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Purpose

Provide guidance to applicable functional entities on expectations for provision of required data to CAISO Reliability Coordinator (CAISO RC) in order for the RC, to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.¹

¹ IRO-010-2 R1, 1.1

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1. Responsibilities

- Balancing Authorities (BA)
- Transmission Operators (TOP)
- Generator Operators (GOP)
- Reliability Coordinator (RC)

2. Scope/ Applicability

2.1. Background

NERC IRO-010-2 requires the RC to maintain a documented specification of the data necessary for the RC to perform Operational Planning Analyses, Real-time monitoring and Real-time Assessments; and provide these to applicable entities. The CAISO RC data specifications are addressed within two documents:

1. RC0120A - RC IRO-010 Data Specification:
 - Addresses specifications for forecast data, resource commitment data, power system modelling data, scheduled outage data, Real-time telemetry data, procedures and documentation.
2. RC0130 - Notification Requirements for Real-time Events:
 - Addresses Real-time transmission and balancing area events that require immediate notification to the RC operator by phone, BA/TOP Messaging Tool and/or CAISO Outage Management System (OMS).

2.2. Scope

While this document provides guidance for data provision, the RC0120A – RC IRO-010 Data Specification contains the detailed documented specification for the data necessary for CAISO RC to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.


The data requested within Attachment RC0120A includes, but is not limited to, non-BES and external network data, notification of current Protection System and Special Protection System status or degradation that impacts System reliability, real-time facility data, schedule type data, facility outage information and electronic modeling data². The periodicity for providing data and the deadline by which the Responsible Party is to provide the indicated data are specified in Attachment RC0120A³.

Additional guidance provided within this document includes process expectations for mutually agreeable:

- Format
- Process for resolving data conflicts
- Security Protocol

² IRO-010-2 R1.2

³ IRO-010-2 R1.3, 1.4

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2.3. Applicability

Although Responsible Parties designated in RC0120A - RC IRO-010 Data Specification are ultimately responsible for ensuring CAISO RC receives the requested data, they can delegate data provision to another NERC Registered Functional Entity. This arrangement is permissible, provided the decision is mutual, i.e. both entities agree, and is documented and supplied to CAISO RC at operationscompliance@caiso.com . Agreement can be documented via email or other supporting documentation. Such data submission arrangements do not absolve the Responsible Party listed in RC0120A - RC IRO-010 Data Specification of its obligations.

Each applicable entity that is required to provide data to CAISO RC shall appoint at least one contact who is responsible for working with the RC in order to provide the requested data in the specified format. If applicable, contacts for each section are preferred. Entities should notify CAISO RC of their contact name(s), email address(es) and phone number(s) at operationscompliance@caiso.com. CAISO RC shall establish a process for maintain a contact list on the RC secure website.

Each applicable entity shall collaborate with CAISO RC to satisfy the obligations of the documented specifications by using:⁴

- A mutually agreeable format⁵,
- A mutually agreeable process for resolving data conflicts⁶, and
- A mutually agreeable security protocol⁷.

3. Procedure Detail

3.1. Format and Security Protocols

The specified formats and security protocols below have been previously recognized as mutually agreeable. The appointed contact person(s) shall notify CAISO RC via email to operationscompliance@caiso.com of any instances where the specified formats or security protocols are not agreeable to the entity.

The methods and formats for the data items in RC0120A - RC IRO-010 Data Specification include: Inter Control Center Protocol Data (ICCP), system specific Application Programming Interfaces (APIs) and User Interfaces (UIs), secure system and website uploads, email, and real-time notification messages and phone calls.

