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HEARING BOARD
BAY AREA AIR QUALITY
MANAGEMENT DISTRICT

MARY ROMAIDIS
CLERK
HEARING BOARD
BAY AREA AIR QUALITY
MANAGEMENT DISTRICT

BEFORE THE HEARING BOARD
OF THE
BAY AREA AIR QUALITY MANAGEMENT DISTRICT
STATE OF CALIFORNIA

In the Matter of the Application of)
)
DUBLIN SAN RAMON SERVICES)
DISTRICT)
)
For a Variance from Regulation 2,)
Rule 1, Section 307 (Permit Condition No.)
16474, Item No. 3))
)

NO. 3504

ORDER GRANTING VARIANCE

The above-entitled matter is an Application for Variance from District Regulation 2-1-307 and from the provisions of operating Permit Condition No. 16474, Item No. 3 (Carbon Monoxide emission limit of 2.65 g/bhp-hr), for Source S-13, Plant A1371, located at 7399 Johnson Drive, Pleasanton, California. The Application for Variance was filed on September 23, 2005, and requested Short-Term relief for the period from October 3, 2005 through and including December 30, 2005.

Rob E. Fowler, and Carl P. A. Nelson, Assistant General Counsel, appeared on behalf of Dublin San Ramon Services District (DSRSD) ("Applicant").

Adan Schwartz, Senior Assistant Counsel, appeared for the Air Pollution Control Officer ("APCO").

The Clerk of the Hearing Board provided notice of this hearing on the Application for Variance in accordance with the requirements of the California Health and Safety Code. The Hearing Board heard the request for variance on November 3, 2005.

The Hearing Board provided the public opportunity to testify at the hearing, as required by

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1 the California Health and Safety Code, but no one did so. The Hearing Board received
2 documentary evidence, and heard testimony and argument from the Applicant and the APCO. The
3 APCO did not oppose the granting of this variance.

4 After hearing argument, the Hearing Board took the matter under submission for decision.
5 After consideration of the evidence, the Hearing Board voted to grant the request for variance,
6 subject to three conditions as set forth in more detail below.

7 BACKGROUND

8 Applicant operates a publicly owned treatment work ("POTW") that treats wastewater
9 from approximately 115,000 customers in the area of Dublin, Pleasanton, and San Ramon, in
10 Alameda and Contra Costa Counties. The POTW separates solid material out of the incoming
11 wastewater, and then treats the organic solids in a 2 million gallon biological solids digestion
12 process. The treatment process is designed to meet pathogen and vector regulations, to reduce
13 odors that could cause a nuisance, and to render the solid material suitable for disposal.

14 The digestion process produces digester gas, composed of approximately 60% methane
15 and 40% CO₂, as a byproduct of the organic solids digestion process. The facility uses the
16 digester gas (blended with natural gas, as needed) to power two identical 706 hp internal
17 combustion engines. The engines have been assigned Source Nos. S-13 and S-22 by the District.
18 (The facility also has a flare (Source No. S-15) that is permitted to be used to abate the digester
19 gas if one or more of the engines became unavailable for any reason.) Source S-13 is the subject
20 of DSRSD's variance application.

21 DSRSD's engines serve three critical functions at the POTW. First, they generate heat to
22 keep the solids digestion process at an optimal process temperature of 98° F. Without adequate
23 heat, the digestion process would fail, causing a number of adverse effects, including a digester
24 gas stream of poor quality that could not be properly combusted and would have to be flared
25 (creating additional emissions); the failure of sludge lagoons downstream of the digestion process,
26 causing biosolids regulation violations and odors that could cause public nuisances up to a mile or

1 more away; and ineffective treatment of wastewater, possibly causing violations of water quality
2 discharge standards. Second, these engines normally combust the digester gas so that it does not
3 have to be abated in a flare. Third, the engines generate electricity to provide power for the
4 facility, reducing the facility's demand on the electricity grid, thereby reducing utility-produced
5 emissions.

