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FEB 17 2004

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

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In the Matter of the Application of)
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NEW UNITED MOTOR)
MANUFACTURING, INC.)
)
For a Variance from Regulations:)
Regulation 2, Rule 6, Section 307;)
Regulation 2, Rule 1, Section 307; Manual)
of Procedures, Vol. II, Part 3, § 411;)
Standard Condition 1.B.2. of New United)
Motor Manufacturing, Inc.'s Major Facility)
Review Permit (Insofar as It Applies to)
Condition No. 10320 of Applicant's Major)
Facility Review Permit); Condition No.)
10320, Parts 10,16, 17; and Regulation 8,)
Rule 13, Section 307.)
_____)

DOCKET NO. 3449

ORDER GRANTING VARIANCE

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The above-entitled matter is an Application for Variance ("Application") from the provisions of Bay Area Air Quality Management District ("District") Regulation 8, Rule 13, Section 307; Regulation 2, Rule 6, Section 307; Regulation 2, Rule 1, Section 307; Manual of Procedures, Vol. II, Part 3, § 411; Standard Condition 1.B.2. of New United Motor Manufacturing, Inc.'s ("NUMMI's") Major Facility Review Permit (insofar as that Condition applies to Condition No. 10320 of Applicant's Major Facility Review Permit); and Condition No. 10320, Parts 10, 16 and 17 of the Permit to Operate and Major Facility

ARB

1 Review Permit for NUMMI's automotive and truck-manufacturing plant located at
2 45500 Fremont Boulevard, Fremont, CA 94538. The Application was filed on
3 December 10, 2003, and was revised by an Amended and Restated Application filed on
4 January 15, 2004.

5 Operations at NUMMI emit more than 10 tons per year of air contaminants, and
6 Applicant is not a small business as defined by California Health and Safety Code
7 Section 42352.5(b)(2).

8 The Clerk of the Hearing Board provided notice of the hearing on the Application in
9 accordance with the requirements of the California Health and Safety Code. The Hearing
10 Board heard the request for variance on January 22, 2004.

11 David R. Farabee and Diana J. Graves of Pillsbury Winthrop LLP, appeared for
12 NUMMI.

13 Kathleen Walsh, Assistant District Counsel, appeared for the Air Pollution Control
14 Officer ("APCO").

15 The Hearing Board provided the public an opportunity to testify at the hearing as
16 required by the California Health and Safety Code, but no members of the public testified.
17 The Hearing Board heard NUMMI's testimony. The APCO did not oppose the granting of
18 the variance. The APCO introduced into evidence a letter dated January 8, 2004 in which
19 NUMMI described events relevant to this Application and that NUMMI had submitted to
20 the District's Director of Enforcement in accordance with the requirement in NUMMI's
21 Major Facility Review Permit to report deviations from permit conditions.

22 The Hearing Board declared the hearing closed after receiving testimony and took
23 the matter under submission for decision.

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1 **BACKGROUND**

2 NUMMI operates an automotive stamping, painting, assembly and parts
3 manufacturing facility. NUMMI operates two assembly lines at the facility: a passenger
4 automobile assembly line and a light-truck assembly line. NUMMI is the only
5 manufacturer in the United States of Toyota Corolla cars and the only manufacturer in
6 North America of the Pontiac Vibe automobile and the Toyota Tacoma truck. NUMMI
7 manufactures and paints the plastic bumpers and the plastic bumper covers (collectively,
8 “bumpers”) that are installed on the passenger cars and light trucks, respectively,
9 manufactured at the plant. If NUMMI were unable to manufacture and paint plastic
10 bumpers, it would have to shut down its car and truck assembly lines at a cost of
11 approximately \$1.4 million per day. Even if an alternate source of bumpers could be
12 located or developed, the alternate source could not be available soon enough to provide
13 bumpers during the repair period for the Concentrator.

