California Independent
System Operator Corporation

Memorandum

To: ISO Board of Governors

From: Gary DeShazo, Director – Regional Transmission - North

Date: May 13, 2008

Re: Decision on Palermo-Rio Oso 115 kV Line Re-construction Project

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This memorandum requires Board action.

EXECUTIVE SUMMARY

ISO Management requests ISO Governing Board approval of the Palermo-Rio Oso 115 kV Line Reconstruction Project ("Project") on the ground that it is necessary to maintain system reliability in accordance with federally mandated reliability standards adopted by the Federal Energy Regulatory Commission ("FERC"). The Project must be in-service by June 2010 to mitigate the identified system reliability concern. The Project has an estimated cost of $55 million and therefore must be approved by the ISO Governing Board.

Each year Planning and Infrastructure Development prepares an annual ten-year planning assessment to guide the enhancement and expansion of transmission facilities to ensure the ISO Controlled Grid can satisfy the needs of a competitive bulk power market in a reliable, economically efficient, and environmentally acceptable manner. As a result of this process, ISO Management identified the Project as needed to increase electric transmission capacity in the Yuba-Sutter geographic area.

In addition to the proposed Project, six alternatives (includes a "status quo" or "do nothing" alternative) were assessed by the ISO. The proposed Project constitutes the lowest cost alternative that also provides a long-term solution for the Yuba-Sutter area. This Project has undergone stakeholder review through the CAISO Planning Process and has been approved by the ISO Executive Leadership Team for consideration by the ISO Governing Board.

The geographic location of the project area is shown in Figure 1.

CAISO
151 Blue Ravine Road
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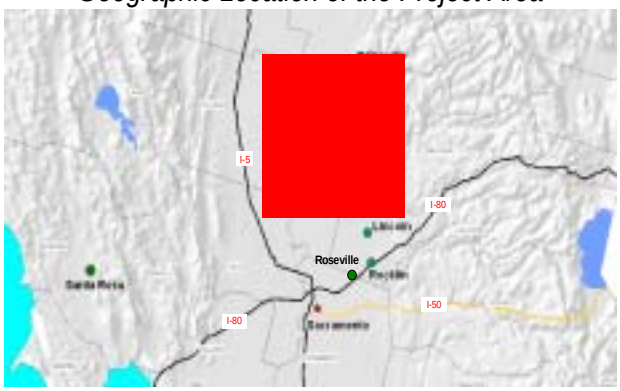
Figure 1
Geographic Location of the Project Area



MOTION

Moved, that the ISO Board of Governors finds that the Palermo-Rio Oso 115 kV Re-construction Project, as described in the Board Memorandum dated May 13, 2008, is a necessary and cost effective addition to the CAISO Controlled Grid; and

Moved, that the ISO Board of Governors directs PG&E to continue with the design, licensing, and construction of this project.

BACKGROUND

This Project has been identified as a cost effective transmission solution to addressing an anticipated Reliability Criteria violation and therefore is needed by June 2010 to reliably serve customers in the Honcut, eastern part of Marysville, Olivehurst, southern part of Yuba City and East Nicolaus areas of Pacific Gas and Electric Company's (PG&E) service territory. The re-construction work would include a 40-mile section of the existing double circuit tower line between Palermo and East Nicolaus substations. The re-conductor work, with minimum 1,113 kcmil all aluminum conductor, will include an additional 30-mile section between Palermo and Bogue Junction for a total of 70 circuit miles. A scope diagram for the proposed Project is shown in Figure 2.

