

TEP SUN CITY SUBSTATION IN ARROYO GRANDE

INTRODUCTION

On March 26, 2009 representatives from Sun City Vistoso Community Association, Inc (SCVCAI) and representatives from Tucson Electric Power (TEP) met to exchange information and receive update information on the proposed Sun City Substation planned to be located in the Arroyo Grande area north of the Sun City Vistoso. The meeting took place in Apache Room, Vistoso Center in Sun City Vistoso.

The representatives from SCVCAI were:

1. Hal Linton, Board of Directors
2. Bob Mariani, General Manager
3. Robin Coulter, Director Administration and Communications
4. Hank Jepsen, Chairman Government Affairs Committee
5. Herman Brimo, Resident and Engineer
6. Dean Chapman, Resident and Engineer
7. David Smoler, Resident and Engineer

The representatives from TEP were:

1. Ed Beck, Director Line Siting Services
2. Larry Lucero, Director Government Affairs
3. Don McAdams, Chief Engineer
4. Robin Large, Planner

The two organizations had mutually compatible objectives for holding this meeting. SCVCAI wanted to obtain the latest status of the project; to thoroughly understand the criteria that TEP used to select from the four alternative locations for the substation; and, to establish a cordial atmosphere for a dialog process with TEP so to remain informed about the project through subsequent meetings. TEP wanted an opportunity to meet with SCVCAI in a smaller setting than the Open House held on December 10, 2008; to clarify any misunderstandings about their requirements for an additional substation; to provide project status; and, to ensure SCVCAI understands TEP's interactions with the Town of Oro Valley and how these interactions affect the project.

REPORT

Currently, the recommended plan for locating the substation on the north western edge of Sun City is on hold. The proposed site, which is about 1500 ft north of the Sun City boundary and adjacent to the Western Area Power Association (WAPA) 115 KV transmission line, is in a wild life corridor and the State Land Commission is not willing to entertain a variance to allow it. Since the Open House meeting much of the support TEP thought it had for a waiver to locate in the wild life corridor has eroded. Therefore TEP was forced to consider and research alternate approaches to solving its very real problem of providing reliable power to meet its current and growing demand.

There are now three new alternatives that are currently being evaluated. Ironically, none of these new alternatives are one of those presented at the Open House. TEP believes the most promising alternative is to expand the capacity of the current Rancho Vistoso Substation (near the NW corner of the

intersection of Rancho Vistoso Blvd and Tangerine Road) by adding another 40 MVA transformer and four more 13.8 KV feeders. Two of those feeders would be routed east along Tangerine Road until they intersect present feeders in the vicinity of Innovation Drive. The other two would be routed west to serve other loads. There are two conditions that must be met for this alternative to work. First, TEP must be able to find workable routes for the feeders. These routes would involve a minor amount of digging on the major streets in and around the community if the Rancho Vistoso Substation is expanded, due to rewiring of which circuit is connected to which service area. That won't be known until TEP's revised planning is completed. Second, they need to extend a feeder from the corner of La Cholla and Tangerine to the corner of La Canada and Tangerine. Since the Town of Oro Valley has an ordinance that requires new lines be placed underground, the cost of the La Cholla – La Canada line will be double the nominal overhead cost. TEP takes the position that they will put in the tie above ground at their expense. If the town needs it to be underground, they must make up the difference in cost, about \$300K to \$400K. This feeder tie would unload some of the load on the Rancho Vistoso station and allow it to pick up the additional load on the new feeders and balance TEP's system better.

The second alternative is to relocate the proposed Sun City Substation about a mile further north along the WAPA transmission line. This avoids the wildlife corridor but makes the feeders much longer to get back into Sun City. TEP is not very enthused about this alternative.

The third alternative is to use a plot of land across Rancho Vistoso from the end of Moore Road for a new substation. It would be within three spans (pole-to-pole length) of the present 115 KV WAPA transmission line and would therefore not require a permit to build a connecting transmission line. It would be some distance from Sun City but would allow tying the feeders into the present feeder configuration.

TEP's engineer made it very clear that the need for the new substation was driven by present and projected load conditions by residences in Sun City and other Vistoso developments. The annexation of and proposed development in Arroyo Grande were not factors up to this point in determining where to locate an additional substation. He pointed out that if Arroyo Grande becomes a reality, then they could have served it by adding another transformer bank and four additional feeders from the Sun City Substation. If the Sun City Substation is not built, then another substation would have to be added in the future up in the Arroyo Grande development. It was the feeling that the Arroyo Grande project was a long way from reality at this point. It should be noted that changes in the transmission line that runs at Sun City's border were only required if there was to be a Sun City Substation. So, no changes to towers or addition of wires will occur if the substation is not built.

SUMMARY

TEP decisions on determining a location for a substation are driven primarily by the following factors:

1. The process for permits for an individual transmission line
2. Availability of land, typically at least 10 acres, wherein the substation is ideally at the center creating a surrounding buffer zone
3. Access issues and whether there are existing roads, unimproved roads, or no roads at all allowing adequate access for TEP's service equipment
4. Cost of the proposed property
5. Routing of feeder lines from the substation

It appears that the plan to add a new substation on the north side of Sun City is dead. The most attractive alternative at this point is to increase the capacity of the Rancho Vistoso substation but the feasibility of this plan has not been verified yet. One of the issues with this approach is to be able to add a feeder line from La Cholla to La Canada that is acceptable to both TEP and the Town of Oro Valley. The La Canada - La Cholla link does pose problems related to the proposed widening of Tangerine Road. While the Town of Oro Valley does indeed need this line to support a growing population and additional businesses, its underground ordinance is a major cost obstacle in this instance. At the present time neither the town nor TEP wants to pay for the undergrounding option because there are too many uncertainties with design, alignment, and grading until a firm decision is made about the broader road widening issue. To go underground now would mean the later widening of the road would cause TEP to repeat much of the work (and expense) related to a new design, alignment, and grading. On the other hand, an above-ground solution would be an eyesore until the road is widened.

TEP still owns a house in Sun City on Crown Ridge Drive, but wants to sell it.

Hal Linton

March 31, 2009