

## **ECONOMIC PLANNING STUDY REQUEST OF THE OWNER'S COORDINATED OPERATION AGREEMENT PARTIES**

The Owner's Coordinated Operation Agreement (OCA) Parties (Parties) appreciate the opportunity to submit this Economic Planning Study Request. The OCA is an agreement among the Western Area Power Administration (Western), the Transmission Agency of Northern California (TANC), Pacific Gas and Electric Company (PG&E), and PacifiCorp (collectively, the Parties). The OCA governs the coordinated operation of the California-Oregon Transmission Project (COTP) and the Pacific AC Intertie (PACI). The OCA Parties have previously selected the California Independent System Operator (CAISO) to serve as the Path Operator for the California-Oregon Intertie (COI)/Path 66. The enabling agreement between the CAISO and the OCA Parties is the Path Operator Agreement.

### **Requested Study for Path 66**

The Parties are submitting this Economic Study Request for the COI/Path 66 to be performed as part of the 2016-17 Transmission Planning Process, pursuant to the CAISO Tariff Section 24.3.3.d and Section 3.2.2.1 of the CAISO Business Planning Manual for the Transmission Planning Process. Path 66 consists of the combined COTP and PACI facilities, which provide 4,800 MW of import capability from the Pacific Northwest into California (north-south) and 3,750 MW of export capability from California to the Pacific Northwest (south-north). There are several facilities (both north and south of the border) that impact the operating characteristics and import/export capability on COI.

Recent economic studies performed by the CAISO indicate limited congestion on COI but these findings may be due to normative assumptions in the studies. It is requested that the 2016-17 TPP study consider a broader range of operating conditions reflecting actual operating issues including expected and unexpected outages. The CAISO may also want to consider using additional analytic tools to quantify the economic benefits attributable to reduced congestion and greater intertie imports.

### **Binding Constraint**

The OCA Parties identify the Malin 500 intertie, previously known as the PACI, as the relevant binding constraint within the CAISO system. The COI operates under a seasonal nomogram that is impacted by hydro conditions in northern California, and other transmission facilities. Additionally, CAISO Operating Procedure 6010 and 6010A discusses the effects that outages (expected and unexpected) have on COI transfer capabilities.

### **A History of Congestion**

The Malin 500 Intertie has shown consistently high levels of congestion hours in the Day Ahead Market that resulted in congestion charges of tens of millions of dollars annually. The table below shows the annual congestion charges costs and hours of Malin 500

congestion since 2009. Between 2009 and 2015 congestion has apparently cost the CAISO an average of \$55 million annually, and representing over 21% of the annual hours.

	<b>Congestion Charges ISO COI (\$mil)</b>	<b># of Hours<sup>1</sup></b>	<b>% of Hours<sup>2</sup></b>
<b>2009</b>	49.9	438	5%
<b>2010</b>	41.2	964	11%
<b>2011</b>	49.5	1,139	13%
<b>2012</b>	84.7	3,689	42%
<b>2013</b>	34.0	1,844	21%
<b>2014</b>	88.7	2,190	25%
<b>2015</b>	37.7	2,303	26%
<b>Total</b>	385.7	12,576	21%

<sup>1</sup> The # of Hours is the percentage of Hours times 8760 or 8784 for a leap year, except for 2015 which is the actual hours.

<sup>2</sup> The % of Hours is the maximum of the % of hours indicated for COTPISO and PACI in the indicated sources.

Sources: For 2009, 2010 and 2011, "2011 Annual Report on Market Issues and Performance," CAISO Department of Market Monitoring, p. 133. For 2012, 2013 and 2014 "2014 Annual Report on Market Issues & Performance," p. 145. The 2015 data is from the CAISO OASIS website, <http://oasis.caiso.com>.

### **Supporting Studies**

There are several recent relevant studies that address the import capability on the COI. The OCOA Parties (in consultation with the CAISO) have recently performed studies regarding near-term and long-term potential modifications and operating characteristics designed to maximize import capability and load serving capability.

The CAISO 2015-16 Draft Transmission Plan identified congestion on COI costing \$736,000 over 286 hours in 2020 and \$255,000 over 97 hours in 2025. Based upon the experience since the implementation of MRTU and the fact that current Operating Procedures result in transfer capability on the COI reaching 4,800 MW (N-S) only 30 to 40 percent of the time (2014-2015), the OCOA parties request this special economic study due to the divergence between actual congestion experienced on the COI and the modeled congestion reflected in the transmission planning process.

Mitigation of the Malin 500 congestion could also provide economic benefits for the planned integration of PacifiCorp as a full Participating Transmission Owner (PTO) into the CAISO. The Technical Appendix to the PacifiCorp Benefits Study uses the full 982 MW transfer capability between PacifiCorp into the CAISO utilizing four different interconnection paths between the CAISO and PacifiCorp to estimate the potential benefits of CAISO expansion. To the extent the COI import capability is reduced due to congestion or other system conditions, the expected transactions between the CAISO and PacifiCorp

could be impacted, which may negatively affect the expected benefits that have been identified for PacifiCorp's full integration into the CAISO. Additionally, the Benefits Study, on page 2, states that "...coordinated transmission planning could significantly increase transfer capability between an integrated PacifiCorp-CAISO systems, which could increase the level of incremental benefits in this report." On page 8, however, the Benefits Study recognized that "The quantity of capacity savings from peak load diversity depends on three factors [which includes] (2) transfer limits between CAISO and PacifiCorp that constrain the maximum amount of capacity savings...."

### **Expected Benefits**

The OCOA parties believe that an economic study that more effectively captures a historically and operationally accurate level of congestion will be able to identify economically viable solutions to help offset some of the congestion costs that have incurred on the COI, increase the load serving capability in northern California, and allow the customers in the CAISO and PacifiCorp to realize the benefits of the proposed regional expansion.