SDG&E Comments on the 2012/2013 Transmission Planning Process

Topics at the December 11-12, 2013 Meeting

These comments are restricted to the economic planning studies section of the presentation. SDG&E may be making comments on additional sections separately.

The CAISO studied several alternative economic projects and presented preliminary results. One project appeared economic (Delany – Colorado River 500 kV line #2) and the rest appeared uneconomic (including North Gila – Imperial Valley 500 kV line #2). The economic assessment considered a number of factors (primarily congestion mitigation) but did not include possible benefits in reducing costs of meeting Resource Adequacy (RA) requirements. A reduction in RA costs as compared to the RA costs that would be incurred without the proposed projects, could cover most of the costs of a proposed project. The proposed 500 kV North Gila – Imperial Valley #2 line may offer such benefits.

RA costs currently come from meeting System and Local requirements, but a new Flexible requirement is expected to begin in 2014. A proposed transmission project would have no impact on System RA requirements (because they are based only on peak load and a planning reserve margin).and little or no impact on expected Flexible RA requirements (driven mainly by variability in load and generation). However, in certain locations, proposed projects can have a very large impact on Local RA requirements. This is important because Local RA is more expensive than System RA because, at the local level, there are far fewer suppliers competing against one another to offer dependable capacity. In some cases, the combined amount of dependable capacity within a local area may even be less than the Local RA requirement; thus, every supplier knows that it's RA capacity will be procured and, accordingly, will seek a high price. A proposed transmission project that reduces a Local RA requirement creates a benefit equal to the difference between the cost of Local RA and System RA (Local RA counts towards meeting System RA requirements so any reduction in Local RA requirements means that an equivalent amount of lower cost System RA must be procured). SDG&E estimates that the difference between the cost of Local RA and System RA for the San Diego Local Capacity Requirement (LCR) area, Greater Imperial Valley-San Diego LCR area and San Diego-ECO LCR area, could be in the range of $20 - $40/kW/year.

If the proposed 500 kV North Gila – Imperial Valley #2 line shifted 1000 MW from Local RA to System RA, the reduction in RA costs ($20 - $40 million per year) would appear to make the proposed line economic and worth further evaluation.

The recent (November 2012) WECC approval of a Remedial Action Scheme (RAS) makes the tripping of both the Sunrise Powerlink and the Southwest Powerlink a Category "C"

contingency event and, with the addition of the already-approved 500 kV Hassayampa-North Gila #2 line and the proposed 500 kV North Gila-Imperial Valley #2 line, sets the stage for a potentially large reduction in Local RA requirements. (The completion of these transmission lines would provide parallel 500 kV lines connecting the Phoenix and San Diego areas.) By itself, the RAS would significantly reduce the San Diego sub-area LCR need, but not the Greater Imperial Valley-San Diego LCR area need. This is because, with the current Path 44 rating of 2500 MW north-to-south, the loss of the existing 500 kV North Gila – Imperial Valley #1 line only allows 2500 MW of post-contingency imports into the Greater Imperial Valley-San Diego LCR area on Path 44 and post contingency imports into the Greater Imperial Valley-San Diego LCR area of a few hundred MW from the IID Balancing Authority at Imperial Valley substation. However, with the addition of the already-approved 500 kV Hassayampa-North Gila #2 line and the proposed 500 kV North Gila-Imperial Valley #2 line, at least 1200 MW can flow into the Greater Imperial Valley-San Diego LCR area and into the San Diego LCR area from the east with any element out of service on either of the parallel 500 kV lines between the Phoenix area the San Diego area. This post-contingency import in combination with the 2500 MW of post-contingency imports from the north on Path 44, has the potential to significantly reduce local RA requirements, thereby saving San Diego area consumers money. SDG&E notes that the CAISO recently released the results of study work indicating that a new 230 kV Sycamore Canyon – Penasquitos line could increase post-contingency imports from the east above the 1200 MW level.

The cost differential between Local and System RA in the 2017 and later time frame—when the proposed 500 kV North Gila-Imperial Valley #2 line could be in service—is difficult to predict. The CAISO CPM rate of about $70/kW/year may be a useful proxy for a Local RA price, but Once-through cooling (OTC) retirements and probable SONGS derates or possible SONGS retirement[1] make this uncertain. The expected Flexible RA requirement when coupled with all the remaining Local CAISO requirements (for all areas) and RPS requirements may severely reduce the market price of the small remaining System RA requirements that can also be supplied by imports, perhaps as low as $30 - $50/kW/year. So an estimated differential between Local and System RA of $20 - $40/kW/year is plausible.

SDG&E recommends that the CAISO augment its analysis of the proposed 500 kV North Gila – Imperial Valley #2 line to include expected long-term RA cost savings and determine if these added benefits would make the project economic. Also, sensitivities involving different scenarios for the amount of generating capacity available at SONGS, OTC retirements, and LTPP additions need to be evaluated as these factors may affect the magnitude of benefits provided by the proposed 500 kV North Gila – Imperial Valley #2 line.

[1] The availability of generation at the SONGS has a significant impact on the maximum amount of post-contingency imports into the San Diego LCR area; less SONGS generating capacity means a lower level of post-contingency imports.

In early 2013 the CAISO should expand its annual LCR determination to include two sensitivity studies: 1) For the 5-year ahead study add the North Gila – Imperial Valley #2 line with both SONGS units available at 100%, 2) For the 10-year ahead study add the North Gila – Imperial Valley #2 line with both SONGS units retired. These two sensitivity studies will allow evaluation and quantification of the Local RA benefits of the North Gila – Imperial Valley #2 line under a range of future possible scenarios and help determine if the North Gila – Imperial Valley #2 line should be pursued as an economic project.