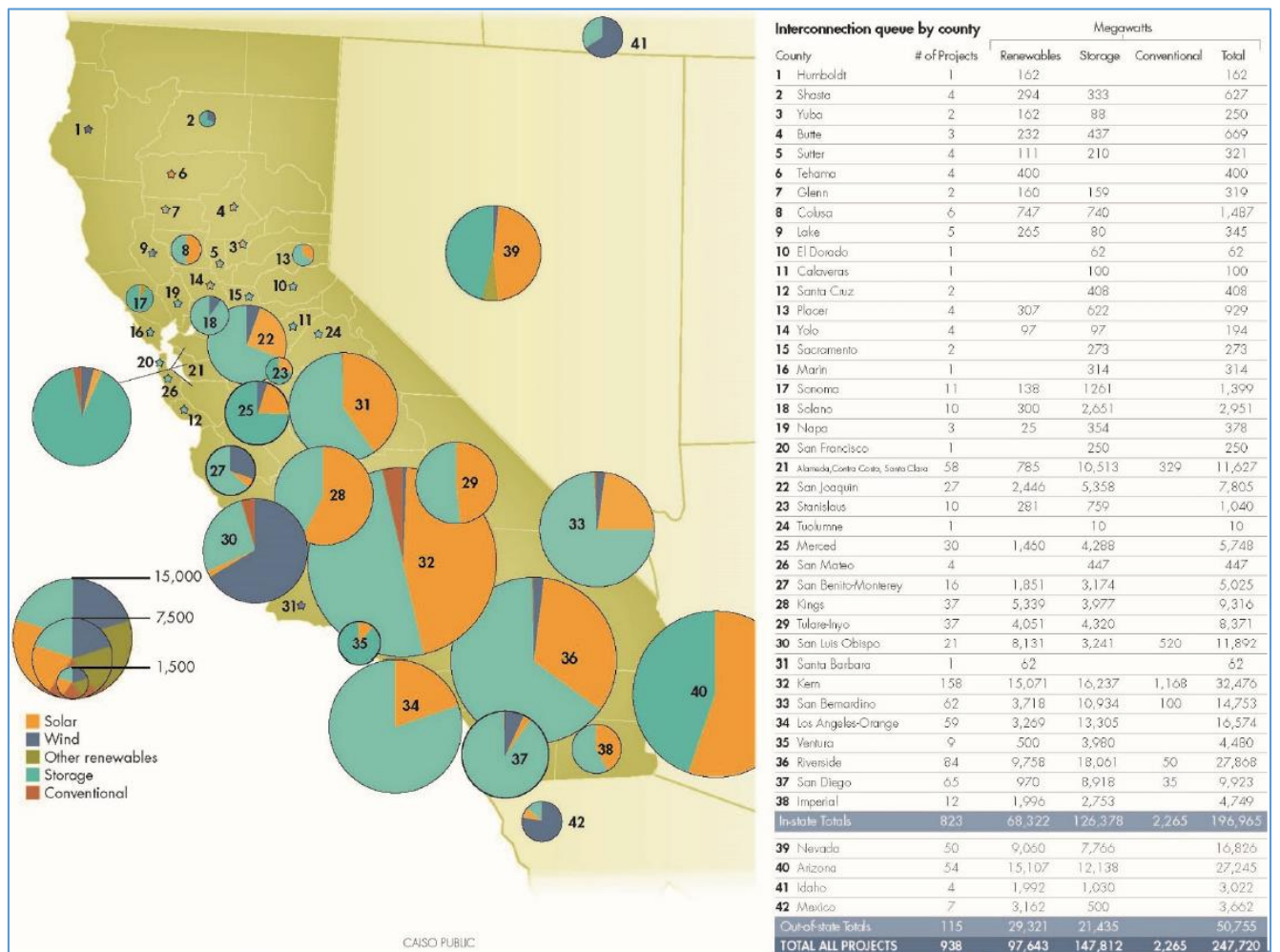
<p>2. Define what MW level could move forward without upgrades</p>	<p>2. The ISO provides this information for Area Constraints, but does not perform this analysis on a local level (RNUs or LDNUs). This would significantly increase the work scope in the cluster studies and increase the time required to issue the Cluster Reports.</p>
<p>3. Information on resource curtailments by specific planning sub-areas</p>	<p>3. System-wide curtailment data is provided on the ISO website. Project-specific curtailment data is market data and considered commercially sensitive and confidential.</p> <p>California ISO - Renewables and emissions reports (caiso.com) – see renewable curtailment reports at bottom of web page</p>
<p>4. Project transmission upgrade tracking/status information; - Transmission Forums</p>	<p>4. The transmission information is being shared and presented in the Transmission Development Forum.</p>
<p>5. Data on constraints</p>	<p>5. Constraint information is provided in project study reports.</p>
<p>6. Define the study area boundary in the area reports</p>	<p>6. See response above to CalWEA's comment.</p>
<p>7. Transmission grid data transparency including transfer capability, deliverability constraints, curtailment based on local congestion</p>	<p>7. The Cluster Area reports on the MPP has the identified deliverability constraint and potential congestion information. Actual curtailment information is discussed in the Market Monitoring reports on the public website.</p>
<p>8. Better differentiation within clusters – specifically define the amount of overload that requires the upgrade to be added to the project. This information should be available in all PTO reports.</p>	<p>8. Identification of which facilities are overloaded and the amounts of the overload are provided in the Cluster Area reports on the MPP.</p>
<p>9. Information provided about areas where TP Deliverability is still available, and how much. The annual TPD Allocation Reports contain useful information about areas where deliverability has run out but relatively little information about where, and how much, deliverability remains.</p>	<p>9. The 2022 TPD Allocation report includes this information.</p>

