SDG&E 5/7/10 Response
A.09-08-003 East County Substation (ECO) PTC
Energy Division Data Request 6 Dated April 26, 2010
SDGE-ED-006: Q1-3

138 kV Transmission Line Alternatives

We are currently evaluating two alternatives for the 138kV line between the ECO substation and Boulevard substation. The first alternative would install the proposed 138 kV transmission line along Old Highway 80 where it would follow and overbuild an existing electrical distribution line (See Figure C-1). The proposed Old Highway 80 segment would connect the 138 kV transmission line from near the intersection of Highway 80 and the SWPL ROW to the Boulevard Substation. The proposed Old Highway 80 segment of the 138 kV transmission line would run northwest of SWPL for approximately 4.8 miles parallel to Old Highway 80, through the unincorporated communities of Bankhead Springs and Boulevard. Overbuilding along the distribution line would require the removal and replacement of wooden poles with taller, steel poles. The new poles would support the existing distribution lines on the lower arms of the structures, with the 138 kV transmission line on the upper arms. Total length of the proposed 138 kV transmission line would be 10.6 miles, compared to the proposed 13.3 mile long 138 kV transmission line.

The second alternative would be along the same route as described above with the exception that the proposed 138 kV transmission line would be installed underground within the existing ROW along Old Highway 80 (See Figure C-1). Installation of the new 138 kV line underground along the existing ROW would include the removal of wooden poles and the transfer of existing distribution lines to underground conduit.

Question 1:

With respect to both options please identify any issues with respect to other non-SDG&E utilities that may be on the existing distribution pole line.

SDG&E's Response to Question 1:

In this area, the non-SDG&E utilities are typically on their own separate wood pole lines that generally lie within and follow the Highway 80 easement. However, approximately 20% of the poles along SDG&E's existing distribution pole line (Circuit 444) have non-SDG&E utilities co-located on the poles. For the first (overhead) option described above, the non-SDG&E utilities co-located on SDG&E's existing wood poles would either be relocated out of the new transmission ROW or under-built along with Circuit 444 on the new transmission line. For the second (underground) option, if feasible, the existing wood poles co-located with the non-SDG&E utilities would either be relocated out of the new transmission ROW or the poles would be left in place with SDG&E's facilities removed from the poles.

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Question 2

With respect to the first (aerial) option please describe the existing ROW or easement. If the route is owned by SDG&E how wide is the ROW and is it suitable for the proposed 138kV line? If the route or a portion of it would have to be acquired by SDG&E what route specific obstacles would SDG&E envision? Would the proposed route need to be altered to avoid existing residences or other buildings? Also, please provide a typical pole type required for this alternative.

SDG&E's Response to Question 2:

The portion of the existing distribution ROW easement that is proposed to be overbuilt with the 138 kV transmission line overhead alternative generally follows along Highway 80; however, it is not located within Highway 80's ROW except where the line crosses the highway. For much of the proposed route, the line is generally offset from 50 to over 600 feet to the west of Highway 80, but crosses Highway 80 near SWPL and near the Boulevard Substation.

Along this portion of the existing distribution circuit SDG&E has thirty-five (35) non-exclusive easements. Seventeen (17) of these easements were acquired from the Mountain Empire Electric Cooperative, Inc. from the late 1930's to the early 1970's. The easements are blanket easements, meaning they have no stated width. SDG&E's practice, where easements are silent on the issue of width, is to define the width to be what is reasonably required to maintain the current facilities, i.e. a 12kV electric distribution system. The easement language also restricts construction to a single pole for the 17 easements acquired from Mountain Empire. The remaining eighteen (18) easements are 12-foot centerline overhead only electric easements. So, the easement width for the existing 12 kV distribution line is considered to be twelve (12) feet.

The current ROW would not be suitable for a 138 kV line because the new transmission line would require a 100-foot easement. SDG&E would have to obtain new easement rights along the entire proposed route to provide a suitable ROW. This increased easement requirement would affect thirty-six (36) parcels, twenty-seven (27) of which contain improvements.

This route alternative was analyzed in the PEA and as outlined in Section 5.2.6, Transmission Route Alternatives, the route was not selected for the following reasons:

1) Visual impacts to the communities of Boulevard and Bankhead Springs,
2) Known cultural resources along the route,
3) Significant biological constraints,
4) Old Highway 80 is designated a historic highway and candidate for scenic highway designation,
5) The route would require multiple outages on Circuit 444, and
6) This route crosses and impacts more parcels than the preferred Tule Jim Lane route.

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Question 3

With respect to the second (underground) option please provide information regarding the existing ROW or easements suitability for the undergrounding of the 138kV and distribution line. Should the existing ROW easement not be suitable please explain what the shortcomings are and what is required to provide suitable ROW for an underground 138kV line as described above.

SDG&E's Response to Question 3:

The existing ROW is also not suitable for undergrounding a 138 kV transmission line and distribution circuit for the following reasons:

1) The existing ROW does not contain rights for underground construction.

2) The ROW is not wide enough to accommodate the clearances required for two transmission lines (initial and ultimate duct packages) and one distribution circuit duct package. The minimum required easement would need to be at least 60 feet. This requirement would involve securing an easement across thirty-six 36 private parcels, with 27 of those parcels containing improvements.

3) The maximum allowable slope for undergrounding transmission lines is 12%. Portions of the existing ROW have grades that exceed this maximum allowable slope.

4) The terrain would make construction extremely challenging and would increase costs substantially over installing underground in a roadway.

5) All weather access is required for underground transmission vault structures, so improved roads would need to be built to each vault location.

To provide suitable ROW for an underground 138kV line as described above the transmission line would have to be aligned within Highway 80's easement, and the potential for other underground improvements including impacts of sewer, water, telephone, cable, leech lines, etc. would need to be investigated further to insure project feasibility.

In addition to the above factors, underground construction is typically 3 to 4 times the cost of overhead construction, and that is considering ideal conditions for placing lines underground, such as within roadways. If TL13844 were to be constructed underground in the existing ROW, the cost would increase substantially.