Available Transfer Capability
Implementation Document

## 1.0 Purpose

The California Independent System Operator Corporation (CAISO) describes a methodology for calculating Available Transfer Capability (ATC) for ATC paths within their Transmission Operator area.

This ATCID can be found on the CAISO OASIS site.

## 2.0 Selection of ATC Calculation Methodology

The CAISO has selected the Rated System Path Methodology for all ATC paths within its Transmission Operator area. The market ATC on ATC paths represents the methodology identifying the ATC available in the operation of the Day-Ahead Market and the Real-Time Market to optimize and support market awards. The reservation ATC on ATC paths represents the methodology for reserving ATC in advance of market operations, across the applicable horizons, for purposes of establishing Wheeling Through Priority.

## 3.0 Types of ATC Values and Frequency of Recalculation

For purposes of operating the Day-Ahead Market and the Real-Time Market:

- The CAISO calculates and posts to its OASIS hourly market ATC values once per hour for each ATC path for the next 168 hours (7 days) on a rolling basis. The hourly ATC values are determined after the close of the CAISO's Day-Ahead Market (DAM) and updated for the next operating hour after the close of the CAISO's Hour Ahead Scheduling Process (HASP). Transmission outage information is incorporated into the hourly ATC values.

- The CAISO calculates daily ATC values once per day for each ATC path for the next 31 calendar days on a rolling basis. For calendar days 1-7, the daily ATC value for a particular ATC path will be set at the minimum hourly ATC value determined after the close of the DAM. For calendar days 8-31, the daily ATC value for a particular ATC path will be set to the ATC path's Total Transfer Capability (TTC) calculated for that period less aggregate existing transmission commitments, which is made up of Existing Transmission Contracts and Transmission Ownership Rights.[1]

[1] An Existing Transmission Contract or ETC under the CAISO Tariff means, "The contracts which grant transmission service rights in existence on the CAISO Operations Date (including any contracts entered into pursuant to such contracts) as may be amended in accordance with their terms or by agreement between the parties thereto from time to time." A Transmission Ownership Right or TOR under the CAISO Tariff means "the ownership or joint ownership right to transmission facilities within the CAISO Balancing Authority Area of a Non-Participating TO that has not executed the Transmission Control Agreement,

- The CAISO calculates monthly ATC values once per week for each ATC path for months 2-13 on a rolling basis. The monthly ATC value for a particular ATC path will be set to the ATC path's TTC for that period, less aggregate existing transmission commitments.

The daily and monthly ATC values will not be posted to OASIS. Rather, the CAISO will make such values available on request to the ATC Contact.

For purposes of calculating ATC available for reservation in advance of market operation for establishing Wheeling Through Priority:

- Effective June 1, 2024, the CAISO will calculate and post on its OASIS, daily ATC values for each import ATC path available for reservation in advance to establish Wheeling Through Priority across the CAISO system. These values are updated daily and will be calculated across a 7-day rolling horizon available for reservation in advance of market operations.

- The CAISO calculates and posts monthly ATC values once per month for each import ATC path available for reservation in advance to establish Wheeling Through Priority across the CAISO system. These values are calculated for monthly 2-13 on a rolling basis and are available for reservation in advance of market operations in accordance with applicable tariff timelines. These values are calculated for establishing Wheeling Through Priority for June 1, 2024 and beyond.

## 4.0 Minimum Requirements for ATCID

### 4.1 Description of Rated System Path Methodology

The information describing how the CAISO's Rated System Path Methodology is implemented to develop ATC is set forth below and in the following documents:

- Appendix L to the CAISO Tariff
- CAISO Operating Procedure 3100 Establishing System Operating Limits for the Operations Horizon
- CAISO Operating Procedure 3640 Existing Transmission Contract Calculator Update
- Business Practice Manual for Market Operations

which transmission facilities are not incorporated into the CAISO Controlled Grid." (See CAISO Tariff, Appendix A.)

As set forth in Appendix L to the CAISO Tariff, ATC is defined as TTC, less the Existing Transmission Commitments (ETComm), less the Transmission Reliability Margin (TRM), less the sum of any unused existing transmission commitments (i.e., transmission rights capacity for ETCs or TORs (collectively Unused TR Capacity in CAISO Tariff at Appendix L)), less the CBM (which value is set at zero), less the scheduled net energy from imports/exports, less ancillary service capacity from imports.