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10. ADNUs/other upgrades: This TPP cycle has included a useful discussion about use of the ISO's Transmission Capability report to identify potential cost-effective transmission upgrades to provide additional TP Deliverability in areas of high commercial interest. LSA/SEIA would like the ISO to refine this information to make it useful in identifying "low-regrets" transmission upgrades, for policy purposes.

10. The 2021-2022 TPP process included some refinements on analyzing low regrets transmission for policy purposes.

Example: Map of Interconnection Queue data by California County
(as referenced in the table above)



6 Interconnection Queue Data and Site Exclusivity

Gridwell Consulting/EDF-Renewables and LSA suggested to survey other ISO/RTOs to determine their rules and practices for public data. They believe this will provide a starting point for the discussion concerning data confidentiality.

Data Confidentiality is a very challenging area to explore. The ISO has received FERC approval and orders to provide the information currently in the public queue report. In IPE 2018, FERC approval was received to add the project name to the public queue report. In the same sense, changes to the ISO’s ability to provide additional information will require 1) stakeholder consensus, and 2) likely FERC approval.

As such, the ISO will bring a number of the following list of items being requested to be made public into the IPE Phase II process to ask stakeholders about their willingness to share their project-specific information publicly. The ISO would like to hear from project owners directly on their willingness and approval to share their project-specific data publicly. To note, the ISO provides no guarantee it will provide or publish any such data publicly, even following stakeholder feedback and comments, but is willing to have the discussion and evaluation.

Requested to Share:	ISO Comments
Restructure fuel-type by column on the ISO queue report	Completed – queue report reflects this change
Project Phasing level data: <ul style="list-style-type: none"> • Technology/fuel type • Phase Capacity (MW) • Milestone dates (ISD, Sync, COD) • Resource ID • Online Portions of projects • Hybrid/Co-located selections • MWh (energy) data for Storage facilities • TP Deliverability Group and Allocation 	Phase data – The ISO does not currently have an easy, nor firm way to accurately report out on phasing data. ISO teams are evaluating this in internal discussions. ISO does not track or house energy data for storage facilities. The data is all part of the technical files of an interconnection request package and not uploaded to a database as a data element.
Resource ID (w/o Phasing)	The Generation Report on the ISO’s OASIS as well as the public NQC report have the resource ID information. However, it does not tie to the queue number. The ISO will evaluate the ability to publish this information.
LGIA Suspension status & timing	This data is currently considered market sensitive under the confidentiality provisions of the ISO tariff. If stakeholders want to make this data public, it can be added to the Phase II subject list.

