A P P E N D I X E (of the ~~Draft~~Final EA)

C O M M E N T L E T T E R S O N T H E N O T I C E O F P R E P A R A T I O N A N D I N I T I A L S T U D Y A N D R E S P O N S E S T O T H E C O M M E N T L E T T E R S

COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

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STEPHEN R. MAGUIN
Chief Engineer and General Manager

May 25, 2007
File No.: 31B-380.10B

Mr. James Koizumi
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, CA 91765

Dear Mr. Koizumi:

Comments on the Initial Study for Proposed Amended Rule 1110.2

The Sanitation Districts of Los Angeles County (LACSD) are pleased to offer comments on the Initial Study (IS) and Notice of Preparation (NOP) of a draft Environmental Assessment (EA) for Proposed Amended Rule (PAR) 1110.2. The LACSD service area is approximately 800 square miles, and encompasses 78 cities and unincorporated territory within Los Angeles County. LACSD is responsible for wastewater collection and treatment for approximately 5.2 million people in Los Angeles County, as well as solid waste management for a major portion of the County. The facilities we operate include 11 wastewater treatment plants, 3 active landfills, and 3 inactive landfills. Reciprocating engines are an integral part of our operations to provide cost-effective sewage pumping, electrical generation, landfill/digester gas management, and protection of these resources during emergencies. 1-1

1) Chapter 1: Project Objectives

Page 1-3 states that the objective of the project is to partially implement the 2007 AQMP Control Measure MSC-01—Facility Modernization which requires retrofit or replacement of existing equipment with NOx Best Available Control Technology (BACT) "at the end of a predetermined life span." Since PAR 1110.2 sets arbitrary dates for all existing engines to meet natural gas BACT without consideration of useful life or cost recovery, the IS should really present the proposed changes as an *alternative* to the AQMP proposed measure. One way for PAR 1110.2 to become consistent with Control Measure MSC-01 is to use the concept of "useful life" before requiring existing engines to be replaced or retrofitted to meet natural gas BACT.

2) Chapter 1: Emissions Inventory

Page 1-13 through 1-15 estimates the level of excess emissions from the entire engin database. This is a very general discussion that is not true for most biogas-fired engines. Firs., 1-2

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biogas engines tend to be large engines and are exclusively lean burns (over 75% of biogas engines are 1000 bhp or larger, and 100% are lean burns, according to SCAQMD survey data). The inspection data gathered by SCAQMD (Table 1-6) indicate lean burn engines have a much higher rate of NOx and CO compliance than do rich burns. Second, because most landfill/digester gas engines are larger than 1000 bhp, they are more likely to have CEMS, and thus be in continuous compliance. When these facts are considered together, they suggest that biogas engines do not contribute significantly to the estimated excess emissions shown in Table 1-7 relative to natural gas engines. This point becomes more important, given the claim of the IS on Page 1-17, that emissions from biogas engines far exceed those of natural gas units. This statement may be true when comparing BACT emission limits, but the comparison is misleading when natural gas-fired engines in practice, particularly rich burns, have unfortunately demonstrated non-compliance and excess emissions. The Environmental Assessment should discuss these differences and more accurately report the data regarding biogas engines. 1-2 (cont.)

3) Chapter 1: Control Technology

On Page 1-17 SCAQMD indicates that there have been recent developments in new technologies that may allow emissions from biogas-fired engines that are as low as natural gas engines. We are very concerned that SCAQMD is not providing a clear description of these developments, nor any proof that these technologies function in the long term. For example, the engine at the landfill in City of Industry is primarily a natural gas-fired engine, supplemented with a small percentage of landfill gas. The landfill gas that is combusted in this engine is from a very old landfill that is low in siloxanes and other contaminants that could damage catalyst. Therefore, this is not representative of an engine fueled by landfill gas that meets the definition of biogas proposed in PAR 1110.2.

Also used as an example is fuel treatment and catalytic reduction at the Brea Landfill. In this project, an oxidative catalyst is used in conjunction with a complex fuel treatment system to reduce levels of CO. The operator reports to us that the catalyst on this system cannot make a year of operation without being rotated out for clean-up. Additionally, the operator reports that outlet CO emissions that have been measured in source tests would not meet the proposed CO BACT levels. Since the unit does not have a CEMS, it is not clear what the continuous profile of CO emissions looks like. Clearly, not enough data is present to fully evaluate this system. 1-3

The NOxTech system installed on the landfill gas engine in Woodville, California has been a test case that shows promise, however, no long-term data has been developed that can be reviewed. Also, this process could require the use of natural gas as supplemental fuel that would produce additional emissions, and because it is a SNCR process, may produce unacceptable levels of ammonia slip. Once again, not enough data is available on this system to fully evaluate these issues.

SCAQMD cites landfills in Italy that use the CL.AIR non-catalytic VOC/CO control devices. Once again, long-term CEMS data needs to be produced that demonstrates that the engines could meet the proposed BACT CO requirements, the types of fuel clean-up system needed, and the replacement schedule for the catalyst. The Bowerman Landfill in Orange County is the only facility in the country using this system. To date, they have not collected

emission data on this system, so there is nothing to substantiate that the BACT CO limit could be met continuously. Also, this system is essentially a thermal oxidizer that needs heat input, such as natural gas or additional landfill gas. Any emissions from these supplemental fuels need to be evaluated. Finally, one would need to determine if this system is compatible with NOx reduction devices. Once again, it is premature to declare this technology a "success".

