SDG&E Transmission

Valley Rainbow 500kV Project:

The Valley Rainbow 500kV transmission project was a 31-mile, 500 kV interconnection project that was proposed to interconnect between San Diego Gas & Electric's and Southern California Edison's transmission systems, providing an independent and geographically separate path for power deliveries. The project was proposed to meet grid reliability and would have had increased SDG&E's import capability by 700 MW.

- Purpose: Reliability enhancement through adding a third intertie that would improve import capability by 30% (to 3200 MW from 2500 MW) proposed in 2000.
- California Independent System Operator (CAISO) approved need for the project in 2000.
- Certificate of Public Convenience and Necessity (CPCN) application filed in March 2001 with in-service date of June 2004.
- CPUC denied project because felt it was beyond the five year planning horizon December 2003.
- Project cost was $341 million.
- Project would have saved a minimum of $191 million over first two years of operation.

Miguel-Mission 230kV Transmission Line

Four transmission projects were identified in 2001 with an in-service date of June 2004 and constructed to ease the congestion at Miguel Substation by increasing the import capability at Miguel by approximately 800 MW. The final plan bifurcated the project into two components:

Phase 1: Upgrade the highly congested Miguel Substation completed in October 2004; import capability at Miguel increased **to 1400** from 1100 MW. SDG&E was able to forego the CPCN process by using Gas Insulated Switchgear (GIS) technology which allowed the upgrade to be contained within an existing SDG&E substation.

Phase 2: Install a new 27 mile 230kV transmission line in existing transmission corridor from Miguel to Mission substations increasing SDG&E's import capability at Miguel **to approximately 1900 MW** from 1400 MW.

- Project need identified to CPUC in 2001 hearings; approved 2003.
- Environmental application filed for Phase 2 project in 2002 with in-service date of June 2004; CPUC approved in July 2004 with new in-service date of June 2006.
- SDG&E amended application was filed to expedite the in-service date of a portion of project by energizing a 69kV line segment at 230kV.
- The facilities were placed in service one year early and in time for summer 2005.
- CPUC leadership was quick to respond to amended application.
- Projected savings for both projects approximately $33 million annually.
- Payback of projects within 3 year horizon.

New 500kV Transmission Project

- The new 500kV transmission line will originate from the east in Imperial Valley, terminating in the central or northern part of San Diego Gas & Electric's system.
- Required in 2010 in order to meet grid reliability with additional benefits of providing access to hundreds of megawatts of renewable energy..
- The combination of needs far outweighs project costs.
- Challenges include the length of time required for licensing and permitting, NIMBY issues, and collaboration with individual counties, state agencies, and land management agencies (Bureau of Land Management, Native American Lands).
- Some routes considered could be on existing corridors that may need to be expanded.
- The last 500 kV line, the Southwest Powerlink, was built by SDG&E in 1983, linking San Diego and Arizona.