The RC0120A – RC IRO-010 Data Specification contains the specific data CAISO RC requires from each Responsible Party and contains columns, which denote the:


- Section – Used to help with sorting and filtering groups of items within the data specification
- Category – Used to arrange request items with shared characteristics

⁴ IRO-010-2 R3

⁵ IRO-010-2 R3.1

⁶ IRO-010-2 R3.2

⁷ IRO-010-2 R3.3

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- Request Number (Req #) – Used for document coordination and communication purposes, *NOTE: CAISO RC will continue to use the numbering convention established by Peak Reliability*
- Responsible Party – Applicable entity responsible for ensuring its data is being provided to CAISO RC
- Data Item – Specific data being requested
- Data Transfer Method – Method by which data is provided to CAISO RC
- Data Update Frequency – Periodicity for providing the specified data
- Data Request Effective Date – Date by which specified data is to begin being provided to CAISO RC⁹ (If a request number has been retired, it will be documented by the word “retired”)
- Related NERC Standards – if applicable, related NERC standards *NOTE: includes key standards, but is not limited to this list*
- CAISO Guidance Document – if applicable, related process, procedure or technical specifications document

3.1.1. Section 1 - Real-Time Network Measurement Data

Real-time Analog and Status point data as detailed in RC0120A - RC IRO-010 Data Specification. The data provider must include data quality along with the data. This data quality shall follow the ICCP Data Quality Standards as described in the IEC ICCP User’s Guide (870-6-505).

If real-time ICCP data transfer is unavailable for any reason, the responsible entity will provide critical real-time system data via phone to the RC real-time desk. Data or data points that are considered critical may change based on current system conditions. It is expected that the RC and Responsible Parties will communicate and coordinate on which data is needed at a particular time as well as a periodicity for providing updates until the normal data communication methods are back in place.

These data items are intended to provide adequate data for CAISO RC to properly monitor all BES Facilities, and other non-BES Facilities that may have an impact to the BES. CAISO’s monitoring, state estimator and real-time assessment accuracy are negatively impacted if the necessary sub-100 kV systems are not in the network model with appropriate measurement availability.


Measurement data that should be provided to CAISO RC includes:

- Data associated with Facilities or equipment which are included in the Bulk Electric System (BES) definition, and
- Measurement data for non-BES Facilities/equipment that impact the BES, including but not limited to parallel sub-100 kV systems, as determined by the Transmission Operator (TOP) or by CAISO RC as being necessary to support the accuracy of Operational Planning Analyses, Real-time monitoring and Real-time assessments or to determine SOL exceedance(s) on BES Facilities.

3.1.1.1. Req #s 1.9, 1.10 and 1.11

CAISO RC’s real-time measurement/ICCP request requires data to be made available, which already exists within the TOP’s or Balancing Authorities (BA) SCADA system. This is not a request for the TOP or BA to install additional measurement devices in the field.

A RAS in service status may or may not be available via ICCP. If there are Real-time changes to the availability and indication is available via a Responsible Parties EMS, that value should be provided to

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CAISO RC. If ICCP data is not available for RAS in-service status, other documentation or other information must be provided to be sure that CAISO RC understands how the RAS is operated. See related Data Request items 5.10, 5.11, 6.18, 6.19.

An example of a RAS associated analog arming value is: X MW of generation is armed to be dropped, or Y MW of load is armed to be dropped.

3.1.1.2. Req # 1.13

CAISO RC has functionality in the Energy Management System (EMS) to receive dynamic ratings in the following ways:

- Provide the dynamic equipment rating in MVA as an analog point via Real-time ICCP, and
- If temperature based, then also provide the actual temperature via Real-time ICCP

Dynamic Facility Ratings help ensure that CAISO RC has the most accurate Facility Ratings in our situational awareness tools, thus reducing incorrect application results and unnecessary phone calls to entity operators.

3.1.1.3. Req # 1.14

This is only applicable for responsible entities with a stability limitation that the RC, in collaboration with the TOP, determines to require submission in Real-time.

3.1.2. Section 2 – Real-Time Balancing Authority Data

Real-time Analog and Status point data as detailed in RC0120A - RC IRO-010 Data Specification. The data provider must include data quality along with the data. This data quality shall follow the ICCP Data Quality Standards as described in the IEC ICCP User's Guide (870-6-505).

If real-time ICCP data transfer is unavailable for any reason, the responsible entity will provide critical real-time system data via phone to the RC real-time desk. Data or data points that are considered critical may change based on current system conditions. It is expected that the RC and Responsible Parties will communicate and coordinate on which data is needed at a particular time as well as a periodicity for providing updates until the normal data communication methods are back in place.