6 District regulations require that Applicant use the Best Available Control Technology
7 ("BACT") to control Carbon Monoxide (CO) emissions from its engines (among other pollutants).
8 The level of emissions control required by BACT is determined at the time the District issues
9 permits for the engines. The BACT emission limit can be established in either of two ways.

10 BACT can be established as the level of emissions control that has been actually achieved in
11 practice by other similar sources. (See District Regulation 2, Rule 2, Section 206.2.) This level of
12 emissions control is known as "BACT 2 - Achieved in Practice", and can be thought of as the
13 "industry standard" level of control. This is the level of control made applicable to both Source S-13
14 and Source S-22. Current permit conditions require Applicant to comply with a BACT 2 permit
15 requirement that CO emissions from Source S-13 not exceed 2.65 g/bhp-hr.

16 A Source Test was conducted on July 21, 2005, and the results showed that the CO emissions
17 from S-13 were at a level of 3.2 g/bhp-hr. Applicant first became aware of a violation of the District
18 Regulations when a Notice of Violation (NOV) was issued to the Applicant on September 8, 2005.
19 After initial adjustments to attempt to bring S-13 into compliance, Applicant filed an Application for
20 Variance on September 23, 2005.

21 DISCUSSION

22 Two Source Tests of S-13 in 2004 showed the CO emissions from this Source to be above
23 the permitted limit of 2.65 g/bhp-hr but within the 10% uncertainty limits allowed by the District.
24 These values were higher than earlier Source Test results for S-13 and raised some concerns over
25 whether the violation could have been reasonably expected. District testified that varying weather
26 conditions at the time of the Source Tests can lead to CO emission variations comparable to those

1 observed between the Source Tests. In addition, District has not previously noted degradation in the
2 CO emissions of internal combustion engines of this type. District also testified that the Applicant
3 has fully cooperated with the District and implemented the District's suggestions, and that this
4 facility is exceptional in its efforts to maintain compliance.

5 Applicant has undertaken extensive efforts to adjust and modify Source S-13 to try to bring
6 the engine into compliance. After failing the July 21, 2005 Source Test performed by a District
7 inspector, Applicant hired a Source Test firm, Blue Sky Environmental ("Blue Sky"), to
8 independently verify the Source Test results. Despite making numerous adjustments, including a
9 more rigorous maintenance program, converting the engine to burn exclusively natural gas, and
10 adjusting the gas/air ratio, Applicant was unable to reduce the CO emissions sufficiently to comply
11 with the emission limit of 2.65 g/bhp-hr for Source S-13. In addition, Applicant hired a combustion
12 engineer. Applicant also indicated that it is currently studying alternative long-term solutions which
13 will prevent future violations of the CO emissions limit.

14 Applicant provides an essential public service and merits special consideration of the burdens
15 imposed by requiring immediate compliance. The heat generated by Source S-13 is essential for the
16 proper digestion of waste solids at the Applicant's facility. In the absence of such heat, water quality
17 discharge regulation violations, biosolid regulation violations, and odors causing a public nuisance
18 would occur. In addition, the operation of S-13 reduces utility-produced emissions by reducing the
19 Applicant's need for power from the electrical grid. Moreover, the District testified that it is in
20 attainment for CO, and that emissions of CO are currently not a problem within the District

21 SPECIFIC FINDINGS

22 The Hearing Board finds pursuant to Health and Safety Code Section 42352 that:

23 1. Applicant will be in violation of District Regulation 2, Rule 1, Section 307 and Permit
24 Condition No. 16474, Item No. 3 (requiring a CO emission limit of 2.65 g/bhp-hr.), for Source S-13
25 during the variance period.

