

Procedure No.	3140
Version No.	5.4
Effective Date	4/01/24

# TOP-003 TOP – BA Data Request and Specification Guidelines

Distribution Restriction: None

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### **Purpose**

Provides a documented specification to applicable NERC functional entities of the data necessary for California ISO to perform its Balancing Authority and Transmission Operator Planning Analyses, Real-time monitoring, and Real-time Assessments. It is also data which is necessary for Lone Star (LST, TOP for Horizon West), Pacific Gas & Electric (PGAE), Southern California Edison (SCE), San Diego Gas & Electric (SDG&E), Trans Bay Cable (TBC) and Valley Electric (VEA) to perform Transmission Operator Planning Analyses, Real-time monitoring, and Real-time Assessments for their respective areas.



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### 1. Responsibilities

California ISO (CAISO)	As applicable, the CAISO may be responsible for requirements as a NERC Registered Balancing Authority (BA), Transmission Operator (TOP), Planning Authority (PA) or Transmission Service Provider (TSP).
	As designated in Operating Procedure Attachment 3140A, is responsible for fulfilling RC West data requests for IRO-010 R3 and TOP-003 R4 and R5.
Adjacent BAs	All neighboring BAs which have formed an Adjacent BA or Interconnected Control Area Operating Agreement with the CAISO and share critical data and information regarding adjacent and shared facilities – refer to publicly posted list:  http://www.caiso.com/Documents/Guide-InterconnectedControlAreaorInterconnectedBalancingAuthorityAreaOperatingAgreements_ICAOAorIBAAOApdf
Adjacent TOPs	All neighboring TOPs, which have formed interconnected operating agreements with LST, PGAE, SCE, SDG&E, TBC or VEA, share critical data and information regarding adjacent and shared facilities.
Participating Transmission Owners (PTOs) LST, PGAE, SCE, SDG&E, TBC, VEA	Participating Transmission Owners (PTOs) that are part of the Transmission Control Agreement (TCA), are NERC registered TOPs and are part of the Coordinated Functional Registration (CFR) Agreement with the CAISO – Lone Star, Pacific Gas & Electric, Southern California Edison, Trans Bay Cable, Valley Electric Association – refer to publicly posted CFR agreements: <a href="http://www.caiso.com/rules/Pages/Compliance/Default.aspx">http://www.caiso.com/rules/Pages/Compliance/Default.aspx</a>
	As designated in Operating Procedure Attachment 3140A, is responsible for fulfilling RC West data requests for IRO-010 R3 and TOP-003 R4 and R5.
	<b>Note:</b> In the CFR matrix, the PTO is also known as the Transmission Entity (TE).
AEPCO, CDWR, HHWP, SVP	The registered TOs and TOPs within the CAISO BA footprint, which are not under the TCA or the CFR Agreements – Arizona Electric Power Cooperative (AEPCO) for MWD area, California Department of Water Resources (CDWR), Hetch Hetchy Water and Power, Silicon Valley Power, refer to WECC Functional Entity mapping.



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Participating Generators	All registered GOs and/or GOPs under any type of Participating Generator agreement with the CAISO, including Pseudo-ties and Dynamic Transfer resources – refer to WECC Functional Entity mapping and publicly posted Master Control Area Generating Capability List – posted on OASIS.
Distribution Providers	All registered DPs within the CAISO BA and/or TOP footprint – refer to WECC Functional Entity mapping. All DPs under a Utility Distribution Company or Metered Sub System Agreement with the CAISO, as designated, are responsible for fulfilling CAISO data requests and adhering to CAISO processes under the California ISO Tariff, Business Practice Manuals and Operating Procedures. For a current list of UDC and MSS entities within CAISO BA, refer to publicly posted CAISO Operating Procedure 4510A Load Shed Calculation Guideline – Public.
Scheduling Coordinators	As designated, are responsible for fulfilling CAISO data requests and adhering to CAISO processes under the California ISO Tariff, Business Practice Manuals and Operating Procedures.

### 2. Scope/Applicability

#### 2.1 Background

In order to ensure that the Transmission Operator (TOP) and Balancing Authority (BA) have data needed to fulfill their operational and planning responsibilities, TOP-003-5 states that each Transmission Operator and Balancing Authority shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

The implementation details and responsible entities are listed in the Operating Procedure Attachment 3140A TOP-003 TOP-BA Data Request and Specifications for Data Provision.

