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Comment Received From: Claire Ann Warshaw
Submitted On: 4/29/2020
Docket Number: 19-SPPE-04

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2020_04_29 19-SPPE-04_SJ2_Diesel synergistic allergen response_Thankful for cleaner energy options_Copper_Earthquakes

Dear CEC staff, Microsoft applicant, PG&E and other stakeholders,

It has come to my attention that this is another project being planned for the Santa Clara county area which uses diesel backup generation. This project design surprises since there has been much work presented at the commission, not only by new technology companies, but by utilities, who plan to create cleaner energy systems. Microsoft employees are unlikely to realize why their own corporation would choose diesel in light of the past decade of cleaner energy options, such as the solar and storage microgrid option suggested by Ben Schwartz of Clean Coalition.

Diesel is shown to cause bad public health symptoms. In research by Takeshi Nabe, Setsunan University, Faculty of Pharmaceutical Sciences and Nobuaki Mizutani, Kobe Pharmaceutical University, "Aggravation of Allergic Rhinitis by Air Pollution: Demonstration by an Animal Model of Pollenosis,â€□ August 2011, shares specific types of air pollution tested, including diesel exhaust, on allergen responses. The authors cite, â€œDEPs consist of an elemental carbon core with a large surface area, to which hundreds of chemicals such as pyrenes, phenanthrenes, etc. and transition metals such as zinc, aluminium, iron, etc. are attached (Peden & Reed, 2010),â€□ where DEP stands for Diesel Exhaust Particle.

Their work suggests exhaust elements aggravate allergies, and has a synergistic effect for genetically allergic persons.

Further, the authors share: â€œMost studies have reported that exposure to DEPs induces production of reactive oxygen species (ROS) such as superoxide anion, hydrogen peroxide, hydroxy radical, etc., leading to cellular damage.â€□ Further, â€œPyrenes, such as benzo(a)pyrene (BaP) and 1-nitropyrene (1-NP), which are encountered in
the environment mainly in the form of air pollution, are ubiquitous environmental pollutants found in DEP and cigarette smoke (Rosenkranz, 1980; Scheepers, 1995; Bai, 1998; Ohura, 2004). Carcinogenic and mutagenic effects of BaP and 1-NP in various cell types have been well documented (Bai, 1998; el-Bayoumy, 1995; Nakanishi, 2000).â€□

Obviously, there is abundant research noting the hazards of diesel exhaust particles.

With backup generation being the primary reason for using diesel, it is possible, that the surrounding region might suffer both a Pacific Gas and Electric Public Safety Power Shutoff because of a local wildfire and then be inundated with not only the wildfire smoke, but further pollution exposure because of backup diesel generation exhaust.

This possible but predictable exasperation of air pollution, seems a design error that large corporations which influence many people, might want to avoid. Therefore, I was thankful for the comment at the April 28th, 2020 meeting from Ben Swartz of Clean Coalitionâ€™s comment suggesting that a solar storage microgrid be designed to care the new Microsoft Data Center. I am not endorsing the microgrid plan, though I have heard plenty of good recently about functioning microgrids, such as the Blue Lake Rancheria system.

Also, noted not per my eyeballs reading the project literature, but by listening to the April 28th meeting, was that copper conductor has been specified by Pacific Gas and Electric Corporation for undergrounding the transmission lines between two substations. From what I understand, after working at the Sacramento Municipal Utility District (SMUD), from 2005 to 2015, copper is extremely expensive and highly valued. Copper has been cited as a great conductor. I am impressed at the idea that PG&E would suggest Microsoft pay for PG&Eâ€™s undergrounding of transmission conductor as a solution for PG&Eâ€™s costs. I did not realize that they used copper for transmission wire undergrounding, perhaps it is a large cabled mix with insulation. Can humans walk on that amount of electricity safely? Also, I am not sure what happens to underground infrastructure during an earthquake, but hopefully that is highly examined. It is not interesting why transmission is hard to underground, but it might be a valuable education to share this project publicly, safety hazards, costs and earthquake analysis included, if it goes to construction.

Thanks for sharing.

Sincerely,

Claire Warshaw

Additional submitted attachment is included below.

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