

**California Independent System Operator**

**&**

**Metropolitan Water District**

**Joint Transmission Planning Base Case  
Preparation Process**

NERC Reliability Standard MOD-032-1

Version 1.0

September 2017

# Table of Contents

1	Introduction .....	1
1.1	Purpose .....	1
1.2	Transmission Planning Base Cases.....	1
2	Annual Transmission Planning Base Case Development Process .....	2
2.1	Roles and Responsibilities.....	2
2.2	Transmission Planning Modeling Assumptions and Responsibilities .....	2
2.2.1	Transmission Project Modeling.....	2
2.2.2	Generation .....	2
2.2.3	Demand.....	3
2.2.4	Outage Information .....	3
2.2.5	Firm Transmission Service and Interchange .....	3
2.3	Annual Transmission Planning Base Case Development Process .....	3
2.4	WECC Base Case Development Process.....	3
2.4.1	Initial Base Case Data Submittal .....	4
2.4.2	WECC’s Base Cases for Base Case Review .....	4
Appendix A.	Modeling Communications .....	1
Appendix B.	Evidence Retention .....	1

# **1 Introduction**

## **1.1 Purpose**

Metropolitan Water District (MWD) and the California Independent System Operator (CAISO) entered into a Planning Coordinator Agreement dated July 21st, 2016. The purpose of this document is to (i) as required by NERC Reliability Standard MOD-032, Requirement 1, provide a jointly developed process for CAISO (as Planning Coordinator (PC) and Balancing Authority (BA), and Metropolitan Water District (MWD) (as Transmission Planner (TP), effective October 1, 2017), steady state, dynamics, and short circuit modeling data requirements and reporting procedures for the PC planning area; (ii) provide details of the assumptions for the MWD area used in the Annual CAISO Transmission Planning Process (TPP) Base Cases; and (iii) provide an overview of the process used in the development of CAISO TPP and Western Electricity Coordinating Council (WECC) Base Cases.

## **1.2 Overview of the Process**

MWD will annually provide CAISO TPP base cases to the CAISO and will copy Arizona Electric Power Cooperatives (AEPSCO), MWD's Transmission Operator, on the base case submittal. MWD will use approved WECC base cases as the CAISO TPP base cases. Depending upon the objective of the study and study assumptions, MWD may modify approved WECC base cases for the development of CAISO TPP base cases. The CAISO TPP base cases follow the CAISO TPP timeline and use the assumptions included in the CAISO TPP Study Plan.

For the development of WECC base cases, Southern California Edison (SCE) requests MWD to provide inputs to SCE, depending on SCE's role as either area or sub-area coordinator for area 24. MWD will also include the CAISO and AEPSCO on WECC base case submittals.

Previously approved WECC base cases are used as the starting cases for all future cases. The base cases are modified as necessary depending upon the objective of the study and the study assumptions.

This document includes details of the assumptions used and the process followed for developing the WECC and CAISO TPP base cases.

## 2 CAISO TPP and WECC Base Case Development Process

The base case development process is completed on a yearly basis in order to keep the MWD system model up-to-date and consistent with changes that have occurred throughout the year.

Previously approved WECC base cases serve as the starting cases for the CAISO TPP base cases. MWD validates the previously approved WECC base cases to ensure that they are accurate and represent up-to-date information for modeling the MWD system.

### 2.1 Roles and Responsibilities

MWD, as its own TP, is responsible for maintaining all models and modeling data related to MWD's ownership of transmission, resources and loads directly connected to MWD's transmission system.

### 2.2 Modeling Assumptions and Responsibilities

The MWD Transmission System model will follow the WECC's Data Preparation Manual wherever is applicable. As recommended by the CAISO and SCE, MWD will submit WECC base case modeling information in accordance with the CAISO-SCE Joint Transmission Planning Base Case Preparation Process document posted on the [CAISO web site](#). This section provides additional information on what assumptions are made and what level of detail is required for modeling the various aspects of the base cases created.

#### 2.2.1 *Transmission Project Modeling*

Existing system model will be based upon as-built design and equipment test reports. Future capacity projects approved by MWD will reflect the most up-to-date information available for both scope and in-service dates.

Future maintenance projects in-service dates are based upon the latest information on the schedule of the maintenance projects. The maintenance projects that have a firm plan to be implemented and are either "under construction" or scheduled to be "under construction" will be modelled in the cases based upon the scope of work provided by the maintenance team.

#### 2.2.2 *Generation*

##### a. Models

Existing generator models will reflect the latest models provided by MWD.

Future Generators or modifications to existing generators will be modeled based upon MWD project status using the latest generator models available. Future projects that have a status of “in construction” will be modeled in future base cases. The exception to this will be for the cases that require the Renewable Portfolio Standard (RPS) needs to be modelled. If the “in construction” list of generation does not meet the RPS needs, additional generation will be modeled to meet these needs. This additional generation shall be based upon most likely to occur generation that is still moving forward.

b. Dispatch

Generation dispatch for existing units will be based either on historical information (if available) or based upon Net Qualifying Capacity (NQC) values. Future renewable generation dispatch will be based upon the CAISO TPP Study Plan for the given scenario.