14 Prior to being installed on a vehicle, each bumper is painted with a prime coat and
15 one or a combination of various topcoats. The prime coat is applied to each bumper in the
16 Bumper Prime Booth (District Source No. S59). After the prime coat is applied, the paint is
17 cured in the Prime Oven (District Source No. S65). This process is repeated for topcoats in
18 the Topcoat Booth and Topcoat Oven (District Source Nos. S57 and S58, respectively).

19 NUMMI abates volatile organic compound (“VOC”) emissions from these sources
20 in accordance with its permit conditions and District regulations. The exhaust from the
21 paint booths, which has a high flow of air but contains a relatively low concentration of
22 VOCs, is sent to the Carbon Rotor Desorb Air Heater (“Concentrator”) (District Abatement
23 Device No. A592), and then a lower volume of air with a more concentrated VOC stream is
24 sent from the Concentrator to the Plastics Regenerative Thermal Oxidizer (“RTO”) (District
25 Abatement Device No. A571) where the VOCs are incinerated. The exhaust from the

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1 ovens is sent directly to the RTO because the airflow from the ovens is lower than from the
2 booths and concentration of the VOCs in the exhaust gas is not necessary.

3 In addition to the abatement requirements of NUMMI's permits, District
4 Regulation 8-13-307 requires that NUMMI abate VOC emissions from the prime booth.
5 Regulation 8-13-307 sets forth limits for the VOC content of paint coatings applied to
6 flexible parts, such as plastic bumpers. The coatings used in NUMMI's bumper prime
7 coating operations contain more than 4.1 lbs/gal of VOCs, exceeding the pertinent
8 regulatory limit; therefore, NUMMI must abate VOC emissions to an equivalent level
9 through the use of an abatement device that operates at a minimum 90% abatement device
10 efficiency. Regulation 8-13-307 does not require NUMMI to abate emissions from the
11 bumper topcoat coating operations because the VOC content of the topcoat coatings is
12 below the applicable regulatory limits. NUMMI filed this Application because the
13 Concentrator was not abating the prime booth at 90% abatement device efficiency as
14 required by Regulation 8-13-307.

15 The Concentrator consists of a series of carbon beds, three carbon wheels and a hot
16 air desorption heater. The exhaust from the paint booths flows into the Concentrator
17 through the carbon beds and VOCs are adsorbed by the carbon wheels.¹ A lesser volume of
18 heated air (from the hot air desorption heater) flows through the sections of the carbon
19 wheels that have become saturated with VOCs. The VOCs are desorbed from the wheels
20 and move with the heated airflow into the RTO for incineration. The Concentrator is
21 essential because the RTO does not have the capacity to receive the high volume/low
22 concentration flow of VOC-laden air directly from the bumper paint booths. The

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¹ As a result of remedial actions taken by NUMMI to restore the Concentrator's abatement efficiency, NUMMI has removed the carbon from the carbon beds, and has replaced the carbon wheels with zeolite wheels. Despite the change in materials, the Concentrator functions as described here.

1 Concentrator reduces the volume of airflow from the paint booths by a factor of ten, which
2 allows the RTO to efficiently abate the booth's VOC emissions.

3 During a voluntary source test of the Concentrator in October 2003, NUMMI
4 discovered that the Concentrator was operating at less than 90% abatement device
5 efficiency. This was an unexpected result because, according to previous testing, the
6 Concentrator had consistently operated at greater than 90% efficiency. Testing for all of
7 the other concentrators at the facility showed that they consistently operated at greater than
8 90% efficiency. NUMMI promptly inspected the Concentrator and the source test records
9 for the Concentrator and determined that it was possible that the source test was incorrect.
10 Therefore, NUMMI immediately scheduled a follow-up source test to verify the
11 Concentrator's actual abatement device efficiency.

12 Upon receiving confirmation in early December 2003 that the Concentrator was in
13 fact operating at less than 90% efficiency, NUMMI undertook a complete and thorough
14 inspection of the Concentrator. It appeared that the only possible reason for the decreased
15 efficiency was decreased efficiency of the carbon wheels. Therefore, NUMMI promptly
16 placed an order for, and expedited delivery of, replacement adsorption wheels.