3.1.2.1. Req # 2.1

CAISO uses NERC's definition for Net Energy for Load for BAA Load: Net Balancing Authority Area generation, plus energy received from other Balancing Authority Areas, less energy delivered to Balancing Authority Areas through Interchange. It includes BAA losses but excludes energy required for storage at energy storage facilities.


3.1.2.2. Req #s 2.2 – 2.3

Interchange used for Area Control Error (ACE) calculation.

Balancing Authority Operating Plans: See Req # 5.15

3.1.2.3. Req # 2.4

ACE used for NERC reporting requirements.

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3.1.2.4. Req # 2.5 (addition for future)

For future consideration, CAISO RC would request that the responsible entity also send the BAAL violation time in minutes. Entities, which are able to provide, could do so.

3.1.2.5. Req # 2.8

BA Contingency Reserve Obligation as defined in the NERC Glossary of Terms or, if the BA is part of a Reserve Sharing Group (RSG), the BA's allocated obligation as defined by the RSG.

Balancing Authority Operating Plans: See Req # 5.15

Note: for Reserve Sharing Group data, for the RSG totals and RSG zone totals, CAISO RC will collaborate with the power pool representatives and its members on a separate data request, outside of the IRO-010 specification, for RSG type data to be sent via ICCP. For example:

- For the RSG totals:
 - The MSSC for the "Power Pool A" Reserve Sharing Group as a whole
 - The Contingency Reserve Obligation for the "Power Pool A" Reserve Sharing Group as a whole
 - The Contingency Reserve Available for the "Power Pool A" Reserve Sharing Group as a whole
- If applicable, the totals for each RSG zone:
 - The MSSC for each RSG zonal area within the "Power Pool A" Reserve Sharing Group
 - The Contingency Reserve Obligation for each RSG zonal area within the "Power Pool A" Reserve Sharing Group
 - The Contingency Reserve Available for each RSG zonal area within the "Power Pool A" Reserve Sharing Group

3.1.2.6. Req # 2.10

The Most Severe Single Contingency (MSSC) value that is provided to CAISO RC must be a Real-time value that captures the actual output of the generator that is the MSSC at any given moment. If MSSC calculations are being done based on other application results, such as Real-time contingency analysis, it is acceptable to provide the update at the frequency of the calculation. This is not a request for a Reserve Sharing Groups (RSG) MSSC.

3.1.2.7. Req # 2.11 – 2.13

It is acceptable to send BES and non-BES information, CAISO does not expect the responsible entity to filter out resources less than 10 MW. 10 MW is provided as a threshold value.


3.1.2.8. Req # 2.14

This is not the anticipated energy on the tag, rather a real-time calculation of MWs associated with the dynamic schedule.

3.1.2.9. Req # 2.15

This is a real-time calculation of MWs associated with each pseudo tie used in ACE calculation. This is not an alternate method for inclusion in congestion management procedures pursuant to INT-004-3.1.

Dynamic schedules and pseudo ties are important for implementation in the Enhanced Curtailment Calculator, as well as for general awareness of MW flows associated with the dynamic transfers.

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3.1.2.10. Req # 2.16

This is a single value – summation of all wind generation currently online. This value should represent wind generation at the BES level.

3.1.2.11. Req # 2.17

This is a single value – summation of all solar generation currently online. This value should represent solar generation at the BES level.

3.1.3. Section 3 – Forecast Data

Schedule type data as identified in RC0120A to be delivered electronically in accordance with the Data Update Frequency. For daily submission items, CAISO RC will accept, but does not require, data ranges up to seven (7) calendar days. If the entity’s data submission includes a range of dates and/or hours and thus the entity has less frequent submissions, this is allowable. CAISO RC expects that if assumptions or inputs change for the previously submitted data, the responsible entity will submit an update.

