Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-07

To: ENERGY DIVISION
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Dated: 09/05/2014

Question PD-18.c:

It is our understanding that SCE has installed cathodic protection on existing pipelines in conjunction with construction of SCE's Tehachapi Renewables Transmission Project (TRTP), Segment 3B. Because this work was unanticipated on TRTP, it was not included in the Final EIR project description. As a result, the CPUC prepared a CEQA Addendum to address this project change (SCE's Request for an Addendum dated December 2011; CPUC's CEQA Addendum dated March 2012). To ensure that any construction work and ground disturbance associated with cathodic protection of pipelines, if required, is included in the EIR/EIS for the proposed West of Devers Upgrade Project (WOD-UP):

c. If cathodic protection may be necessary, please provide a description of the construction process and associated ground disturbance for inclusions in the EIR/EIS Project Description.

Response to Question PD-18.c:

Any cathodic protection that may be required to be installed on existing pipelines in conjunction with the Proposed Project would consist of a similar range options as were proposed, and subsequently approved, for use on SCE's Tehachapi Renewables Transmission Project (TRTP), Segment 3B. These methods could include, but are not limited to, deep ground rods, zinc ribbon mitigation wire, and gradient control mats. Alternate methods could be suggested by the study referenced in response to Data Request No. PD-18.b that may be more appropriate to the specifics of the Proposed Project or the project approved by the CPUC, and if so, the details of those methods could be communicated to the CPUC at that time.

A brief description of the three most likely methods is provided below, but a more thorough description can be referenced in SCE's Request for an Addendum dated December 2011 and CPUC's CEQA Addendum dated March 2012 that were produced for TRTP, Segment 3B.

<u>Deep Ground Rods</u>
A single deep ground rod (DGR) would be placed underground, approximately five feet from the existing gas pipeline. A six-inch diameter hole will be drilled from approximately 50 feet to 500 feet deep depending on the ground rod location, as specified in the design. Ground rod pipes ranging from one-half inch to one and one-half inch in diameter would be placed in the hole for the entire depth of the hole. The top of the pipe would then be connected to the existing gas

pipeline with #6 AWG wire. Finally, the hole is backfilled with a bentonite clay based, electrically conductive material, and a 50-pound bentonite plug is placed at the top of the hole. The top of the hole is then dressed with native soil, leaving no obvious indication of its presence.

Zinc Ribbon Mitigation Wire

Zinc ribbon mitigation wire (ZR) or a Faraday Shield would be installed underground approximately five feet from an existing gas pipeline where deemed most appropriate in the analysis. The zinc ribbon wire would be connected to a number of ground rods (depending on the overall length of zinc ribbon wire installed) with #2 AWG (wire) and will also be connected to the existing pipeline with 4/0 AWG (wire). These mitigation features would be installed approximately two to three feet below grade.

Gradient Control Mats

Gradient control mats (GCM) function to provide a safe, uniform voltage gradient at the surface of the earth in the immediate vicinity of above ground appurtenances (i.e., gas valves, fences, above ground pipes) on an influenced pipeline. These mats would be installed near any such features identified in the analysis. Specifically, there is an extreme concern for potential differences between above ground pipeline appurtenances and adjacent chain link security fencing. These fences would be bonded to the pipeline in order to avoid hazardous touch potential differences between pipeline and fence.