### 4.2 Market Operations ATC Algorithms

For purposes of operating and optimizing the Day-Ahead Market and the Real-Time Market, the CAISO ATC algorithms are:

Imports

**ATC = Total Transfer Capability (TTC) - TRM - CBM - AS from Imports - Scheduled Net Energy - Hourly Unused TR Capacity.**

Exports

**ATC = TTC - TRM - CBM - Scheduled Net Energy - Hourly Unused TR Capacity.**

Where:

**TTC** is the Total Transfer Capability, defined as the amount of electric power that can be moved or transferred reliably from one area to another area of the interconnected transmission system by way of all transmission lines (or paths) between those areas under specified system conditions.

**CBM** is the Capacity Benefit Margin for the Interface during that period, which is set to zero (0).

**TRM** is the Transmission Reliability Margin for the Interface during that period.

**AS from Imports** is transmission capability in MW reserved for ancillary services imported into the CAISO Balancing Authority Area over a specified transmission interface.

**Scheduled Net Energy** is the difference between the quantity of energy in MW scheduled in the import and export directions on a particular transmission interface. This value will include any portion of ETCs and TORs scheduled in the CAISO DAM or HASP.

**Hourly Unused TR Capacity** is the sum of any unscheduled ETCs and TORs.

The CAISO's ATC algorithms are set as described below. The CAISO does not distinguish between firm and non-firm transmission service, but rather provides usage of transmission capacity under its operational control based on the outcomes of its security constrained unit commitment process for the DAM and Real-Time Market (RTM). Accordingly, an instructive comparison is the calculation of firm ATC as follows:

**ATC** = **TTC** - **ETC** - **CBM** - **TRM** + **Post backs** + **Counterflows**

Where:

**$ATC_F$** is the firm Available Transfer Capability for the transmission interface for that period.

**TTC** is the Total Transfer Capability of the transmission interface for that period.

**ETC** is the sum of existing firm commitments for the transmission interface during that period (including Firm Transmission Flow Utilization).

**ETC** = **NL** + **NITS** + **GF** + **PTP** + **ROR** + **OS**

Where:

**NL** is the capacity set aside to serve peak Native Load forecast commitments for the time period being calculated to include losses and Native Load growth, not otherwise included in TRM or CBM.

**NITS** is the capacity reserved for Network Integration Transmission Service serving load to include losses and load growth, not otherwise included in TRM or CBM.

**GF** is the capacity set aside for grandfathered transmission service and contracts for energy and/or transmission service, where executed prior to the effective date of a Transmission Service Provider's Open Access Transmission Tariff or "safe harbor tariff."

**PTP** is the firm capacity reserved for confirmed point-to-point transmission service.

**ROR** is the firm capacity reserved for rollover rights for contracts granting transmission customers the right of first refusal to take or continue to take transmission service when the transmission customer's transmission service contract expires or is eligible for renewal.

**OS** is the firm capacity reserved for any other service(s), contract(s), or agreement(s) not specified above using firm transmission service.

**CBM** is the Capacity Benefit Margin for the transmission interface during that period.

**TRM** is the Transmission Reliability Margin for the transmission interface during that period.

**Post backs** are changes to firm ATC due to a change in the use of transmission service for that period, as defined in Business Practices.

**Counterflows** are the adjustments to ATC as determined by the CAISO.

The CAISO does not use Post backs and accordingly would be set at zero (0) under the CAISO's ATC formulation. As discussed below, the CAISO's scheduled net energy and ancillary services from imports equates to counterflow adjustments. The CAISO further accounts for existing firm commitments. In this regard, the CAISO does not set aside capacity for Native Load, other services or any rollover rights or offer Network Integration Transmission Service or point-to-point transmission service. Thus, applying the ETC algorithm to the CAISO would result in:

**ETC** = 0 (**NL)** + 0 (**NITS)** + **GF** + 0 (**PTP)** + 0 (**ROR)** + 0 (**OS)**

The CAISO sets aside capacity for grandfathered transmission service contracts executed prior to the effective date of the CAISO's commencement of operations. However, as noted above, the CAISO uses Hourly Unused TR Capacity, which is the aggregate capacity subject to ETCs and TORs less ETC and TOR capacity scheduled through the CAISO's DAM or HASP. Accordingly, only for hourly ATC values covering periods beyond that subject to the close of the DAM will the Hourly Unused TR Capacity reflect aggregate ETC and TOR capacity for that particular transmission interface.