### 2.2 Scope / Applicability

Scope of this document is consistent with the scope of CAISO's TOP-003 Data Request and Specification. If an entity is providing under the TOP-003 data request, the RC West IRO-010 data specification is also fulfilled.

IRO-010-4 provides that TOPs and BAs may provide the operating data described in Operating Procedure Attachment 3140A TOP-003 TOP - BA Data Request and Specifications for Data Provision to the RC on behalf of the responsible party to the extent



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they are authorized by those entities to do so. Accordingly, by providing any such data to the CAISO, under the California ISO Tariff, Business Practice Manuals and Operating Procedures, these entities give their consent that the CAISO may provide this data directly to the RC. If any such entity objects in writing to the CAISO supplying this data to the RC, or if any such entity does not provide any of the data listed in this document below to the CAISO, it is the responsibility of that entity to provide the data directly to the RC. The applicable TOP or BA will also notify the RC that such entity is responsible for supplying this data directly to the RC.

The data requested includes real-time facility data, schedule type data, facility outage information, and electrical equipment modeling data. This data is necessary for the BA and the TOP to carry out its functions, as defined by the NERC Reliability Standards, including:

- Real-Time Situational Awareness
- System Alarms and Visualizations
- Advanced Applications and other Network Analysis Tools
- Future, Next Day and near Real-Time Engineering Study Analysis
- Analysis, Event Analysis, Trends, Forecasts, etc.

This data request applies specifically to the below listed Registered Entities that are classified in the Responsible Party column of Operating Procedure Attachment 3140A TOP-003 TOP - BA Data Request and Specification according to the following legend:

AF = Applicable to Adjacent Facilities

SF = Applicable to Shared Facilities

DT = Applicable to Dynamic Transfer Entities

NE = Applicable to Neighboring Entities

WB = Applicable to Within the Balancing Authority area

WT = Applicable to Within the Transmission Operator area

NA = Not Applicable – if California ISO does not need this data to be submitted by another entity:

Registered Entity	Responsible Party
Adjacent BAs: APS, BANC, BPA, CENACE, IID, LADWP, NVE, PACE-PACW, SRP, TID and WALC.	DT,* NE
*Note: only applicable for entities currently hosting Dynamic Transfer resources.	
Adjacent TOPs: APS, BPA, CENACE, HHWP, IID, LADWP, MID, NEV, PACE-PACW, SMUD, SRP, SVP, TID, WALC and WASN.	AF, SF



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Registered Entity	Responsible Party
Interconnected TOPs within CAISO BAA: AEPCO, HHWP, NVE (DSLK), SVP.	WB
All registered TOPs under a Coordinated Functional Registration (CFR) Agreement with the CAISO: LST, PGAE, SCE, SDG&E, TBC and VEA.	WT
All registered GOs and/or GOPs under a Participating Generator (or similar) Agreement with the CAISO or an interconnection agreement with PGAE, SCE, SDG&E or VEA.	WB, DT
All registered TOs under the Transmission Control Agreement with the CAISO.	WT
All registered DPs within the CAISO BA and/or TOP footprint.	WB, WT
All load serving entities under a Utility Distribution Company or Metered Sub System Agreement with the CAISO.	WB

This data specification documents the BA and TOP requirements (TOP-003-5 R1, R2, R3, R4) which will be maintained by CAISO and in accordance with the CFR Agreements between the CAISO and LST, PGAE, SCE, SDG&E, TBC and VEA (for TOP-003-5 R1 and R3).

TOPs, which are not a party to the CFR Agreement with the CAISO, are responsible for maintaining their own TOP-003-5 Data Request and Specifications document.

### 3. Procedure Detail

#### 3.1 Introduction

A detailed list of data and information needed by the BA or TOP is captured in Operating Procedure Attachment 3140A TOP-003 TOP - BA Data Request and Specifications for Data Provision. The data requested 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 data. The periodicity for providing data and the deadline by which the respondent is to provide the indicated data are specified in Operating Procedure Attachment 3140A TOP-003 TOP - BA Data Request and Specification.



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#### 3.2 Data Specification Distribution

To meet NERC Reliability Standard TOP-003-5 R3, an electronic notification shall be distributed to the applicable entities that this data request and specification is in effect and available. California ISO's primary methods for posting the data specifications are 1) posting on the RC Portal at <a href="https://rc.caiso.com">https://rc.caiso.com</a> in the TOP-003 Reference Data library and 2) posting with Operating Procedures on <a href="https://rc.caiso.com">www.caiso.com</a>.

