

Memorandum

To: ISO Board of Governors
From: Laura Manz, Vice President of Market & Infrastructure Development
Date: July 10, 2009
Re: **Briefing on Status of Transmission Projects**

This memorandum does not require Board action.

EXECUTIVE SUMMARY

The purpose of this memorandum is to provide the ISO Board of Governors (the Board) with updated information on the following major transmission projects:

- Tehachapi Renewable Transmission Project;
- Devers – Palo Verde No. 2 500 kV Project;
- Sunrise Powerlink Project; and
- Trans Bay Cable Project.

TEHACHAPI RENEWABLE TRANSMISSION PROJECT

In January 2007, the Board approved the Tehachapi Renewable Transmission project (Tehachapi) to connect and deliver 4,350 MW of proposed renewable generation projects from the Tehachapi Wind Resources Area. This project is critical for helping load-serving entities in the California Independent System Operator Corporation (the ISO) footprint meet State-mandated renewable portfolio standards requirements. To date, power purchase agreements have been signed for 1,942 MW of new wind generation in this resources area. Tehachapi includes eleven segments of bulk transmission lines and substation facilities with 230 kV and 500 kV operating voltage. To date, transmission segments 1–3 have been granted environmental permits from the California Public Utilities Commission (CPUC) and the United States Forest Service. Transmission segments 1–3 include the Antelope – Pardee 500 kV, Antelope – Vincent No. 1 500 kV, Antelope – Windhub 500 kV and Windhub – Highwind 230 kV transmission lines. Upon completion, these three segments will have total transmission capability of 700 MW. Expected completion date for the 500 kV portion of Segments 1 – 3 is fourth quarter of 2009, and summer 2010 for the 230 kV portion.

Segments 4–11 include 250 miles of new and upgraded transmission facilities and substations, primarily 500 kV facilities and one 230 kV transmission line. Currently, Southern California Edison (SCE) is

expecting environmental permit approval from the CPUC and the U.S. Forest Service this summer. Construction completion dates for these segments are scheduled for 2011, 2012 and 2013. Upon completion in Winter 2013, the completed eleven segments of the Tehachapi project will have a total of 4,500 MW of transmission capability.

DEVERS – PALO VERDE NO. 2 500 kV PROJECT

In February 2005, the Board approved the Devers-Palo Verde No. 2 500 kV project (DPV2) as an economic transmission project to access lower cost thermal plants (i.e., gas-fired generating facilities) in the Palo Verde Hub. The original scope of this project included 225 miles of 500 kV transmission line between Arizona and California, and a 42-mile 230 kV transmission line between SCE's Devers and Valley substations in California. The DPV2 received approval from the CPUC in January 2007, but was denied approval by the Arizona Corporation Commission (ACC) in June 2007.

Since the ACC permit denial, SCE continued to pursue approval of the Arizona portion, believing it would continue to provide important economic benefit to both California and Arizona. However, in May 2009, SCE updated its economic analysis of the project with new updates for gas prices, load forecast, carbon tax for coal imports and new renewable generation development in the Western Interconnection and in California. This updated economic analysis indicates significantly reduced economic benefits to the project and no longer supports SCE re-filing its application with the ACC. SCE continues to pursue the California portion of the DPV2 project and is currently awaiting CPUC authorization to begin construction to connect and deliver new and efficient thermal generation and renewables (mostly solar generation) to the ISO-Controlled Grid. Management recently reviewed and evaluated the proposed California portion of the DPV2 project and agreed that construction of this portion of the project is necessary to interconnect generating facilities currently in the ISO interconnection queue. On June 19, 2009, the ISO sent a letter to the CPUC Administrative Law Judge responsible for the DPV2 proceeding indicating that the California portion of the project will be important in meeting state renewable portfolio standards and setting out the milestones needed for ISO agreement that construction of the California portion of the project is necessary infrastructure to connect generating facilities in the ISO's interconnection queue. On June 26, SCE submitted supplemental information to the CPUC in support of its petition to begin construction of the California portion of DPV2. SCE reports that it has signed a power purchase agreement for 242 MW of solar resources in the project area.

SUNRISE POWERLINK PROJECTS

In August 2006, the Board approved the Sunrise Powerlink project (Sunrise project) due to its reliability benefits, economic benefit and access to renewables. The Sunrise project received CPUC approval in December 2008 and U.S. Bureau of Land Management approval in January 2009. San Diego Gas & Electric Company (SDG&E) awaits the U.S. Forest Service permit decision, anticipated this summer. Management expects detailed project engineering to be completed in October 2009, with construction expected to begin in June 2010, to finish in June 2012. Early, preparatory construction, including installation of foundations for 21 structures, may start as early as the fourth quarter of 2009 to mitigate environmental impact to the big-horned sheep in the area.

TRANS BAY CABLE PROJECT

In January 2007, the Board approved the Trans Bay Cable Project (Trans Bay project) as a reliability project to support the retirement of old thermal generation in San Francisco. The City of Pittsburg municipal utility will eventually own the Trans Bay project, and will apply to become a participating transmission owner. It will then turn operational control of the Trans Bay project over to the ISO, in accordance with the Transmission Control Agreement. The Trans Bay project consists of a 59-mile, 400 MW, high-voltage, direct-current transmission system running under San Francisco Bay from Pittsburg to a location adjacent to Potrero substation in San Francisco. Associated substation modifications are necessary to interconnect the project to the ISO Controlled Grid. This is scheduled to be in service by March 2010.

Target Dates:

- Converter (reactive power available) at Pittsburg - September 2009;
- Converter (reactive power available) at Potrero - November 2009;
- Real power available - December 2009; and
- Commercial date - March 2010.

In the last eight months, Management has worked closely with the City of Pittsburg and Trans Bay officials to come up with the Trans Bay Cable operating procedures. These procedures have been sufficiently developed for the ISO to take ownership of these operating procedures and incorporate them into the ISO's existing Greater Bay Area and San Francisco Operating Procedures. Once the procedures are finalized, Management will conduct a training workshop with Trans Bay Cable, PG&E and ISO operators.

Management is also in the process of developing economic optimization models for the Trans Bay Cable settlement and invoice process. That will require a full network model and market model update. As project operation nears, Management will work closely with City of Pittsburg to coordinate a series of tests of the Trans Bay Cable infrastructure before releasing it for a commercial operation.