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August 28, 2018

Mr. Eric Chiang  
California Public Utilities Commission  
505 Van Ness Avenue  
San Francisco, CA 94102

**RE: Pacific Gas and Electric Company Martin Substation Extension / Egbert Switching Station Project (A. 17-12-021) Response to California Public Utilities Commission Application Data Request No. 4**

Dear Mr. Chiang:

This letter is in reply to your August 21, 2018 letter in which you request certain additional information regarding Pacific Gas and Electric Company's (PG&E's) application (A.17-12-021) for a Certificate for Public Convenience and Necessity for the Egbert Switching Station Project (project). The original text for each data request from the California Public Utilities Commission (CPUC) is included, followed by PG&E's response.

One attachment to this letter is provided to support PG&E's response:

- Attachment 1 Record of Conversation with Bay Area Air Quality Management District
- Attachment 2 Donaldson Company Inc. 2015 Exhaust Project Guide for Medium- & Heavy-duty Vehicles and Equipment, referenced pages
- Attachment 3 Cat® 24 Motor Grader Specifications

***CPUC Data Request Item 1 – Health Risk Assessment***

- a) The HRA analysis assumes a horizontal stack release that reduces the vertical plume rise, but assumes point sources with exit velocity and temperature that result in greater plume rise (and thus greater dispersion and less exposure). If this approach is taken, rather than the volume sources methodology recommended by multiple air districts,<sup>1</sup> please provide the following:
1. Consult with the Bay Area Air Quality Management District on this approach to document support for this approach/source assumptions.
  2. Provide citation for the stack release parameters: "Stack release parameters consisted of a stack release temperature of 533 degrees Kelvin (K; 500 degrees Fahrenheit [°F]), a stack diameter of 0.127 meters (5 inches), and a release height of 4.6 meters (15 feet) based on data for typical construction equipment."

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<sup>1</sup> For instance, the Sacramento Metropolitan Air Quality Management District has included this recommendation in its guidance for particulate matter dispersion modeling (<http://www.airquality.org/LandUseTransportation/Documents/Ch3PMDDispersionModelingGuidanceFINAL7-2013.pdf>).

***PG&E's Response***

1. At PG&E's direction, Jacobs consulted with Mr. Ted Hull, a Principal Air Quality Engineer at the Bay Area Air Quality Management District, on the horizontal stack approach used in the project's construction HRA. Mr. Hull stated that the HRA modeling method of using point sources with a horizontal stack was a conservative approach to performing the construction HRA. The record of conversation is provided as Attachment 1.
2. The stack diameter, exhaust temperature and exit temperature are based on past experience conducting construction air dispersion modeling in California. The stack diameter of 5 inches is common for construction equipment. A review of replacement exhaust silencers shows that a majority of commonly used construction equipment engine silencers have 5-inch diameter inlets and outlets (for representative examples see Attachment 2, Exhaust Product Guide, PDF pages 87 to 124 for engineer-specific silences inlet/outlet diameters).<sup>2</sup> The exhaust temperature of 500 degrees Fahrenheit is on the lower end of the range of exhaust temperatures (see Attachment 2 Exhaust Product Guide, PDF pages 173 to 180), combined with the assumption a horizontal release results in lower thermal plume buoyancy and a more conservative prediction of ambient impacts. The release height of 15 feet is consistent with the release height identified in the guidance referenced in the data request (recommending the use of a 5 meters release height) and is consistent with larger construction equipment (Attachment 3, Cat® 24 Motor Grader Specifications).

We trust the information provided herein is fully responsive to your requests. However, should you have any further requests, please do not hesitate to contact me at (415) 973-0301.

Sincerely,



Bob Donovan  
Senior Land Planner

Enclosure(s):  
Attachment 1

cc:  
Wendy Worthey, Dudek  
Mathew Swain, PG&E Law Department  
Colleen Taylor, Jacobs

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<sup>2</sup> Donaldson Company Inc. 2015. Exhaust Project Guide for Medium- & Heavy-duty Vehicles and Equipment. Catalog No. F110028 ENG (7/15). <https://www.donaldson.com/content/dam/donaldson/engine-hydraulics-bulk/catalogs/Exhaust/North-America/F110028-ENG/Exhaust-Product-Guide.pdf>