In addition, it should be noted that daily ATC values for days 8 through 31 and monthly ATC values are set at the TTC for the ATC path for that period under the CAISO's ATC algorithm. Because there is no market information to determine ancillary service capacity needed to accommodate Imports, scheduled net energy or Hourly Unused TR Capacity, each of those values are also set at zero.

### 4.3 Reservation ATC Algorithms

For purposes of calculating ATC for reservation in advance of market operation and establishing Wheeling Through Priority across a monthly and daily horizon, the CAISO algorithms are:

<u>Imports</u>

**ATC = Total Transfer Capability (TTC) - ETComm - TRM - CBM**

Where:

**TTC** is the Total Transfer Capability, defined as the amount of electric power that can be moved or transferred reliably from one area to another area of the interconnected transmission system by way of all transmission lines (or paths) between those areas under specified system conditions.

**ETComm** is the transmission capacity set aside for (1) Existing Transmission Contracts (ETC) and Transmission Ownership Rights (TOR), (2) transmission capacity reserved for Wheeling Through Priorities, and (3) Native Load needs determined in accordance with Appendix L-1, including the Native Load growth in the applicable horizon.

**CBM** is the Capacity Benefit Margin for the Interface during that period, which is set to zero (0).

**TRM** is the Transmission Reliability Margin for the Interface during that period.

The **ETComm** element of the ATC algorithm is further described, as below:

**ETComm** = **ETC/TOR + PWT + NLN**

Where:

**ETC/TOR** is the transmission capacity set aside for Existing Transmission Contracts (ETC) and Transmission Ownership Rights (TOR), which are treated as an existing commitment on the contractually specified ATC path. To the extent during a particular period, ETC/TORs are voluntarily released to the market in return for Congestion Revenue Rights (CRR)s, the associated ETC/TOR transmission capacity would be reduced accordingly.

**PWT** is the transmission capacity set aside as an existing commitment for awarded Wheeling Through Priority reservations across the appropriate time horizon.

**NLN** is the transmission capacity set aside to serve Native Load, including Native Load growth across the time horizon being calculated, not otherwise included in TRM or CBM. The NLN amount is determined for each calendar month based on the highest MW quantity of total Resource Adequacy and non-Resource Adequacy import supply under contract to CAISO Load Serving Entities (LSE) dedicated to serving their load, as demonstrated by Resource Adequacy showings and non-Resource Adequacy contract showings under Section 23.3 of the dynami for the same calendar month during the previous two (2) years, as may be adjusted under Sections L.1.3.3.2 and L.1.3.3.3. The Native Load growth is calculated by comparing the CEC load forecast for the applicable future period to the forecasts used to set CAISO Resource Adequacy Requirements applicable for that period for the previous two (2) years to determine an overall Native Load growth amount and then assigning a portion of this expected Native Load growth amount to each ATC path, using the highest ratio of Resource Adequacy imports shown for that calendar month to the total Resource Adequacy capacity shown for that calendar month during the previous two (2) years, as descried in Section L.1.3.3.1.

### 4.2 Accounting for Counterflow

In calculating market operations ATC, the CAISO market design does not rely on transmission reservations separate from transmission usage determined by the outcome of the CAISO's DAM, HASP, and Real-Time Market, including, but not limited to Day-Ahead Schedules, Ancillary Services Schedules, TOR Self- Schedules and HASP Intertie Schedules.[2] The CAISO posts the hourly market ATC values for ATC paths in megawatts (MW) to OASIS, in conjunction with the closing events for the DAM and HASP. The CAISO's hourly market ATC calculation includes a variable that addresses counterflow through the determination of scheduled net energy or hourly net energy flow over a particular transmission interface or ATC path. Hourly net energy flow is the difference between energy schedules accepted in the CAISO's Integrated Forward Market of the DAM as well as the HASP, as applicable, including scheduled Existing Transmission Contract rights or Transmission Ownership Rights for imports and exports at a scheduling point over a particular ATC path or transmission interface. For the next operating hour that calculation will be based on the accepted HASP Intertie Schedule and accepted schedules from ETCs and TORs, minus accepted demand bids at a scheduling point associated with the transmission interface. For additional hours of the operating day that calculation will be based on accepted Day-Ahead Schedules, minus accepted demand bids at a scheduling point associated with the transmission interface. Thus, counterflow from expected scheduled energy in the opposite direction is included in the ATC calculation at 100% value. No virtual bids are used in the calculation.

Counterflows are not a component of the ATC calculation for reservation in advance for purposes of establishing Wheeling Through Priority.