17 The new zeolite adsorption wheels arrived at NUMMI on January 12, 2004 and
18 NUMMI installed the wheels during a planned facility shutdown over the three-day
19 weekend of January 17-19, 2004. NUMMI continued to test and readjust the operating
20 parameters for the Concentrator and as of the afternoon of the variance hearing, NUMMI
21 estimated that the Concentrator was achieving approximately 91% abatement device
22 efficiency.

23 Because the efficiency of the Concentrator immediately increased after installation
24 of the new wheels, any excess emissions ceased as of January 16, 2004.

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1 **DISCUSSION**

2 NUMMI could not have detected nor prevented the Concentrator's reduced
3 abatement efficiency. NUMMI had regularly inspected and maintained the Concentrator.
4 To verify compliance with the requirement to operate the Concentrator at 90% abatement
5 device efficiency and the permit requirements to abate the bumper booths, NUMMI relied
6 on source tests performed by Best Environmental ("Best"), a source testing firm it has
7 engaged for over 10 years to conduct annual source tests on all of the abatement devices at
8 NUMMI's facility, including the Concentrator. This self-assessment of compliance is
9 voluntary; it is not required by District regulations or by NUMMI's Major Facility Review
10 Permit. Historically, Best's testing has been accurate and reliable, as demonstrated by
11 independent District source tests that verified the results of previous testing conducted by
12 Best.

13 Best tested the efficiency of the Concentrator in October 2003. According to the
14 results of that test, received by NUMMI on November 13, 2003, the Concentrator was
15 operating at 46% efficiency. Based on NUMMI's experience and operation of other
16 concentrators at the facility, the apparently sudden decrease in efficiency was a completely
17 unexpected result. Since the result was so unexpected, NUMMI hired a different source
18 test firm, Blue Sky Environmental ("Blue Sky"), to independently verify the results. In test
19 results received by NUMMI in early December, 2003, Blue Sky confirmed that the
20 Concentrator was operating at a level below 90% efficiency. NUMMI and the
21 manufacturer thoroughly inspected the Concentrator and found no obvious defects or
22 malfunctions. The manufacturer's recommended solution was for NUMMI to order and
23 install new adsorption wheels for the Concentrator. The new wheels were installed and
24 operating by January 20, 2004.

25 Once the new wheels were installed, NUMMI ceased generating emissions in excess
26 of the Regulation 8-13-307 limit. According to data regarding the VOC coating content of

1 paint used in the bumper line sources, even if the Concentrator was operating at 0%
2 abatement, NUMMI has at no time exceeded the overall annual VOC emissions limit for
3 the bumper line sources. Therefore, the hardship that would be created if NUMMI were
4 denied variance protection and required to comply with the 90% abatement requirement
5 would be without a corresponding benefit in reducing air contaminants. Curtailment of
6 bumper line production would not resolve the violation because the regulation requires 90%
7 abatement instead of a fixed emission or production limit. Therefore, whether NUMMI
8 painted one or one hundred bumpers, it would not have been able to satisfy the regulation
9 because the Concentrator was not operating at 90% abatement device efficiency. The only
10 possible means of curtailing operations would be to completely shut down the bumper line.
11 If NUMMI ceased production of bumpers, it would also have to shut down all passenger car
12 and truck production because NUMMI cannot paint bumpers elsewhere or purchase
13 finished bumpers from an outside source. This magnitude of economic hardship was not
14 warranted based on NUMMI's diligent actions in maintaining the Concentrator and
15 resolving the problem once it was discovered.

16 In January 2004, NUMMI received source test results from Blue Sky that indicated
17 that the Concentrator was operating at approximately 27.2% efficiency. Based on 27.2%
18 efficiency, NUMMI calculated that it was emitting 29 pounds per day of VOCs in excess of
19 the limit in Regulation 8-13-307. These excess emissions totaled 609 pounds (0.3 tons) for
20 the 21 days that NUMMI operated during the period from December 10, 2003, the date it
21 filed this Application, through January 16, 2004, the day it shut down the bumper line to
22 install the new wheels.

