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## Description of ATC Calculation

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### Definitions

**Available Transfer Capability (ATC):** The measure of the transmission capability remaining in the physical transmission network for further electricity transfers, over and above already committed uses. It is defined as Total Transfer Capability less Existing Transmission Commitments, less a Capacity Benefit Margin, less a Transmission Reliability Margin.

**Total Transfer Capability (TTC):** The amount of electric power that can be moved or transferred reliably from one area to another area of the interconnected transmission systems by way of transmission lines (or paths) between those areas under specified system conditions. This value may reflect contractual arrangements or be based on certain equipment limitations or system conditions. TTC represents the reliability limit of a transmission path at any specified point in time.

**Operating Transfer Capability (OTC):** An adjustment to the TTC of a posted transmission path during the Scheduling and Operating Horizons when the system is in an abnormal operating state, such as during forced or planned line outages. During periods when an OTC value is required, the transmission path scheduling limit will be the OTC instead of the TTC. OTC represents the reliability limit of a transmission path at the point in time and for the duration of the system abnormality.

**Existing Transmission Commitments (ETC):** The measure of any transmission capacity committed for use. Existing Transmission Commitments (ETCs) are a Transmission Provider's existing transmission capacity obligations which may include grandfathered transmission contracts, OATT transmission reservations, Native Load usage, reasonably forecasted (over the Planning Horizon) Native or Network Load growth, or other obligations that impact Firm ATC.

**Transmission Reserve Margin (TRM):** The amount, if any, of transmission transfer capability on a line or path set aside for any or all of the following: load forecast and load distribution error, variations in facility loadings, uncertainty in transmission system topology, loop flow impact, variations in generation dispatch, automatic sharing of reserves, nomograms, reactive power flows, and other uncertainties as identified through the NERC reliability standards development process.

**Capacity Benefit Margin (CBM):** The amount of TTC preserved by the Transmission Provider for load-serving entities, whose loads are located on that Transmission Provider's system, to enable access by the load-serving entities to generation from interconnected systems to meet generation reliability requirements. Preservation of CBM for a load-serving entity allows that entity to reduce its installed generating capacity below that which may otherwise have been necessary without interconnections to meet its

generation reliability requirements. The transmission transfer capability preserved as CBM is intended to be used by the load-serving entity only in times of emergency generation deficiencies.

### **Description of Mathematical Algorithms Used to Calculate Firm And Non-Firm ATC**

ATC calculations are made and posted on PacifiCorp's OASIS for three time horizons as described herein:

**Scheduling Horizon (Real-Time):** OASIS calculates the ATC after the Operating Horizon closes, typically at 3:00 PM Pacific time the day before transactions are scheduled to occur. In addition, PacifiCorp's OASIS re-calculates ATC continuously during the Operating and Scheduling Horizons as new TSRs are confirmed and as soon as schedules are received and approved for existing reservations.

ATC is also recalculated whenever new e-Tags are received and impact either firm or non-firm ATC.

To determine firm and non-firm ATC, the Transmission Provider uses the following algorithms for the Scheduling Horizon:

#### Scheduling Horizon Formulas:

(a) Firm ATC = TTC – (TRM + CBM + Existing Transmission Commitments [ETC] + Firm Reservations)

(b) Non-Firm ATC = TTC – (Confirmed Firm Schedules [e-Tags] + Confirmed Non-Firm Reservations) + Firm Counter Schedules [e-Tags]

**Operating Horizon (Pre-schedule/Day Ahead):** OASIS calculates ATC as e-Tags are approved throughout the Pre-schedule day and runs to the end of the Pre-schedule day(s) per the Western Electricity Coordinating Council (WECC) Pre-schedule Calendar. PacifiCorp's OASIS re-calculates ATC continuously during the Operating and Scheduling Horizons as new TSRs are confirmed and as soon as schedules are received and approved for existing reservations.

#### Operating Horizon Formulas:

(c) Firm ATC = TTC - (TRM + CBM + ETC + Firm Reservations)

(d) Non-Firm ATC = TTC – (TRM + CBM + Confirmed Firm Schedules [e-Tags] + Confirmed Non-Firm Reservations) + Firm Counter Schedules [e-Tags]

**Planning Horizon:** Firm ATC is calculated using the long range load forecasts filed by Network Transmission Customers annually with their Load and Resource (L&R) submittals. L&R submittals are consistent with integrated resource plans filed with the

regional regulatory entities (State Utility Commissions). Existing Transmission Commitments (ETC), TRM, CBM, and confirmed Long-Term Firm Point-to-Point Transmission Service Requests (including rollover assumptions) are utilized to calculate firm ATC in the Planning Horizon. Non-firm ATC is calculated and posted by deducting any confirmed Short-Term Non-Firm Point-to-Point Transmission Service Requests.

Planning Horizon Formulas:

(e) Firm ATC = TTC - (TRM + CBM + ETC + Firm Reservations)

(f) Non-Firm ATC = TTC - (TRM + CBM + ETC + Firm Reservations + Non-Firm Reservations)

**Revision History**

<b>Version</b>	<b>Date</b>	<b>Change Summary</b>
0	4/24/08	