### 4.3 Identity of Transmission Operators and Transmission Service Relied Upon for Data

The CAISO receives data including, but not limited to, network changes and updates, equipment outages, load levels, voltage levels, major path flows, and other operating requirements from the following internal and adjacent Transmission Owners and/or Transmission Service Providers for calculating transfer capability:

- Arizona Public Service Company
- Bonneville Power Administration
- Centro Nacional de Control de Energia
- Imperial Irrigation District

[2] Appendix A of the CAISO Tariff defines the following terms. A Day-Ahead schedule is "a Schedule issued by the CAISO one day prior to the target Trading Day indicating the levels of Supply and Demand for Energy cleared through the IFM and scheduled for each Settlement Period, for each PNode or Aggregated Pricing Node, including Scheduling Points of that Trading Day." An Ancillary Service Schedule is "the notification by the CAISO indicating that a Submission to Self-Provide an Ancillary Service has been selected to provide such service in the DAM, HASP, or RTM." A HASP Intertie Schedule is "the binding output of the HASP, including accepted Bids for imported Energy or Ancillary Services and associated LMPs and ASMPs." A TOR Self-Schedule is "a Self- Schedule submitted by a Scheduling Coordinator pursuant to Transmission Ownership Rights, as reflected in the TRTC Instructions."

- Los Angeles Department of Water and Power
- NV Energy
- PacifiCorp
- Sacramento Municipal Utility District
- Salt River Project
- TransBay Cable
- Turlock Irrigation District
- Western Area Power Administration

### 4.4 Identity of Transmission Operators and Transmission Service Providers which Receive Data from the CAISO

The CAISO provides data including, but not limited to, network changes and updates, equipment outages, load levels, voltage levels, major path flows, and other operating requirements for the following internal and adjacent Transmission Operators and/or Transmission Service Providers to assist in calculating transfer capability:

- Arizona Public Service Company
- Bonneville Power Administration
- Centro Nacional de Control de Energia
- Imperial Irrigation District
- Los Angeles Department of Water and Power
- NV Energy
- PacifiCorp
- Sacramento Municipal Utility District
- Salt River Project
- Turlock Irrigation District
- Western Area Power Administration – Desert Southwest Region

### 4.5 Description of Specific Allocation Processes

The CAISO is the path operator for the California-Oregon Intertie (COI) (WECC Path 66) pursuant to the California-Oregon Intertie Path Operating Agreement, which can be found as Appendix 5. The COI is made up of the Pacific AC Intertie and the California-Oregon Transmission Project. The CAISO is the Transmission Service Provider for transfer capability on the Pacific AC Intertie and a relatively small portion of the California-Oregon Transmission Project. Other entities with ownership interests in the California-Oregon Transmission Project serve as the Transmission Service Provider for the bulk of the transfer capability on that portion of COI. The CAISO, as the path operator, allocates transfer capabilities between the Transmission Service Providers for COI in response to outage and other system conditions in accordance with the California-Oregon Intertie Path Operator Agreement.

The CAISO is also the path operator for the West of River Path (WECC Path 46), but is not the Transmission Service Provider or Transmission Operator for all lines forming the path. The CAISO determines the transfer capability of the path based on system conditions, i.e., each combination of specific line and equipment outages, and calculates the effect of any changes on the allocation of flow limits on the individual lines forming the path and notifies participants of the updated flow limits directly. Other participant owners of the West of River Path include the Los Angeles Department of Water and Power and the Imperial Irrigation District. This calculation and allocation process is performed using a calculator that accounts for the various confidential contractual agreements of the path participants.

Each of the foregoing processes affects the determination of total transfer capability that is used as an input into determining the market ATC for a particular ATC path. For other CAISO ATC paths, the market ATC is calculated using an application called Existing Transmission Contracts Calculator or ETCC. The ETCC calculates the amount of transmission capacity reserved (in MW) for each ETC or TOR on each transmission interface for each hour of the trading day. The CAISO reserves transmission capacity for each ETC and TOR based on Transmission Rights and Curtailment (TRTC) Instructions[3] provided by the responsible participating transmission owner or non-participating transmission owner to implement the respective obligations reflected in the underlying transmission rights. Accordingly, the amount of transmission capacity reserved for ETC and TOR rights is determined based on the TTC of each transmission interface and in accordance with TRTC Instructions stipulated in the existing agreements and provided to the CAISO. The types of TRTC Instructions the CAISO receives generally fall into three basic categories:

- The ETC or TOR reservation is a fixed percentage of the TTC on a line, which decreases as the TTC is derated (ex. TTC = 300 MW, ETC fixed percentage = 2%, ETC = 6 MWs. TTC derated to 200 MWs, ETC = 4 MWs);

[3] Under Appendix A of the CAISO Tariff, TRTC Instructions are the "operational directives developed (I) between Existing Rights holders and holders of Converted Rights and the Participating TO, submitted to the CAISO by the Participating TO, unless otherwise agreed to by the Participating TO and the Existing Rights or Converted Rights holder, and (ii) by TOR holders, to facilitate the accommodation of Existing Rights, Converted Rights, and TORs in the CAISO Markets."