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1 **SPECIFIC FINDINGS**

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

3 1. During the period from December 10, 2003 to January 16, 2004, NUMMI was
4 in violation of Regulation 8, Rule 13, Section 307; Regulation 2, Rule 6, Section 307;
5 Regulation 2, Rule 1, Section 307; Manual of Procedures, Vol. II, Part 3, § 411; Standard
6 Condition 1.B.2. of New United Motor Manufacturing, Inc.'s ("NUMMI's") Major Facility
7 Review Permit (Insofar as It Applies to Condition No. 10320 of Applicant's Major Facility
8 Review Permit); and Condition No. 10320, Parts 10, 16 and 17 of the Permit to Operate and
9 Major Facility Review Permit. While it is making the necessary adjustments and testing the
10 new Concentrator wheels to ensure that the Concentrator is operating properly, NUMMI
11 may continue to be out of compliance until April 1, 2004.

12 2. The reduced efficiency of the Concentrator was beyond NUMMI's reasonable
13 control. NUMMI could not reasonably have known or anticipated that it was not in
14 compliance with the applicable regulatory and permit requirements. Despite voluntary
15 source testing and a rigorous maintenance program, NUMMI did not discover that the
16 Concentrator's abatement device efficiency was decreasing until the Concentrator's
17 abatement efficiency was already well below the regulatory requirement. Accordingly,
18 non-compliance with District Rules was beyond NUMMI's reasonable control. Once
19 NUMMI discovered that it was operating the Concentrator below the required abatement
20 device efficiency, the only way NUMMI could have complied with the regulatory limit
21 would have been to shut down the bumper line. An alternate source of bumpers would not
22 have been available for the time needed to complete the Concentrator wheel replacement
23 and tuning. If NUMMI had been forced to close the bumper line, and hence shut down the
24 car and truck assembly lines, it would have cost the company as much as 25 million dollars,
25 for less than a month of idling the plant.

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1 3. The hardship that would have resulted if NUMMI had shut down the bumper
2 line and therefore also shut down the car and truck assembly lines would have been without
3 corresponding benefit in reducing air contaminants because the Concentrator continued to
4 operate and abate emissions to a certain degree, and because the RTO was abating the
5 bumper ovens. Therefore, NUMMI has not exceeded the overall VOC mass emissions
6 limit for the bumper line. During the period from December 10, 2003, the date it filed this
7 Application, through January 16, 2004, NUMMI emitted 29 pounds per day in excess of the
8 VOC limit in Regulation 8-13-307 for prime coatings. Shutting down the facility, at an
9 approximate cost of \$1.4 million per day, was not justified by this level of excess
10 emissions.

11 4. NUMMI considered curtailing operations in lieu of obtaining a variance, but
12 curtailment was not feasible to bring NUMMI into compliance. Regulation 8-13-307 is not
13 simply an emissions limit, but requires the Concentrator to operate at a certain rate, 90%
14 abatement efficiency. The Concentrator's efficiency could not be increased by curtailing
15 operations. The only effective means of curtailing operations to come into compliance
16 would be to shut down all operations at the bumper line, and hence shut down the car and
17 truck assembly lines. As discussed, because NUMMI did not exceed its overall VOC
18 emission limits, the limited emissions benefit from such extreme action would not outweigh
19 the detriment to NUMMI of the economic impact of shutting down the entire facility.

20 5. NUMMI has reduced excess emissions to the maximum extent feasible by
21 expediting delivery of, and promptly installing the new adsorption wheels in the
22 Concentrator. NUMMI continues the tuning process, i.e., adjusting the Concentrator to
23 maximize the efficiency of the newly installed wheels.

24 6. NUMMI will continue to monitor the amount of coatings applied in the bumper
25 paint booths and the efficiency of the Concentrator and report the VOC emissions to the

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1 District as it does every month as part of its normal reporting requirements. The District
2 did not request any additional monitoring.

