

Data Request 15 -- Attachment A

1. In SDG&E's response to the CPUC's June 28, 2012 data request, specifically question number 2, SDG&E stated that:

“The following lines exceed their normal ratings for loss of a single transmission element (N-1, NERC category B) in the absence of the Bay Boulevard 230 kV project:

- 1) Penasquitos-Old Town 230 kV line**
- 2) Miguel-Miguel Tap 69 kV**
- 3) Paradise-Miguel 69 kV line (beginning in 2015)**
- 4) San Ysidro-Otay Lake Tap 69 kV line (beginning in 2016)”**

In addition, SDG&E went on to state that:

“If a critical contingency occurs and one of the above lines exceeds its normal rating, it would be necessary to rely on a short-term emergency rating and to redispatch generation to bring the line flow to within its normal rating. However, in the absence of South Bay generation there is little or no generation available to redispatch in the vicinity of the downtown load center. It would be necessary to either shed load or curtail load pre-contingency, neither of which are acceptable mitigations for a Category B contingency.

Additionally, the following transformers exceed their normal ratings for loss of one of the parallel banks:

- 1. Mission 138/69 kV banks 50/51/52**
- 2. Old Town 230/69 kV banks 70/71**

As with the transmission lines listed above, if a critical contingency occurs it would be necessary to rely on the banks' short-term emergency ratings. However, transformer banks are generally limited on the number of days per year they are permitted to exceed their normal ratings, in order to prevent loss of service life. Generally that limit is five days per year. Note that in the response to Energy Division Data Request 12 Q1, SDG&E determined that the Old Town banks were at a risk of exceeding their normal rating for up to nine days per year in 2014, in the absence of the Bay Boulevard project.

Finally, the addition of the Bay Blvd project significantly improves the voltage profile of the San Diego transmission system in the absence of the South Bay generation, reduces reactive power demand, and reduces system

losses. Powerflow studies indicate that the risk of voltage collapse in the San Diego load pocket is significantly reduced with the Bay Boulevard substation.

SDG&E would also have to implement the following projects if a “No Project Alternative” was selected as the Environmentally Superior Alternative:

- 1. Reconfigure Penasquitos-Old Town and Silvergate-Old Town Tap 230 kV lines to create a new Penasquitos-Silvergate 230 kV line**
- 2. Reconductor Miguel-Miguel Tap 69 kV**
- 3. Reconductor Paradise-Miguel 69 kV line**
- 4. Reconductor San Ysidro-Otay Lake Tap 69 kV line**
- 5. Upgrade 138/69 kV banks at Mission Sub or add a 2nd 230/69 kV at Mission Sub**
- 6. Add a 3rd 230/69 kV bank at Silvergate¹**
- 7. Install a +/-240 MVAR 230 kV synchronous condenser at Mission substation**
- 8. Rebuild the existing 138/69 kV South Bay substation to replace aging and obsolete substation equipment**
- 9. Find additional land for a new distribution substation needed to provide for future load growth in the South Bay region.”**

With regards to the above statements, please provide the following:

(a) The “base case” power flow – or power flows – that demonstrates the loading problems listed above.

(b) For the Old Town, South Bay, and Silvergate transformers, please provide the loadings at the time of the SDG&E system peak for the last five years. Please include loadings on both the 230 kV (and/or 138 kV) and 69 kV sides of these transformers, including both MW and MVARs.

(c) The outage history of the Old Town transformers. Please include the time of the outage, the duration of the outage, and the cause. If data is available, please also provide the loading on the Old Town transformer that remained in service during the outage.

2. SDG&E further stated in its response to the CPUC’s June 28, 2012 data request that:

“The estimated total cost of the updated “No Project Alternative” is a minimum of \$220M - \$270M. The components of this alternative have not been fully studied for feasibility or cost.”

(a) Please provide a breakdown of the cost items that account for the estimated cost of the “No Project Alternative”.

(b) To the degree this is not feasible; please provide a list of the major components that leads SDG&E to estimate that the “No Project Alternative” would cost a “minimum of \$220 - \$270”.

(c) Please explain why SDG&E did not fully study the “feasibility or cost” of “No Project Alternative” as an alternative to the proposed project.

3. In addition to providing the above requested information, please provide the following:

(a) The SDG&E system peak demand for the last ten years. Include plots of the peak day for each year, including the several days before and after those peaks;

(b) The loading at the time of peak for South Bay Substation, for the last five years, in both MW and MVARs. Also provide a plot of the MW loading for that day;

(c) The loading at the time of system peak for the two Old Town 230/69 kV transformers for the last five years, in both MW and MVARs. Please also provide a plot in MW and MVARs for that day; and

(d) The power flow that models Bay Boulevard.

4. In SDG&E’s PTC application, SDG&E states that one of the reasons the SouthBay substation needs to be relocated and rebuilt is because the existing substation contains or is made up of aging and obsolete equipment.

Please define what SDG&E means by aging and obsolete equipment.

5. In response to question (3) of the CPUC’s June 28, 2012 data request, SDG&E shows that within the last five years, SDG&E replaced or installed:

- 138/69kV transformer with a new 138/69kV transformer,
- 69kV Circuit Breaker 4S,
- 69kV Capacitor, and
- various control, protection, metering, and security upgrades and replacements.

(a) Please provide the cost information for the above newly installed or replaced equipment.

(b) Please provide a list of any and all equipment that SDG&E installed or replaced at the SouthBay substation within the last 30 years (SDG&E does not

have to relist the above equipment that was replaced or newly installed within the last 5 years).

(c) Please provide a list of equipment that has needed to be replaced at the SouthBay substation since it was put into service.

(d) Please provide a list of substations/switchyards in SDG&E's service territory that have equipment in the same operational, but "aging and obsolete" state as found in the existing SouthBay substation.