- The ETC or TOR reservation is a fixed amount of capacity, which decreases if the line's TTC is derated below the reservation level (ex. ETC = 80 MWs, TTC declines to 60 MW, ETC = TTC or 60 MWs; or
- The ETC or TOR reservation is determined by an algorithm that changes at various levels of TTC for the line (ex. Intertie TTC = 3,000 MWs, when line is operating greater than 2,000 MWs to full capacity ETC = 400 MWs, when capacity is below 2000 MWs ETC = TTC/2000* ETC).

ETC capacity reservations remain reserved during the DAM and HASP. To the extent that the reservations are unused, they are released in real-time operations for use in the Real-Time Market. TOR capacity reservations remain reserved during the Day-Ahead Market and HASP, as well as through real-time operations. This capacity is not under CAISO operational control and is not released to the CAISO for use in the market.

For further information on the ETCC, see:

- Appendix L to the CAISO Tariff
- CAISO Operating Procedure 3630 Modeling - Scheduling ETC and TOR Rights, which is publicly available on the CAISO Website

### 4.6 Description of Treatment of Generation and Transmission Outages

Generation and transmission outages that create significant reductions in the transfer capability are modeled as reductions in the seasonal TTC to derive the CAISO's hourly TTC for both the calculation of market ATC and ATC for reservation of Wheeling Through Priority.

In calculating ATC for market operation purposes, if the generation or transmission outage is only in effect for part of the hour, the hourly market ATC value will be impacted. Since the daily market ATC values for days 1 through 7 are determined by the lowest hourly market ATC value for the particular day for each ATC path, any outage that impacts hourly market ATC calculations will also impact the daily market ATC calculations. Outages are not considered for daily market ATC values for days 8 through 31 and for monthly market ATC values.

In calculating ATC for reservation in advance of market operation for purposes of establishing Wheeling Through Priority, the methodology accounts for known transmission outages through the reduction of TTC across the appropriate monthly and daily horizon for which the ATC is calculated. The TTC is reduced to the lowest TTC driven by transmission outages occurring during the NERC heavy load hour period across both the monthly ATC and daily ATC calculation horizon.

The outages of other Transmission Service Providers that cannot be mapped to the transmission model may include outages from the neighboring Balancing Authority Areas. Outages that are supplied to the CAISO that would affect the TTCs are received through outage coordination information and modeled by the CAISO and if they impact hourly TTC, will be used in the hourly ATC calculations for days 1 through 7. Other information on the treatment of outages can be found at:

- Appendix L to the CAISO Tariff at L5.4.1

## 5.0 Using Assumptions No More Limiting than those Used in Planning of Operations

The assumptions used to determine ATC, which are no more limiting than the ones used in the planning of operations for the corresponding time period, are described in the following documents:

- Appendix L to the CAISO Tariff
- CAISO Operating Procedure 3100 Establishing System Operating Limits for the Operations Horizon

## 6.0 Transmission Model Requirements

Information describing the transmission model used by the CAISO can be found at:

- Appendix L to the CAISO Tariff
- CAISO Operating Procedure 3100 Establishing System Operating Limits for the Operations Horizon

The CAISO constructs its base case model from the most recent WECC cases available for the study time frame and conditions (summer, winter, spring, peak load, off-peak load, etc.) to be studied and uses a basic power flow model to run the load flow analyses. The base cases are updated or refined to reflect the most accurate information available regarding system topography, including generation and transmission additions and retirements, generation dispatch, and load level developed through the CAISO's load forecasting program (ALFs) or any other competent method to estimate load level for the study area. Phase shifters are modeled in non-regulating mode, existing RAS are represented, and series compensation for each line is included at the expected operating level.