BAs participating in the CAISO EIM do not need to change submissions of real-time data, which overlap with Section 3 request items 3.2, 3.3, 3.4, 3.5 and 3.8. The EIM real-time data inputs and outputs provide sufficient information for Operational Planning Analyses. However, for the future date ranges (i.e. next calendar day, four calendar days, etc.); EIM entities will need to send Section 3 data for the timeframes that are beyond the EIM requirements. **[NOTE: More specific guidance will be added to the next draft.]**

If the entity is unable to provide the data in accordance with the requested Data Transfer Method and/or Data Update Frequency, please contact operationscompliance@caiso.com. CAISO RC’s Operations Engineering and technical staff will work with each entity’s staff as needed to achieve a mutually agreeable format including the method and frequency of submission.

3.1.3.1. Req # 3.1 (retired)

CAISO RC is retiring Data Item “Hourly BA Net Scheduled Interchange forecast through the end of the next calendar day”. CAISO RC will obtain the data needed from WIT.

3.1.3.2. Req # 3.2 (addition for future)


For future consideration, CAISO RC would prefer receiving reserves at resource level in lieu of BA Area level. BAs, which are able to provide at the resource level, could do so.

3.1.3.3. Req # 3.3

Examples of load forecast submission: On Monday, a BA shall submit the hourly load forecast for Monday, Tuesday, Wednesday, Thursday and Friday. On Tuesday, a BA shall submit the hourly load forecast for Tuesday, Wednesday, Thursday, Friday and Saturday. As CAISO RC will accept up to seven (7) calendar days, Tuesday’s submission could also include Sunday and Monday.

CAISO RC validates forecasted load by comparing it to the actual load value provided via ICCP. BAs should be proactive and perform the same validation to ensure that CAISO RC is receiving consistent and accurate load forecast data.

Balancing Authority Operating Plans: See Req # 5.15

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3.1.3.4. Req #s 3.5 – 3.12

NERC BES Definition of Generator inclusion: Generating resource(s) with gross individual nameplate rating greater than 20 MVA or gross plant/facility aggregate nameplate rating greater than 75 MVA including the generator terminals through the high-side of the step-up transformer(s) connected at a voltage of 100 kV or above. CAISO RC will accept, but does not require resource-modeling, data and schedules for resources 1 MW and above.

Resource Commitment: Flag to indicate whether a generator, or based on plant level configuration, is expected to be online or offline during the forecast interval specified by the start / stop times. Indicator of Unit Commitment (1=Committed/Online, and a 0=Offline). If the unit is in an outage, the value shall be zero.

Resource Dispatch MW: The average MW value corresponding to the expected output of the generator, or based on plant level configuration, during the forecast interval specified by the start / stop times. This value can represent a unit, a plant (set of units), a share of a jointly owned unit (JOU), or a set of plants aggregated (such as small units). Aggregations of units or plants should only be used when the fuel type is the same and when electrically connected in the same geographic region. Specific unit data is preferred over aggregations whenever possible. Positive values shall be submitted when units are generating, whereas negative values shall be submitted for consumption of power (such as motoring units, pumped storage, etc.) Forecasts for jointly owned units (JOUs) shall be submitted for each owner's JOU share, and the total plant forecast output shall be submitted by the plant operator. If the unit is in an outage, the forecasted schedule shall be zero.

Balancing Authority Operating Plans: See Req # 5.15


3.1.3.5. Req # 3.6, 3.7, 3.9 – 3.12 (retired)

CAISO RC is retiring multiple data items in Section 3. CAISO RC will use daily submissions of hourly resource commitments (req # 3.5) and hourly resource dispatches (req# 3.8) for its Operational Planning Analyses. CAISO RC will calculate resource availability based on resource modeling data (req# 6.8.1) outages, which reduce resource availability. Per Section 5 Scheduled and Unscheduled Outage Information, CAISO RC will accept derates and will assume the derate has been lifted when the outage ends.

3.1.4. Section 4 – Documentation and Procedures

Due to information security concerns, CAISO RC prefers all documents are uploaded to the RC Portal secure site. An email address is provided for each data item, however emailing attachments for CAISO RC to post may be subject to delays.

CAISO RC will maintain acceptable use guidelines for the RC Portal. Only Balancing Authorities, Transmission Operators and neighboring Reliability Coordinators, which have agreements with CAISO RC, will have access to the RC Portal secure content. Designated pages, tools and libraries that are accessed through the RC Portal will be further restricted to limit access to users with specific permissions.