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Transmission Planning Study Area and Sub Area	ISO tracks 'PTO Study Area' in RIMS. The ISO will explore the ability to publish this information.
PPA Status	A project's PPA status is considered market sensitive and therefore confidential in accordance with the ISO tariff. In addition, the ISO does not have this information for all projects in the queue.
Project's TP Deliverability Allocation Group	ISO tracks the requested 'Allocation Group' in RIMS. The ISO will explore the ability to publish this information.
Project-specific Partial Capacity Delivery Status (PCDS) and Interim Deliverability Service (IDS)	The ISO has the ability to track this in RIMS and will explore the opportunity to provide such data in a report or the TPD allocation reports. However, this could be categorized as market sensitive data and the project owners would need to agree to make it public.
Project Parking Status (during TPD allocation process)	A project's parking status is considered market sensitive and therefore confidential in accordance with the ISO tariff. Stakeholders would need to agree to make it public.
A project's time in queue	The original IR request date is identified on the ISO queue report. Stakeholders can complete this calculation with the data already provided.
Project 'formerly-known-as' (fka) names	The ISO does not track this independently of the currently-approved project names. The ISO relies on the queue number to follow a project through its lifecycle.
Site Exclusivity Status	The ISO considers this price and commercial status sensitive and currently considered confidential data in accordance with the ISO tariff. Project owners would need to agree to make it public.
Project Affected System Status of identified affected systems	The ISO only reaches out to potentially affected systems and asks for those parties to 'identify' as an affected system. It is the responsibility of the interconnection customer to confirm there is no impact or mitigate any impacts identified by that affected system. Parties can refer to the ISO Affected System Contact list posted on CAISO.com for potentially affected systems in each PTO study area.

7 Queue clean-up and RIMS

A number of stakeholders provided specific suggestions regarding how to clean-up the queue and potential solutions to the use of the ISO's RIMS application.

7.1 Removing projects that are lingering in the queue

SDG&E, with LSA support working towards cleaning-up of the ISO queue and noted as an example that projects that have gone past their listed CODs by more than 6 months (Construction Sequencing deadline) or do not have GIAs after so many years in the queue should be considered for removal from the queue. There is an understanding that this may be more of an "enforcement" update, but SDG&E and LSA suggested that the ISO needs to make sure it is keeping-up its efforts to ensure that projects do not languish in the queue. The ISO agrees with the sentiment that there should be policy in place to remove less-viable projects that are lingering and have initiated the 2021 IPE to help with some of these matters. The ISO also understands that some information can become inaccurate, or maybe better stated, unrealistic at times. ISO teams are making efforts internally as well as asking developers to submit a Permissible Technological Advancements ("PTA") request or Material Modification Assessments ("MMAs") to provide the ISO/Participating TOs with more realistic milestones and status' for their projects as soon as they become aware of them.

The ISO does have a number of key mechanisms for requesting that a project maintains its momentum towards commercial operation, however is limited by the legal obligations of the LGIA and Tariff to immediately withdrawal them. The ISO currently utilizes the following provisions to help limit a project's lingering:

- Commercial Viability Criteria
- PPA requirements
- GIA breach/default notices
 - Milestone responsibilities
 - Financial responsibilities
 - Information sharing responsibilities
- TP Deliverability changes being proposed in IPE

The ISO would appreciate hearing additional stakeholder suggestions on how to 'remove' projects from the queue for non-compliance and keep them from lingering.

7.2 Utilization of RIMS and suggested use of new software

SDG&E made several suggestions and requested specific feedback on the use of the RIMS application utilized by the ISO. They suggested:

- i. Utilize 3rd party software for interconnection applications and data/file management.

The ISO went through extensive efforts in 2013-2014 to determine if there was software available to meet the business needs of processing generator interconnections. There was nothing available off-the-shelf suitable for all the details and set-up necessary for the generator interconnection process from application through studies, contracting and onboarding. Therefore, the ISO developed and now currently maintains its own system, RIMS, and is not currently considering a move away from RIMS or the development of a new platform.

- ii. Move to a web-based interconnection application for both initial IR and MMAs

RIMS does not support a web-based interconnection application and would require significant changes to do so.

- iii. Create drop-down list of POIs in each study area.

Unfortunately, the list of substations is so great that the interconnection request Word document could not handle this level of data for it to be loaded in RIMS. However, the ISO will continue to seek efficiencies and consistency in the tracking of POI data as discussed above, including changing specific project's POI name as requested.

- iv. Version documents for rounds of IR validation.

The ISO does work to maintain some level of versioning between documents, however, there is no specific version control between documents submitted by customers or returned by Participating TOs. In RIMS, documents can be sorted and filtered by date to allow some level of understanding of versioning of each type of document.

- v. Maintain "final" version from IR validation for future IC use during Appendix B and MMAs.

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With regard to the interconnection application process, the final, approved version is uploaded in RIMS by the interconnection customer. The ISO Queue Management team is exploring the process for ensuring all final MMA documents are uploaded in RIMS, including the final MMA study results, for each project.