26 2. Due to conditions beyond the reasonable control of the Applicant, requiring compliance

1 with District Regulation 2, Rule 1, Section 307, and Permit Condition No. 16474, Item No. 3
2 would impose an unreasonable burden upon an essential public service and thereby result in
3 (A) an arbitrary and unreasonable taking of property, and/or (B) the practical closing and
4 elimination of an otherwise lawful business. Compliance during the period of the variance would
5 require Applicant to shut down the engine depriving the digestion process of necessary heat.
6 Testimony was presented that shutting down the engine would, within two weeks, create a
7 significant odor problem, and could result in violations of water quality discharge standards, sewer
8 back-ups and overflows, creating numerous health and safety issues.

9 3. The hardship due to requiring immediate compliance with District Regulation 2, Rule 1,
10 Section 307 and Permit Condition No. 16474, Item No. 3 would be without a corresponding
11 benefit in reducing air contaminants. The District is in attainment for CO ambient air quality.
12 Emissions during the variance period of 89 days are estimated to be 14.7 pounds per day of
13 unabated emissions in excess of District Regulation limits. The reduction in emissions that would
14 result from shutting down the engine is minimal compared to the negative results of doing so, as
15 described above.

16 4. Applicant has given consideration to curtailing operations of the source in lieu of
17 obtaining a variance, and has done so, curtailing the operation of Source S-13 to approximately
18 eight hours per day to the extent feasible. However, for the reasons described earlier, Applicant
19 does not believe that it would be reasonable or warranted to cease using the Source, given the
20 adverse consequences of doing so. Unlike water, electrical or natural gas service, each of which
21 can be shut off at a meter, there is no effective way to prevent inflows into a wastewater collection
22 system without significant adverse health and safety impacts. Applicant has no direct control over
23 those who contribute wastewater to the system, and in any event, those who contribute wastewater
24 could not completely curtail their wastewater production during the period covered by the variance
25 application even if Applicant did have direct control over them.

26 5. Applicant has identified steps that it will take to keep CO emissions as low as

1 possible, including frequently maintaining and carefully operating the Source, reducing usage
2 when feasible, installing intercoolers, and adjusting the fuel air mixture in the pre-combustion
3 chamber. Applicant will continue to identify other steps. Other steps identified in an ongoing
4 engineering study will also be implemented. Therefore, the Hearing Board finds that the
5 Applicant will reduce excess emissions to the maximum extent feasible during the period the
6 variance is in effect.

7 6. Except for the submission of the engineering report as required by Condition 2 of
8 this Order, District staff has not requested Applicant to monitor or otherwise further quantify any
9 emission levels beyond what is already required by the Permit. Applicant has, however, agreed to
10 conduct monitoring, if requested to do so by the District.

11 THEREFORE, THE HEARING BOARD ORDERS:

12 A variance from Regulation 2, Rule 1, Section 307, Condition No. 16474, Item No. 3 is
13 hereby granted for a 89-day period from October 3, 2005, through and including
14 December 30, 2005, subject to the following conditions:

- 15 1) Applicant shall not operate engine S-13 with CO emissions in excess of
16 3.82 g/bhp-hr.
- 17 2) Applicant shall, by November 30, 2005, submit to the Hearing Board and the
18 District a copy of the engineering report being prepared by Whitley Burchett &
19 Associates in conjunction with CH2M Hill.
- 20 3) Applicant shall pay excess emission fees for 14.7 pounds per day of CO for 89
21 days, pursuant to District Regulation 3.

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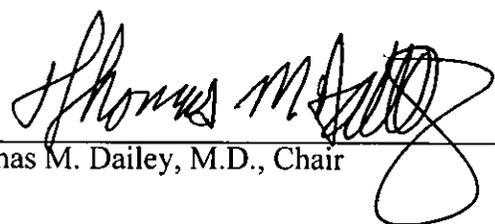
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Moved by: Allan R. Saxe, Esq.

Seconded by: Terry A. Trumbull, Esq.

AYES: Christian Colline, P.E., Julio Magalhães, Ph.D., Allan R. Saxe, Esq.,
Terry A. Trumbull, Esq., Thomas M. Dailey, M.D.

NOES: None.



Thomas M. Dailey, M.D., Chair

11-30-05
Date