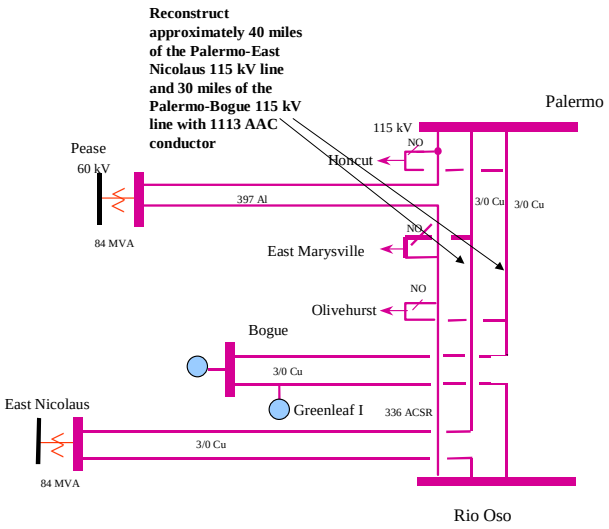


Figure 2: Scope diagram for the Palermo-Rio Oso 115 kV Line Re-construction Project

There are currently three Palermo - Rio Oso 115 kV lines located in Yuba and Sutter Counties. One line is constructed on a single circuit tower configuration and the other two lines are constructed on a double circuit tower configuration. They range in length from 46 to 57 miles. These lines provide power to the Honcut, Pease, East Marysville, Olivehurst, Bogue and East Nicolaus distribution substations. The 2006 peak electric demand in the area was recorded at approximately 374 MW and is projected to increase at a rate of 11.3 MW per year or 2.8 % per year.

In addition to providing the system's transfer capability to area electric customers, the Palermo-Rio Oso 115 kV lines also serve as an important transmission path for power generated by nearby hydroelectric generating facilities as well as a parallel path to power imported over the California-Oregon Intertie ("COI"). There are several hydroelectric powerhouses in the area, particularly along Feather River between Lake Almanor and Lake Oroville. Most of them are interconnected to the 230 kV systems of the Table Mountain and Rio Oso substations, and to the 115 kV system of the Palermo Substation. Power from these hydroelectric powerhouses, together with parallel flows from COI via Table Mountain Substation, significantly increases the flows on the Palermo-Rio Oso 115 kV lines, contributing to the need for the Project as discussed below.

During high hydroelectric generation periods and north to south COI import power conditions, power flow studies have shown that sections of the Palermo - Rio Oso 115 kV lines would exceed their emergency rating by up to 19% during emergency operating conditions at summer peak loads. An emergency rating, which generally should not be exceeded, is a higher rating on a transmission line to allow greater than normal power flow for a short time to address contingency circumstances. Accordingly, the Project is needed to protect the physical condition of the line and prevent interrupting firm load during the emergency operating conditions in violation of reliability standards. The Project accomplishes this goal by providing additional power transfer capability into the load area to reliably serve electric customers in the area. The Project also transports additional bulk power to PG&E load centers in the Sacramento area.

OTHER ALTERNATIVES CONSIDERED

In addition to the proposed Project, six other alternatives were evaluated to assess their ability to meet compliance requirements of the Reliability Criteria over a long-term period of time. Alternatives assessed were:

Alternative 1: Status Quo – This alternative will result in reduced reliability

Alternative 2: Convert Table Mountain-Pease 60 kV to 115 kV and construct Pease-Marysville Jct. 115 kV line

Alternative 3: Rebuild 230 kV Network

Alternative 4: Construct a new Palermo-Rio Oso 230 kV line

Alternative 5: Construct a new Table Mountain-Rio Oso 230 kV line

Alternative 6: Construct a new Palermo-Rio Oso 115 kV line

CONCLUSION

The CAISO's consideration of the above six alternatives indicated that they are higher in cost and deliver smaller load serving capability for the affected areas. With the exception of Alternative 1, these alternatives also face significant uncertainties in permitting requirements and feasibility associated with any proposed route for such new lines. PG&E has determined from consultations with the California Public Utilities Commission that permitting, mitigation of environmental impacts, and need for additional rights-of-way would likely result in additional project costs and time to complete these alternative projects. For these reasons, the CAISO concluded that the Project was the preferred and least cost transmission solution to address the identified System Reliability need.