3 **THEREFORE, THE HEARING BOARD ORDERS:**

4 A variance is granted from District Regulation 8, Rule 13, Section 307; Regulation
5 2, Rule 6, Section 307; Regulation 2, Rule 1, Section 307; Manual of Procedures, Vol. II,
6 Part 3, § 411; Standard Condition 1.B.2. of New United Motor Manufacturing, Inc.'s
7 ("NUMMI's") Major Facility Review Permit (Insofar as It Applies to Condition No. 10320
8 of Applicant's Major Facility Review Permit); and Condition No. 10320, Parts 10, 16 and
9 17 of the Permit to Operate and Major Facility Review Permit. The variance shall be for
10 the period from December 10, 2003 through April 1, 2004. The variance is subject to the
11 following conditions:

12 1. NUMMI shall pay excess emissions fees for VOC emissions as required by, and
13 in accordance with, District Regulation 3.

14 2. Except as specified in No. 4. below, NUMMI shall submit all information and
15 reports required by these conditions both to the District (Carol Lee with a copy to (1)
16 Kathleen Walsh, (2) Compliance and Enforcement Division, and (3) Source Test Manager)
17 and to the Hearing Board.

18 3. NUMMI shall conduct a source test on the Concentrator and submit the results
19 by March 1, 2004.

20 4. No later than 14 days prior to any source test required by this Order Granting
21 Variance, NUMMI shall provide the District Source Test Manager with the source test
22 protocol, and no later than 7 days prior to any source test required by this Order, NUMMI
23 shall notify the District Source Test Manager of the date of the source test. NUMMI shall
24 allow the District to observe any required source test.

25 5. If by March 1, 2004, NUMMI has not submitted the results of a source test
26 demonstrating the Concentrator's compliance with the requirement for 90% abatement

1 device efficiency, then NUMMI shall submit an alternative compliance plan by April 1,
2 2004.

3 6. NUMMI shall conduct source tests on all concentrators at the facility by
4 March 31, 2004, using a District-approved protocol, and shall submit the test results by
5 April 30, 2004.

6 7. NUMMI shall label all source test ports on the Concentrator and on all
7 concentrators that regularly vent to the atmosphere and submit source test protocols for the
8 A-592 Concentrator by February 15, 2004.

9 8. Beginning February 6, 2004, NUMMI shall submit biweekly reports, due the
10 following week, of all maintenance and adjustments made to the Concentrator, until such
11 time as a source test report is submitted that demonstrates compliance with the applicable
12 permit conditions and regulations.

13 9. NUMMI shall conduct an engineering evaluation of the Concentrator to
14 determine why it ceased functioning at 90% abatement efficiency. NUMMI shall complete
15 the evaluation and submit the results by May 15, 2004.

16 10. Beginning with the month of February, 2004 and continuing for the duration of
17 the variance, NUMMI shall conduct monthly sampling of the outlet exhaust duct VOC
18 concentration for each concentrator at the facility that vents to the atmosphere, and provide
19 the results of the sampling within 15 days.

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Moved by: Allan R. Saxe, Esq.

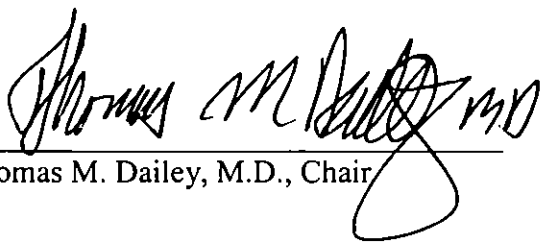
Seconded by: Thomas M. Dailey, M.D.

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

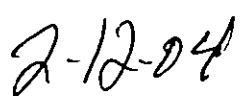
NOES: None.

ABSENT FROM VOTE: Terry A. Trumbull, Esq.

NON-PARTICIPATING: None.



Thomas M. Dailey, M.D., Chair



Date