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3.1.4.1. Req #s 4.3, 4.4, 4.6 – 4.8

The responsible entity's procedure, protocol, plan and guideline type documentation will be uploaded to the Procedure library anytime the document is updated. The user uploading the document has the option to restrict visibility to operationally affected parties. For example, when a user uploads an updated EOP-008 Loss of Control Center Functionality document, they have the option to share with all entities with access to the secure site Procedure Library OR they may select specific entities to share with such as their neighboring BAs and TOPs. CAISO RC has access to all documents by default.

Users with access to the Procedure library are able to maintain subscriptions for change notifications. When sharing documents with other parties, if the responsible entity's business practice is to maintain an email audit trail, then CAISO RC recommends sending an email notification to operationally affected entities after uploading the updated document to the Procedure Library.

If the filenames of the Section 4 documentation do not change with each update, the user uploading the document is responsible for maintaining the associated metadata (e.g. title, effective date, version, operationally affected parties).

3.1.4.2. Req #s 4.1, 4.2, 4.5

Plans that require CAISO RC review and/or approval have designated libraries for submissions to CAISO RC to facilitate the review process. CAISO RC will post feedback and review and/or approval letters in these same libraries, and will notify the applicable entity via email. All entities have access to the plan submission libraries, but visibility to the review documentation is limited to the CAISO RC and the responsible entity, which owns the document. All users associated with the responsible entity will have access to the plan submission libraries.

3.1.5. Section 5 – Scheduled and Unscheduled Outages

The Outage Management System (OMS) is the primary mechanism for required outage submittals. OMS has a web user interface for easy data entry. Submissions can be automated via a Web Services API by working directly with the system vendor. CAISO RC will maintain the webOMS manual, training and OMS technical specifications.

Scheduled and unscheduled outages are to be submitted in accordance with the CAISO RC Reliability Outage Coordination Process.


If OMS is unavailable, the responsible entity shall send outage information to the following email addresses: [TBD](#).

3.1.5.1. Req # 5.1, 5.16

Refers to outages on Facilities/equipment identified in the In-Scope Outage Categories section of the CAISO RC Outage Coordination Process.

3.1.5.2. Req # 5.2

Derates should be submitted to OMS per the instructions of the webOMS manual, and in accordance with the Short-Range Study Window Submission Timeline specified in the CAISO RC Outage Coordination Process.

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3.1.5.3. Req # 5.3

Derates shall be submitted to OMS per the instruction of the webOMS manual.

3.1.5.4. Req # 5.7 – 5.9

CAISO RC's Outage Coordination Process requires the responsible entity provides TTC information if it is part of an operating plan. The seasonal TTCs and any outages, which reduce those TTCs, are included in a daily report to WECC for defined paths. Paths currently on the report include:

- Path 1: (Alberta-BCHA) E>W, W>E
- Path 3: (PNW-BCHA) N>S, S>N
- Path 8: (Montana-PNW) E>W, W>E
- Path 14: (Idaho-PNW) E>W, W>E
- Path 15: (Midway-Los Banos) N>S, S>N
- Path 26: (Northern-Southern California) N>S, S>N
- Path 31: (TOT 2A) N>S, S>N
- Path 35: (TOT 2C) N>S, S>N
- Path 46: (West Of River) E>W, W>E
- Path 49: (East Of River) E>W, W>E
- Path 65: (Pacific DC Intertie) N>S, S>N
- Path 66: (California- Oregon Intertie) N>S, S>N
- Path 78: (TOT 2B1) N>S, S>N
- Path 79: (TOT 2B2) N>S, S>N

3.1.5.5. Req #s 5.10 – 5.11

Telemetry and Control Equipment: CAISO RC is requesting data necessary to facilitate Real-time Assessments and Operational Planning Analyses. Equipment in this category includes, but is not limited to, ICCP, SCADA and RTUs. When reporting this type of equipment to CAISO RC, consider the effect the equipment has on the ability to perform assessment or analysis.