- vi. None of the files from App & Study (Appendix 1, Attachment A, SLD, kmz, inverter data, short circuit data, P/Q curves, EPCs, DYDs, flat run and bump tests, MW plots from Phase I, Phase II, Reassessments, MMAs, etc.) are the same as the ones that are uploaded to RIMS by the Participating TO (or the IC) in advance of the backfeed date (sliding scale based on FMN schedule, between 84 and 160 days). Also, the NRI process can be managed separately to upload the necessary files, etc. to ensure the connection to the Network Model, etc. are maintained

App & Study and NRI/MPAI are two different modules within RIMS and need different documentation and therefore different file types. App & Study handles the project from request through its retirement, except for onboarding, whereas NRI/MPAI handles the project during the on-boarding process which is approximately 6 months before interconnection through the Commercial Operation Date. The documents and details required for these two timeframes is significantly different.

SDG&E also asked about a process map or documentation on RIMS. The Participating TOs have read-only access to RIMS with the ability to upload or download documents within each project. The ISO does not have a process map for Participating TOs due to the limited usage. The ISO has published a [RIMS User Guide](#) and [additional documents](#) on the caiso.com site for use by all RIMS users. Lastly, the CAISO has a website page dedicated to the processes, requests, and implementation of accessing CAISO application as follows:

<https://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx>

7.3 Utilizing RIMS for MMA processing

SDG&E provided a number of suggestions in the utilization of RIMS during the MMA processes managed by Queue Management.

- Move away from emailing IC files to PTOs for review
- When MMAs begin, the IC is expected to essentially provide a complete interconnection request worth of documents. The IC often uses an old version of the documents as a starting point, which puts a lot of burden on the

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IC, PTO and ISO to start the IR validation over, not just make the minimal change as the MMA requested.

The ISO Queue Management team evaluated the ability to utilize RIMS during the MMA process and noted that there is a difference in the use of RIMS for uploading documents between the interconnection application process and after the project is approved and moved through App & Study. Therefore, the Queue Management team will work to upload the final documents from each MMA into RIMS following the close-out of such MMA.

Lastly, the ISO understands that customers may be utilizing old versions of the IR forms when submitting modification or other requests. The ISO asks that all stakeholders use the latest Appendix 1 (Word document) and Attachment A to Appendix 1 (Excel spreadsheet) when submitting new requests or applications. The Queue Management team will check and verify the latest version is being utilized and will request customers complete the data on the updated form and resubmit accordingly.

7.4 Queue Clean-up and ongoing maintenance

SDG&E noted a number of actions that could assist in the clean-up of the queue. SDG&E uses RIMS data to perform operational studies which can become inaccurate and obsolete without the data residing in RIMS being updated regularly such as:

- Milestone dates kept up to date
 - projects that go past their stated milestone dates
 - projects that park which result in milestone date changes
- Status of GIA executions
- Phasing
- Capacity changes
- Technology changes/additions

The CAISO teams have and continues to make a number of efforts to ensure the data in RIMS is updated and accurate based on a project's approved status and details. The team has implemented a number of internal processes that will help ensure things stay up-to-date as they are approved and move through the various processes. The ISO understands that some information can become inaccurate or maybe better stated, unrealistic at times and the ISO is requesting that developers

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submit PTAs and MMAs to provide the ISO/Participating TOs with more realistic milestones for their projects.

8 Conclusion and Next Steps

Overall, the ISO appreciates hearing and more clearly understanding stakeholder's desires and requests to obtain and be privy to more data and information related to the ISO's transmission system and projects in the interconnection queue. While the ISO does not necessarily disagree with many of the stakeholder feedback and suggestions, it is limited in resources and time needed to quickly and efficiently implement such changes. The ISO is committed to continually reviewing and adjusting its ways of collecting, tracking, and reporting data.

The CAISO has included a topic in the IPE Phase 2 paper where the ISO will present and seek stakeholder feedback on the potential sharing of currently-confidential project data and information as discussed in Section 6 of this paper.

In a similar light, the ISO requests that interconnection customers continue to update their project information as soon as a change in the project is known to ensure the ISO can maintain up-to-date queue.

The ISO will hold a stakeholder meeting on May 31, 2022 to discuss the topics reviewed in this paper. Stakeholders are encouraged to submit comments through the ISO's commenting tool using the link on the initiative webpage by close of business on Wednesday, June 15, 2022.