Entities that subscribe to notifications via the RC Portal TOP-003 Reference Data library or to Notices on <a href="http://www.caiso.com">http://www.caiso.com</a> will receive electronic notifications of any future revisions to this data request and specification.

Email notification will be sent to Operationally Affected Parties along with the WECC CDMS Export (PCCs), which is an export listing of entities mapped to the California ISO BA, PA, TOP. and TSP.

### 3.3 Applicable Entity Obligations

Each applicable entity shall satisfy the obligations of the documented specifications in accordance with (TOP-003-5, R5, 5.1, 5.2, 5.3) by using:

- A mutually agreeable format.
- A mutually agreeable process for resolving data conflicts.
- A mutually agreeable security protocol.

### 3.4 Format and Security Protocols

Each applicable entity that is required to provide data to California ISO, LST, PGAE, SCE, SDG&E, TBC and/ or VEA shall appoint at least one contact who is responsible for working with TOP-003-5 implementation items in order to provide the requested data in the specified format. If applicable, contacts for each section are preferred. Please maintain Data Exchange Working Group contacts on the RC Portal.

The specified formats and security protocols and protections include the requirements in the currently effective NERC Standard CIP-012 and have been previously recognized as mutually agreeable. For the NERC Standard CIP-012-1, Requirement R1.3, California ISO will protect Real-Time Assessment and Real-Time Monitoring data through either Transport Layer Security (TLS) encryption (for generation resource telemetry) or through network layer encryption applied at each California ISO Control Center connection to the Energy Communication Network (ECN). Each Generator Owner or Generator Operator will be responsible for maintaining digital certificates that provide for the TLS encryption of generation telemetry data exchange. Each California ISO customer will be responsible for applying network layer encryption at each of their Control Center connections to the ECN.



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In the event that a Generator Owner, Generator Operator or RC customer is unable to implement the aforementioned encryption practices, the parties may utilize other mutually agreeable protections to the transmission of Real-time Assessment and Real-time Monitoring data between Control Centers that satisfy the requirements in NERC Standard CIP-012-1.

The appointed contact person shall notify California ISO via the email operationscompliance@caiso.com of any instances where the specified formats or security protocols are not agreeable to the entity. California ISO will collaborate with the entities and involved PTOs (LST, PGAE, SCE, SDG&E, TBC and/or VEA) to resolve data conflicts in a mutually agreed upon manner that ensures System reliability.

The formats for the data to be delivered are as follows:

#### **Inter Control Center Protocol Data (ICCP):**

- Real-time Analog and Status point data as detailed in Operating Procedure Attachment 3140A TOP-003 TOP - BA Data Request and Specifications for Data Provision.
- 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 TOP or BA's 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.
- California ISO's and/or applicable PTO's (LST, PGAE, SCE, SDG&E, TBC and/or VEA) technical staff will work with each entity's technical staff on ICCP implementation.
- The CAISO currently retrieves Real-Time Balancing Authority calculated data from neighboring entities via ICCP from the Western Data Sharing Pool (WDSP).

#### **Outage Coordination Process:**

WebOMS is the primary mechanism for required outage submittals to the CAISO.
This central outage system has a Web front-end for easy data entry. Submissions
can be automated via a Web Services API by working directly with the system
vendor. WebOMS supporting documentation and training are posted publicly and/or
available on secure sites for registered customers.



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- Adjacent BAs and TOPs shall submit outages to their RC and communicate outages via email to California ISO's Operations Planning Engineers.
- Scheduled and unscheduled outages for the CAISO's Participating Transmission Owners and Participating Generators shall continue to be submitted in accordance with the California ISO's technical specifications located at:
  - <a href="http://www.caiso.com/market/Pages/OutageManagement/Default.aspx">http://www.caiso.com/market/Pages/OutageManagement/Default.aspx</a>,

     <a href="https://www.caiso.com/market/Pages/OutageManagement/Default.aspx">https://www.caiso.com/market/Pages/OutageManagement/Default.aspx</a>,

     <a href="https://www.caiso.com/market/Pages/OutageManagement/Default.aspx">https://www.caiso.com/market/Pages/OutageManagement/Default.aspx</a>,

     <a href="https://www.caiso.com/market/Pages/OutageManagement/Default.aspx">https://www.caiso.com/market/Pages/OutageManagement/Default.aspx</a>,