## 7.0 Modeling Process to Determine Transmission Transfer Capability

The CAISO satisfies the performance levels included in the planning and operating criteria described in the following documents:

- Appendix L to the CAISO Tariff
- CAISO Operating Procedure 3100 Establishing System Operating Limits for the Operations Horizon

In this regard, the CAISO analysis to establish the TTC for any ATC path for which it is also the TOP, equates to its determination of a System Operating Limit for that path, such that the CAISO TTC and SOL for an ATC path are the same. Procedure 3100 states, "All operating limits, including Facility Ratings, WECC Path Ratings, cut plane ratings and Total Transfer Capabilities (TTCs), are designated SOLs to the California ISO in the Operations Horizon." However, for an ATC path whose capacity is limited by contract, the CAISO sets TTC on the ATC path at the lesser of the maximum allowable contract capacity or the reliability limit.

### 7.1 Where Impossible to Simulate a Reliability-Limited Flow

For the conditions described by R2.2, the CAISO calculates the TTC of "Flow Limited" paths consistent with practices used in the past, including using the path thermal rating. Any paths for which TTC has not been calculated based on R2.1 will be demonstrated to be flow limited.

### 7.2 Development of Nomogram

The CAISO generally does not limit the TTC of a path due to the simultaneous interaction with another path in the form of a nomogram. Rather, the impact of the interaction between multiple ATC paths is accounted for with nomograms enforced in real-time, either in an automated manner through market systems or manually through monitoring by operations staff to ensure there are no violations of the system operating limitations.

In accordance with the TRM implementation document (TRMID), the reduction of ATC due to interaction between a CAISO intertie ATC Path and a non-CAISO path may be managed through the utilization of TRM.

The CAISO applies a nomogram developed by the Sacramento Municipal Utility District (SMUD) to establish the ATC values for all ATC paths connecting the CAISO to SMUD. The nomogram is described in the SMUD Procedure SP-342, SMUD System ATC Paths ATCID.

### 7.3 Determination of Adverse Impact

The CAISO will identify when the TTC for the ATC Path being studied has an adverse impact on the TTC value of any existing path. The CAISO does this by modeling the flow on the path being studied at its proposed new TTC level, simultaneous with the flow on the existing path at its TTC level while at the same time avoiding adverse system impacts. The CAISO will include the resolution of the adverse impact in its study report for the ATC Path.

### 7.4 Allocation of Transmission Transfer Capability by Contract

See Section 4.5 above.

### 7.5 Pre-1994 Transmission Transfer Capability Determinations

A number of CAISO ATC paths have ratings that were established, known and used in operation since January 1, 1994, and no action has been taken to have the path rating updated using a different method. Accordingly, the TTC for those ATC paths will be set at the previously established amount. For more information on such ATC paths, see ATC Contact.

## Version History

| Version | Change | Date |
|---|---|---|
| 5.0 | Annual Review:<br>Added document control statement in footer; no other content changes. | 8/01/19 |
| 6.0 | Annual Review:<br>Replaced all ISO Tariff references to include CAISO.<br>Replaced references of Comission Federal de Electricidad with Centro Nacional de Control de Energia.<br>Minor format and grammar updates. | 10/29/20 |
| 7.0 | Annual Review:<br>Updated NERC Standard references, updated CAISO Procedure references, and updated from ISO to CAISO.<br>Removed references to Total Transfer Capability Plan 05, as it retired and was previously overlooked.<br>Removed Sierra Pacific and added “NV Energy” to Nevada Power Company references.<br>Minor format and grammar updates.<br>Removed history prior to five years. | 10/14/21 |
| 7.1 | Annual Review:<br>Removed “(Nevada Power Company)” from NV Energy references. | 9/01/22 |

| Version | Change | Date |
|---|---|---|
| | Updated one remaining instance of ISO to CAISO, added "CAISO" to Operating Procedure references, updated applicable NERC Standard references, and minor punctuation edit. | |
| 7.2 | Annual Review: Minor formatting and grammar edit only, no other content changes. | 8/15/23 |
| 7.3 | Updates to the ATCID document to reflect the calculation of ATC for reservation in advance of market operations to support Wheeling Through Priority in accordance with Appendix L-1 of the Tariff. Removed history prior to five years. | 1/17/24 |
| 8.0 | Updated due to the retirement of NERC MOD-001 and MOD-029 Standards. Removed all standards references and updated language accordingly. | 2/01/24 |
| 8.1 | Annual Review: Minor edit in Section 4.4 with Western Area Power Administration (added – Desert Southwest Region). Update at the end of Section 7.2 to include SMUD "Procedure SP-342, SMUD System ATC Paths ATCID". Minor formatting and punctuation edits. | 11/05/24 |