2.2.3 Demand

MWD’s demand models will follow WECC’s Data Preparation Manual wherever is applicable, as well as other requirements found in the CAISO-SCE MOD-032-1 Requirements document posted on the [CAISO web site](#).

2.2.4 Outage Information

Planned outages that are at least 6 months in duration will be modelled based upon the planned dates of outages using the outage information provided by MWD and CAISO.

2.2.5 Firm Transmission Service and Interchange

Known commitments for Firm Transmission Service and Interchange on the MWD system will be modelled.

**2.3 CAISO TPP Base Case Development Process**

MWD is responsible for its transmission system model updates to CAISO and AEPCO at least once a year, usually at the beginning of the CAISO TPP, to accurately capture MWD’s transmission system model in the .

Submittal of CAISO TPP base cases shall be provided to CAISO and AEPCO.

**2.4 WECC Base Case Development Process**

For the development of WECC base cases, SCE requests MWD to provide inputs to SCE, depending on SCE’s role as either area or sub-area coordinator for area 24. MWD will also

include the CAISO and AEPCO, as MWD's Transmission Operator, on WECC base case submittals.

#### **2.4.1 Initial Base Case Data Submittal**

- a. MWD shall submit its loads for each WECC base case scenario to SCE, AEPCO, and CAISO in accordance with the WECC's Annual Base Case Compilation Schedule.
- b. If other changes are needed to the base case models, MWD shall submit their data to SCE, AEPCO, and CAISO in accordance with the WECC's Annual Compilation schedule for the requested WECC's base case scenario.
- c. Generator Owners within area 24 of the WECC base cases shall submit their data to SCE and CAISO, if applicable for the base case scenarios, if changes are needed to the base case.
- f. All WECC base case submittals shall be provided to SCE at [basecase@sce.com](mailto:basecase@sce.com), AEPCO at [btumarin@azgt.coop](mailto:btumarin@azgt.coop), and CAISO at [GridModelingData@caiso.com](mailto:GridModelingData@caiso.com).

#### **2.4.2 WECC's Base Cases for Base Case Review**

MWD is responsible for providing comments on the initial WECC base cases to SCE. SCE is responsible for submitting revised WECC base cases to the Area Coordinator or, if SCE is the area coordinator, to WECC in accordance with WECC Compilation schedule. As shown in SCE's WECC Base Case Development Process Map in Appendix F to the CAISO-SCE MOD-032-1 Requirements document posted on the [CAISO web site](#), SCE will provide the initial base cases to MWD for review and comment. MWD will provide review comments and the appropriate signoff sheet(s) for each WECC base case review request. Review comments and signoff sheet(s) must be received by SCE prior to the stipulated deadline in-order for them to be incorporated into the base case.

### **2.5 Short Circuit Modeling Data**

MWD maintains short circuit modeling data for their transmission planning area and will provide it to SCE, CAISO, or WECC upon request.

## Version History

Version	Change	By	Date
1.0	CAISO MWD Joint Process Document for MOD-032-1 Requirement R1 Implementation and Compliance, initial version	Charles Cheung, Mudita Suri and Edwin Tso	9-27-17

## Technical Review

Reviewed By	Name	Signature	Date
Senior Regional Transmission Engineer, Regional Transmission South (CAISO)	Charles Cheung	Original Signed	9-27-17
Regional Transmission Engineer, Regional Transmission South (CAISO)	Mudita Suri	Original Signed	9-27-17
Principal Resource Specialist Metropolitan Water District (MWD)	Edwin Tso	Original Signed	9-28-17

## Approval

Approved By	Name	Signature	Date
Manager, Regional Transmission South, Infrastructure Development (CAISO)	Robert Sparks	Original Signed	9-27-17
Principal Resource Specialist Metropolitan Water District (MWD)	Edwin Tso	Original Signed	9-28-17

## Appendix A. Modeling Communications

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Entities responsible for providing data should send it to:

PC – ISO at: [GridModelingData@caiso.com](mailto:GridModelingData@caiso.com)

TP – MWD at: [ETso@mwdh2o.com](mailto:ETso@mwdh2o.com)

As WECC Area Coordinator or Sub- coordinator of area 24 data, data may also be submitted to SCE:

TP – SCE at: [basecase@sce.com](mailto:basecase@sce.com)



## **Appendix B. Evidence Retention**

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The following evidence for demonstrating compliance with MOD-032 will be retained for a period of 4 years unless one of the following is true:

1. Last audit performed by the Compliance Enforcement Authority was over 4 years ago, then at a minimum, maintain evidence from the last audit until a new audit is performed.
2. Maintain evidence for a longer period of time if asked by the Compliance Enforcement Authority, as part of an investigation.
3. If an applicable entity is found non-compliant, it shall keep information related to the non-compliance, at a minimum, until mitigation is complete and approved.

The following documents need to be retained:

- Documentation showing that MWD and CAISO jointly developed required modeling data requirements and reporting procedures;
- Modeling requirements document;
- Posting and reporting procedures for modeling requirements documents; and
- Written notification regarding technical concerns with data submitted under R2, including the technical basis or reason for the technical concerns.