     <a href="https://www.caiso.com/pages/PAMDetails.aspx">https://www.caiso.com/pages/PAMDetails.aspx</a>,
    - https://bpmcm.caiso.com/Pages/BPMDetails.aspx?BPM=Outage%20Management, and are implemented according to the CAISO's 3200 series Operating Procedures posted at:
    - http://www.caiso.com/rules/Pages/OperatingProcedures/Default.aspx
- Contacts are contained in the distribution restricted CAISO Operating Procedure 3210F CAISO Outage Coordination Contact Information that is shared with the RC and NERC registered adjacent and interconnected BAs and TOPs.
- California ISO's technical staff will work with each entity's technical staff on WSDL, XSD, and XML implementation.
- Data Request 5.1 in 3140A includes operating limitations listed in IRO-010-4 R1.3.1.

### **Topology Update Process for the Western Interconnection Model (WIM):**

- The CAISO retrieves Western Interconnection Model data from neighboring entities via the RC West EMS Model update process. Model update details are in the RC0120A and RC0120B attachments and are required per the Full Network Model schedule (additions, deletions or changes in energized equipment). If there are no network changes, then there is no need to submit updates.
- Entities within the CAISO Balancing Authority and Transmission Operator areas must submit model updates per the instructions in Operating Procedure Attachment 3140A TOP-003 TOP - BA Data Request and Specification.
  - **Note:** Western Energy Imbalance Market (WEIM) market participants are an exception. WEIM entities submit the CIMXML export of their entire model to the CAISO along with description of incremental model changes implemented in that model. CAISO processes implement the incremental changes in the CAISO representation of the WEIM entity's model.
- Adjacent BAs and TOPs shall continue to submit topology updates through the RC Model Update Process.



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- Model updates for the CAISO's Participating Transmission Owners and Participating Generators shall be submitted to RIMS for both transmission and generation projects in accordance with the CAISO's Business Practice Manual (BPM) for Managing the Full Network Model:
  - https://bpmcm.caiso.com/Pages/BPMDetails.aspx?BPM=Managing%20Full%20N etwork%20Model.
- California ISO needs full and complete data and information well in advance of the time that the Market Participant expects its new or modified facilities to connect to or disconnect from the grid. See the current Full Network Model Schedule posted on the public website at:
  - http://www.caiso.com/market/Pages/NetworkandResourceModeling/Default.aspx.
- CAISO's Transmission Registry Business user documentation is located at the following link:
  - http://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=6CB3BA36-B21A-47E6-BAA9-BF76090A087E.

#### Other Formats:

Other data formats and submittal processes include, but are not limited to, the use of email, RC West's RC Portal <a href="https://rc.caiso.com">https://rc.caiso.com</a>, RC West's GMS messages, and phone calls to California ISO Operators.

#### Request Details:

Operating Procedure Attachment 3140A TOP-003 TOP - BA Data Request and Specification - contains the specific data California ISO and/or applicable PTO's (LST, PGAE, SCE, SDG&E, TBC and/or VEA) requires from each Responsible Party and contains columns which denote the:

- Request Number (Req #) Used for document coordination and communication purposes.
- Responsible Party Applicable entity or entities responsible for ensuring their data is being provided to California ISO.
  - Adjacent/ Shared Facility (TOP) = Applicable to Adjacent and/or Shared Transmission Facilities
  - DT = Applicable to Dynamic Transfer Entities, including host and receiving BAs
  - NE (BA) = Applicable to Neighboring BA Entities
  - WB = Applicable to Within the Balancing Authority area
  - WT = Applicable to Within the Transmission Operator area



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- NA = Not Applicable if California ISO does not need this data to be submitted by another entity
- Data Request Effective Date Date by which specified data is to begin being provided to California ISO.
- Data Item Specific data being requested.
- Data Transfer Method Method by which data is provided to California ISO, and applicable PTOs.
  - Data Transfer Method to CAISO and its PTOs
  - Data Transfer Method to CAISO and its PTOs from entities within CAISO BA/ TOP area
  - Data Transfer Method to CAISO and its PTOs from entities within RC West area
  - Data Transfer Method to CAISO and its PTOs from entities within Adjacent RC area
- Data Update Frequency Periodicity for providing the specified data.
- Notes Additional clarifying information.
- Responsible for Submission to RC in accordance with the functional registration for the applicable entity or the CFR. If related to the CFR will designate either Single CAISO, Single PTO, Each or Split.
- Supporting Entity & Tasks as applicable PTO, DP, GO, GOP and/or Scheduling Coordinators adhere to CAISO processes, which in turn will fulfill the RC's data request.