For example, has the equipment caused or does the equipment include one of the items below:

- Loss of operator ability to remotely monitor or control BES elements,
- Loss of communications from multiple SCADA Remote Terminal Units (RTUs),
- Unavailability of ICCP links, which reduces BES visibility,
- Loss of the ability to remotely monitor and control generating units via AGC, or
- Unacceptable state estimator or real-time contingency analysis solutions?

Outages do not need to be reported where redundant or backup equipment remains in service and is not jeopardized by the work being performed. Isolated, individual RTU outages are not required to be reported; however, CAISO RC accepts the use of ICCP quality codes as a means of reporting if desired. If the entity does not possess the ability to provide ICCP quality codes, a Grid Messaging System (GMS) message will suffice.

3.1.5.6. Req # 5.15

Balancing Authority Operating Plans: NERC Standard TOP-002-4 R7 requires each Balancing Authority to provide its Operating Plan for next day operations identified in TOP-002-4 R4 to its Reliability Coordinator. Given the four requirements TOP-002-4 R4 needs to address, those same requirements

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are being fulfilled in this data request by items, 3.5 (R4.1), 2.2 and 2.3 (R4.2), 3.3 (R4.3), and 2.8 and 5.15. (R4.4).

Each Balancing Authority shall have an Operating Plan(s) for the next day that addresses several items, one of which is its Capacity and Energy Reserve requirements, including deliverability capability. Any deliverability constraints that may be identified that affect either the amount or location of Capacity or reserves should be provided. CAISO RC requires constraints identified by next-day studies, not real-time operations. Typically, this is a transmission constraint or system limitation provided to the Balancing Authority by one of its Transmission Operators that results in a requirement that either reserves or capacity be procured in specific locations in order to ensure energy is deliverable upon a single Contingency.

3.1.6. Section 6 - System Network Modeling

The CAISO EMS Network Model (NOTE: future replacement for Peak Reliability WSM process to transition by late 2019) updates will be provided through the CAISO RC Model Update Process. Model update details are in RC0120A and, unless otherwise specified, are required no less than 30 days prior to the actual change in the network (additions, deletions or changes in energized equipment). If there are no network changes, then there is no need to submit updates.

At a minimum, CAISO RC requires modeling data associated with Facilities or equipment, which are included in the Bulk Electric System (BES) definition, as well as data for non-BES Facilities/equipment that impact the BES. This includes, but is not limited to, parallel sub-100 kV systems as determined by the TOP or by CAISO as being necessary to support the accuracy of Real-Time Assessments or to determine SOL exceedance on BES Facilities. Lack of this information in the CAISO EMS Network Model leads to potential inaccuracies in advanced Real-time applications such as state estimation, Contingency analysis, and voltage stability.

3.1.6.1. Req # 6.10

Data should be provided in accordance with the model timelines, 30 days prior to the actual network change. However if between model builds, then updates to transmission facility ratings can be submitted via outage card in accordance with CAISO Outage Coordination Process.

3.1.6.2. Req # 6.12


This item includes transmission system network one-line indicating station-to-station connectivity, station names, and voltage levels – not just single stations.

3.1.6.3. Req # 6.13

Data should be provided in a spreadsheet with a minimum of substation name (which matches name used for modeling), state, city, longitude and latitude. Not required, but if the entity also includes additional information such as locations of transmission towers and poles, this can help validate modeling for visualization tools such as weather and fire maps.

3.1.6.4. Req # 6.16

Dynamic schedules and pseudo ties are important for implementation in the Enhanced Curtailment Calculator, as well as for general awareness of MW flows associated with the dynamic transfers. A list

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of dynamic schedules and pseudo ties for each BA must be provided along with appropriate descriptions and purposes for the dynamic transfers.

3.1.6.5. Req # 6.17

Data that should be provided to CAISO includes:

- Data associated with Facilities or equipment which are included in the Bulk Electric System (BES) definition, and
- Measurement data for non-BES Facilities/equipment that impact the BES, including but not limited to parallel sub-100 kV systems, as determined by the TOP or CAISO to be necessary to support the accuracy of Real-time Assessments or to determine SOL exceedance on BES Facilities. This request is intended to provide adequate data for CAISO to properly monitor all BES Facilities, and other Facilities that may have an impact to the BES. CAISO's state estimator accuracy is negatively impacted if the necessary sub-100 kV systems are not in the CAISO EMS Network Model with appropriate measurement availability.

