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SUBJECT: Review of a Risk Assessment Work Plan Addendum 2, PG&E Topock Compressor Station, Needles, California.

PCA: 22120

SITE CODE: 540015-48

The Human and Ecological Risk Office (HERO) and the Ecological Risk Assessment Section (ERAS) reviewed "Human Health and Ecological Risk Assessment Work Plan Addendum 2, PG&E Compressor Station, Needles, California". The report was prepared for Pacific Gas and Electric Company, by Arcadis, and is dated May 2014. Comments on the report are provided below.

- 1) Depth Weighted averaging:** The Work Plan is proposing to use a depth weighted averaging method to estimate exposure point concentrations (EPCs) at locations where data from multiple sampling events were collected from varying depths below ground surface (bgs) and incorporated into a common dataset. For the recreational receptor and commercial/industrial worker, soils collected from

surface and shallow soils (0' to 3') will be used to estimate the EPC, while for the maintenance worker and future resident, soils collected from the 0 to 10 feet bgs interval will be used to estimate the EPC. For data collected from 0-0.5 feet, 2-3 feet, 5-6 feet and 9-10 feet, at any given location, the report is proposing to use data collected from the 0-0.5 ft to represent that depth interval only, while data collected from 2-3 feet bgs would represent depths of 0.5 – 3 feet, data collected from 5-6 feet would represent depths of 3-6 feet and so on. It is unclear as to why the soil concentrations of segments are used to represent unsampled depths located ABOVE that particular segment, since contamination tends to travel from the surface to depths below, except in the case of bat cave wash where scouring events occur. Also, inclusion of the unsampled intervals in the estimation of the EPC introduces uncertainty to the dataset. Typically, a depth-weighted averaging approach is not used to estimate EPCs at sites. Therefore, HERO does not recommend depth weighted averaging for calculating EPCs and recommends instead, that only measured sample data in specified intervals be used in the calculation of the EPC.

- 2) **Area-weighted averaging:** While DTSC understands the concern over the effects of focused sampling on the risk assessment, this statistical methodology should not be used to eliminate areas with high concentrations of contaminants from possible remedial action consideration. The nature and extent of contamination in the soil is still being investigated, however, from limited existing data, area-weighted averaging may not even be necessary for the majority of the site. HERO recommends that these areas be evaluated separately from the rest of the site, if warranted.
- 3) **Exposure Assumptions for a Recreational User Scenario:** It should be noted that at the request of DOI risk assessor Mr. Douglas Cox, DTSC's HERO provided references for the recreational user scenario, specifically (1) California State Natural Resources Agency (CNRA's) 2009 "Complete Findings: Survey on Public Opinions and Attitudes on Outdoor Recreation in California, and (2) United States Food and Drug Administration (USDA's) 2013 "National Visitor Use Monitoring Results. National Summary Report". This should be acknowledged in the report and Appendix.
- 4) **Exposure pathways for the tribal user:** At the direction of the tribes, only the inhalation pathway of exposure will be evaluated in the risk assessment for this receptor. It should be noted that incidental or unintentional ingestion of small amounts of soils/dust (USEPA and DTSC assumes that an adult may ingest 100 mg/kg/day) and dermal contact with soils/dust does occur during daily activities, unless special precautions are taken to avoid such exposures, such as wearing masks or other personal protective equipment.
- 5) **Exposure parameters for maintenance workers:** Please revise the text to express exposure parameters for small-sized, medium sized, large sized and

linear events as exposure frequency, exposure duration and exposure time, to be consistent with values presented in Table 4-3. In the report, the hours for a small sized event (4) appears to be expressed as hours per day, while those for a large-sized and linear event (200) appears to be the total number of hours spent over a number of days per year. It is unclear how some of the values in Table 4-3 were derived.

- 6) **Commercial/industrial worker:** The CSM (Figures 4-1 and 4-3) should be revised to include the current commercial/industrial worker. A section can be included in the uncertainty section discussing the limitations in the soils dataset collected from the compressor station because of the presence of pipelines at the compressor station.
- 7) **Figure 4-3:** Please include a footnote in this figure indicating that the hypothetical future resident scenarios are based on land use identified by the Federal government as owners and managers of the land.

Reviewed by:


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