#### 3.5 Questions and Comments

California ISO and the Participating Transmission Owners under the CFR Agreement with the CAISO currently receive the data necessary to perform their reliability functions. This request formalizes the documentation that these parties will utilize in the future to request and receive data.

California ISO and the applicable PTOs will work with each entity to address questions, requests for clarification or to address issues related to the technical nature of the data. Refer to CAISO's Data Exchange Working Group contacts maintained on RC West's RC Portal. All other data specification inquiries should be sent to California ISO at <a href="mailto:operationscompliance@caiso.com">operationscompliance@caiso.com</a>, legal and broader compliance inquiries can be sent to compliance@caiso.com.



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### 4. Supporting Information

### **Operationally Affected Parties**

AEPCO, APS, BANC, BPA, CDWR, CENACE, HHWP, IID, LADWP, LST, MID, NVE, PACE-PACW, PGAE, SCE, SDG&E, SMUD, SRP, SVP, TBC, TID, VEA, WALC, and WASN; WECC CDMS Export (PCCs); Public and RC West.

#### References

Resources studied in the development of this procedure and that may have an effect upon some steps taken herein include but are not limited to:

NERC Standards	BAL-001-2, BAL-002-3, BAL-002-WECC-3 EOP-005-3, EOP-010-1, EOP-011-2 IRO-010-4, IRO-017-1 TOP-001-6, TOP-002-4, TOP-003-5
Transmission Control Agreement (TCA)	http://www.caiso.com/rules/Pages/ContractsAgreements/Default.aspx
Coordinated Functional Registration (CFR) Matrix	CFR Agreements <sup>1</sup>

#### **Definitions**

Unless the context otherwise indicates, any word or expression defined in the Master Definitions Supplement to the CAISO Tariff shall have that meaning when capitalized in this Operating Procedure.

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

None.

http://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=DA2130B0-ACA2-47BC-8C37-63EBC396D770



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### **Version History**

Version	Change	Date
2.0	Split OP 3140 table content into spreadsheet format; Verified consistency with Peak RC's DR v13.1 effective 12/8/17. Refer to yellow highlighted changes throughout document Added AEPCO as an Operationally Affected Party Errata change effective date in Version History table to 12/28/17	12/28/17
3.0	Added CDWR to Responsibilities section. Updated for transition from Peak RC to RC West. Clarifications only, no new requirements for submission of data to CAISO or RC West. Refer to yellow highlighted changes throughout document. Minor format and grammar updates throughout.	7/01/19
3.1	Updated references to the Western Interconnection Model process. Removed reference to Peak RC.	1/01/20
3.2	Added Lone Star Transmission (LST) throughout document and to Operationally Affected Parties.	2/29/20
4.0	Periodic Review: Minor format and grammar edits only.	11/02/20
5.0	Annual Review: Merging content from 3130 for consolidation. Removed version from TOP-003 in procedure title. Updated instances of ISO to CAISO. Updated instances of NEV to NVE. Updated NERC Standards IRO-010 and TOP-003. Updated review frequency to annually.	8/06/21
5.1	Section 3.4 - added supporting language for implementation of NERC Standard CIP-012. References Section: Updated NERC Standards references.	10/14/21
5.2	Annual Review: Section 3.4 - added supporting language for implementation of NERC Standard CIP-012. Updated to include additional WECC CDMS export for clarification when notifications are sent.	4/18/22
5.3	Annual Review: Section 3.4: Updated instances of EIM to WEIM and spelled out first instance. Updated references to IRO-010-4, EOP-011-2, and TOP-003-5. Added to Outage Coordination Process for coverage of IRO-010-4 R1.3.1. Updated references to Operating Procedure 3140A. Removed history prior to five years, minor formatting, and grammar edits.	4/01/23
5.4	Annual Review: Updated NERC Standards references throughout.	4/01/24



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### 5. Periodic Review Procedure

### **Review Criteria & Incorporation of Changes**

Will be reviewed based on current RC West Data Request requirements. Will publicly post drafts and provide notice to CAISO BA and TOP area customers for review and comment in advance of changes, which affect implementation of CAISO BA and TOP area customer business processes and systems. Otherwise, there are no additional specific review criteria identified for this procedure, follow instructions in CAISO Operating Procedure 5510.

### Frequency

At least once annually.

### **Appendix**

3140A TOP-003 TOP - BA Data Request and Specifications for Data Provision