Examples of applicable switching devices include those associated with:

- Transmission lines
- Transformers
- Series Compensation
- Station bus switches including auxiliary buses and bus tie switches

Examples of non-applicable devices include:

- Shunt devices

3.1.7. Other Operational Information

3.1.7.1. Req #s 7.1 – 7.5 (Retired) and new 7.6


CAISO RC is retiring req #s 7.1 – 7.5 in order to reduce the duplication between RC0120A and the real-time procedures for the System Operators. See RC Operating Procedure RC0130 Notification Requirements for Real-time Events for full list of requirements. This procedure addresses real-time transmission and balancing area events that require immediate notification to the RC operator by phone, the Grid Messaging System (GMS) and/or CAISO Outage Management System (OMS).

3.2. Process for Resolving Data Conflicts⁸

Data conflicts shall be resolved collaboratively whenever possible. CAISO RC subject matter experts will collaborate with Operations Compliance and entities to reach resolution of any known data conflict.

Entities should notify CAISO RC via the operationscompliance@caiso.com email immediately upon becoming aware of a data conflict. CAISO RC will collaborate with the entity to resolve the conflict in a

⁸ IRO-010-2 R3.2

 California ISO	Reliability Coordinator Procedure	Procedure No.	RC0120
		Version No.	DRAFT
		Effective Date	DRAFT
Guidelines for IRO-010 RC Data Specification and Collection		Distribution Restriction: None	

mutually agreeable manner that maintains CAISO's ability to perform its Operational Planning Analyses, Real-time monitoring and Real-time Assessments.

3.3. Questions and Comments

CAISO RC will work with each entity to address compliance questions and requests for clarification, or to address issues related to the technical nature of the data. All data specification inquiries should be sent to the operationscompliance@caiso.com email.

4. Supporting Information

References

NERC Requirements	IRO-010-2
BA/TOP Operating Procedure	
Other References	


Definitions

The following terms capitalized in this Operating Procedure when used are defined below:

Term	Description

Version History

Version	Change	Date
0.1	Draft procedure initiated.	12/14/18

 California ISO	Reliability Coordinator Procedure	Procedure No.	RC0120
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		Effective Date	DRAFT
Guidelines for IRO-010 RC Data Specification and Collection		Distribution Restriction: None	

5. Periodic Review Procedure

5.1. Document Maintenance

The CAISO RC Operations Compliance team will maintain this document as well as RC0120A. CAISO Subject Matter Experts (SMEs) are responsible to notify and collaborate with the Operations Compliance team whenever:

- Revisions to RC0120A are required, or
- Issues arise regarding format, data conflicts or security protocol

The Operations Compliance team will collaborate with CAISO SMEs to correspond with entities, document, and approve any issues related to mutually agreeable format, data conflict resolution and security protocols.

This RC0120 guidance document (both clean and redline versions) will be posted whenever changes occur. Minor changes will be noted by decimal version changes. (I.e. correcting a spelling error would change the version from 12.2 to 12.3). Periodic reviews and major changes will be noted by whole number version changes. (I.e. A new item would change the version from 12.2 to 13.0). RC0120 and RC0120A will each maintain a version history section.

Operations Compliance will collaborate with the CAISO RC Data Exchange Working Group (DEWG) when there are potential updates to the IRO-010-2 documentation. Updates will generally include at least two comment periods. Major updates with potential impacts to processes, procedures and tools will start engagements with DEWG as early as possible in order to allow sufficient time to implement. Major updates may need Task Forces, which work collaboratively across multiple CAISO RC Working Groups. CAISO RC will work with DEWG and other working groups to address urgent changes due to NERC Alerts or other requirements, which require rapid implementation.

The CAISO RC distributes this document and the associated RC0120A to applicable entities by posting on the www.caiso.com website and in the secure RC Portal Procedure library and then providing an email notification. Both documents will be reviewed at least annually, but revisions will occur whenever required.

Appendix

RC0120A - RC IRO-010 Data Specification