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Comment Letter O8

July 23, 2009

Mr. Jensen Uchida, CPUC Project Manager
San Joaquin Cross Valley Loop
Transmission Project
c/o Environmental Science Associates
225 Bush Street, Suite 1700
San Francisco, CA 94104-4207

Re: Southern California Edison Co.
Cross Valley Loop Project
CPUC Applic. A.08-05-039

Dear Mr. Uchida:

We have been retained by PACE (Protect Agriculture Communities and Environment) to review the hydrogeologic aspects of the DEIR. The focus of my comments are primarily on the issue of supply well destruction and replacement. The proposed mitigation measure 4.7-11b indicates that a well inventory would be conducted and wells identified that "would not have the minimum ground clearance to perform any necessary well maintenance...". "A qualified water well drilling contractor" would be engaged to "relocate these wells to another location". This mitigating measure is indicated (Page ES-21) to render the residual impact "less than significant".

The groundwater discussion on Page 4.6-3 is very minimal and inadequate. For example, there is virtually no discussion of alluvial aquifers in the valley (ie depths, types of sediment, layering, and other features). For the foothills, there is virtually no discussion of groundwater in the weathered rock or hardrock. Well depths, yields, drawdowns, and other characteristics are not discussed. Lastly, there is no discussion of types or numbers of wells in specific areas.

For example, in the alluvial part of the area, both gravel

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packed wells with perforated casings (generally drilled by direct or reverse rotary) and wells without gravel packs and sometimes without perforated casing (open-bottomed wells) are present. In the foothills and near the east edge of the valley, many wells tap hardrock or the overlying weathered rock. A unique type of well is present in this area, and is termed the lateral, radial, or wagon-wheel well. These wells are comprised of a large diameter vertical shaft, and a lower part, where a chamber was blasted out and many laterals generally hundreds of feet long were drilled by diamond drilling, normally near the base of the weathered zone. To my knowledge, these wells are no longer drilled, primarily because of OSHA issues. Thus it may not be possible to "relocate" such wells. In addition, water production and groundwater quality in the hard-rock are often highly variable laterally. The DEIR infers that wells everywhere in the area can be readily replaced. While this may be possible in much of the alluvial area, it is not so easy near the east edge of the valley or in the foothills. Replacement of a well just for yield purposes could result in a well producing different water quality. Common problems with groundwater quality along the east edge of the valley are nitrate, iron, manganese, arsenic, and uranium.

It is unlikely that one "drilling contractor" could do all of this work. For example, many private domestic wells in the valley are drilled by the direct rotary or cable-tool method. Large capacity wells are usually done by the reverse rotary or cable-tool method. Hardrock wells are done by the air-rotary method. These types of wells are generally not done by the same contactor. Lateral wells are no longer done.

My review of the alternative alignments indicates that Alternative No. 3 would generally be the least problem in terms of having to mitigate existing water supply wells. This is primarily because of its more westerly location, compared to other alternatives. On the other hand, Alternatives No. 1, 2, and 4 appear to have the most problems in this regard.

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Sincerely yours,

Kenneth D. Schmidt

KDS:jn

Geologist No. 1578
Certified Hydrogeologist No. 176

cc: PACE