DOCKETED	
Docket Number:	19-SPPE-03
Project Title:	Sequoia Data Center
TN #:	231420
Document Title:	Email - AQIA Practices for Emergency Operations
Description:	This information is being docketed to respond to the Committee request at the project status conference on December 17, 2019, for staff to ask air districts, especially the South Coast AQMD, about their practice of evaluating emergency operations of projects they review.
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Submitter Role:	Public Agency
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Bemis, Gerry@Energy

From:	Leland Villalvazo <leland.villalvazo@valleyair.org>
Sent:	Thursday, January 02, 2020 11:14 AM
To:	Bemis, Gerry@Energy
Cc:	Record, Jacquelyn@Energy; Jiang, Tao@Energy; Brewster Birdsall; Lesh, Geoff@Energy; Layton, Matthew@Energy; Arnaud Marjollet; Jessica Olsen
Subject:	RE: AQIA Practices for Emergency Operations -- SJV APCD Perspective

Hey Gerry,

As a part of developing the District's APR1920, "Policy for Modeling Intermittent Operating Units When Evaluating for CAAQS/NAAQS," we analyzed EPA's methodology of distributing expected emergency operation over the full year. We also determined that there was a 2.34% chance that a unit running 200 hour per year would operate at the same time as the maximum modeled concentration. So if you assume a facility had emergencies throughout the year that totaled 50 hour, it would have a 0.57% chance operating simultaneously as the maximum modeled concentration. In either case, it was demonstrated to be extremely unlikely that emergency operation of diesel backup engines will cause an issue. We therefore rely on our screening analysis used in developing the policy and do not model emergency operations for specific permitting projects.

With that said, your scenario is not the simple 1 to 5 units generating 1 or 2 MW, but 30 -50 units that would likely operate at the same time. This has its own challenges that were not reviewed as a part of the development of our policy. Modeling for routine operations is manageable by limiting the timing of allowed operations and number of units that can be operated at any one time. Emergency scenarios are another matter.

I would say that doing modeling for emergency equipment for a large project (such as the >50 MW that triggers CEC permitting) is significantly different from those proposals considered by the District as it developed its policies, and requires more specific evaluation before requiring project proponents to conduct modeling, or exempting them from modeling.

Challenges to modeling emissions during emergency backup operation:

1. Do you use the max concentration, even if the probability of operating at the max hour is 0.57% or less?
2. Do you use a statistical average or a percentile of the max concentrations?
3. Do you use a block average; i.e., 2-hour or 3-hour or 6-hour average concentration?
4. Do you use ARM2, OLM, or PVMRM?
5. Do you use single O3 value or hourly values? How do you even determine the number of emergency backup hours to model?
6. Do you consider if anyone is even at the location of max impact?
    a. Evening hour (no one might be at an office building) vs daytime hour
7. Do you adjust the hourly emissions based on expected load or to you use the maximum hourly values?
8. Do you include building downwash or not?
9. Do you consider that the CAAQS/NAAQS are used as regional thresholds, used for photochemical modeling to determine compliance with the CAAQS/NAAQS based on emissions from normal of operation and that exceptional evens are not included in these evaluations?
10. Do you use recent data from Livermore National Labs that indicates that buildings provide some reduction in concentration beyond the filtration systems used at the building?

11. Do you ensure that the met data is up to date, as many are using older data that may not comply with EPA's updated met processing requirements, which may alter the results?

Leland