There is also an engine project in the Bay Area that proposes to use fuel cleanup coupled with CO/ NOx catalysts by Miratech; however, these engines are at least one year away from start-up. At least two years of data, or longer, should be collected before a valid conclusion can be reached on the process. A positive aspect of this project is that the BAAQMD recognizes the uncertainties of this project, and has established an operating threshold in the permit-to-construct on what constitutes success or failure of the catalyst. Unfortunately, our industry is at least three years away from finding out these answers. 1-3 (cont.)

We therefore recommend that the EA and final Staff Report include fuller details of the cited projects, as well as highlight existing uncertainties with the control technologies, particularly in terms of long-term feasibility and continuous compliance, not just source test compliance, with the proposed emission limits. It should also be discussed that all the projects cited above are new installations, so the suitability and economics of retrofitting these technologies to existing units need to be examined once all the emissions and cost data are collected and evaluated. The time lines of these projects indicate that we are at least three years away from having sufficient data to work with.

4) Chapter 2: Environmental Checklist and Discussion

Under "Construction" on Page 2-4, staff states that the possibility of replacing engines with flares will be examined in the Draft EIR. In addition, the EIR should examine the construction impacts of retrofitting existing engines with an advanced fuel treatment system, SCR and CO catalysts, and an ammonia storage and supply system. This level of retrofit could require extensive landfill gas piping re-configuration, building modifications, and stack relocations. 1-4

5) Chapter 2: New Developments

On Page 2-7 under "New Development", staff states that PAR 1110.2 would only require "minor modifications" to buildings or other structures. As stated above, retrofitting existing landfill/digester-fired gas engines with a fuel treatment system and SCR/CO catalyst could require extensive landfill gas piping re-configuration, building modifications, and stack relocations, all of which could be "major modifications." 1-5

6) Chapter 2: Air Quality

Part of the Air Quality assessment that begins on Page 2-8 should address the impacts the proposed project could have on California policies on renewable energy, the use of bioenergy and greenhouse gas reductions mandated by AB 32 and other state policies. Additional issues that should be addressed are the consequences of more natural gas usage for the NOxTech and 1-6 1-7

CL.AIR processes, associated ammonia slip emissions from both the NOxTech process and SCR catalysts, and further drain on the Priority Reserve credit bank. 1-7 (cont.)

Further Construction emissions should be evaluated for the scenarios discussed in No. 4 and 5 above. Additional comments related to Air Quality are presented in items 7, 8, and 9 below. 1-8

7) Chapter 2: Solid/Hazardous Waste

Page 2-12 under Air Quality, Page 2-40 in Solid/Hazardous Waste, and Page 2-42 for Transportation/Traffic, all use an estimated catalyst life of three to five years. While this may be reasonable for natural gas applications, catalyst replacements on biogas engines will be much more frequent. Again, such applications are rare and none have a substantial track record; however, an estimated catalyst replacement frequency of 1 year or 8,000 hours of total operation is currently more reasonable for biogas units. This should be considered as added operating costs for biogas facilities, as well as for the associated increased ammonia emissions (i.e., resultant from degraded catalyst), increased solid/hazardous waste burden and disposal costs, and greater traffic, air pollution, and risk to public health related to frequent catalyst changes and removal. 1-9

8) Chapter 2: Public Services

Pages 2-36 and 2-37 address the comments from Association of California Water Agencies (ACWA), and conclude that there will not be any significant public service impacts. We caution against reaching this conclusion without further analysis. Remotely located water purveyors may not have grid power available at pumping facilities, and Diesel generators may not provide the runtime needed for major emergencies (i.e., on-site fuel storage cannot ensure service through wild fires that may last a week or more). In addition, retrofitting existing engines or installing costly CEMS will not make sense on low-use (but not emergency) units. Various water/wastewater/utility jurisdictions have different circumstances, but many have significant investments in gas engines and rely upon them for critical needs. Forcing essential public service agencies to shut down existing engines or look for other means to perform their function may ultimately benefit air quality, however, such actions may have reliability impacts on the public service infrastructure, increase facility health risks (due to new diesels), and will definitely increase the cost of public services, which will be passed on to the ratepayers. Therefore, we feel the EA should address the impacts on "Public Services" as potentially significant. 1-10

9) Chapter 2: Transportation/Traffic

Page 2-9 under Air Quality effects and Page 2-42 in the discussion for Transportation and Traffic mention the impact of additional source testing for engines. We disagree with the analysis using only "one additional test every six years." Since the current requirement is triennial, and the proposed amendment is for testing every two years or every 8760 operating hours—*whichever occurs first*, the EA should conservatively assume testing every 8760 hours, or annually. Increasing engine testing from once every 3 years to annually will notably increase 1-11

Mr. James Koizumi, SCAQMD -5- May 25, 2007

workload for LAP-approved testing firms. The increase in contractor traffic and air pollution will likely not be significant, but should be evaluated in the EA. The real concern is that with the proposed restrictions in source testing, such as the ban against pre-tests and any servicing or tuning within 1 week, test cancellations and re-scheduling will increase. This will reduce the availability of test firms. The cancellations and extra demand will also increase source test costs. 1-11 (cont.)

Similarly, Page 2-9 and Page 2-42 touch on the number of CEMS that will be installed as a result of PAR 1110.2. We assert that the currently proposed compliance schedule for new and modified CEMS is unrealistic and will exhaust the available local resources for the manufacture, assembly, integration, installation, and certification of CEMS. Such shortage and increased backlog will increase cost and time needed to achieve compliance. Again, this should be considered in PAR 1110.2, primarily for the compliance and cost aspects, and also the EA for short-term limited impacts on air quality and traffic. We propose extending the CEMS compliance deadlines and consider a tiered compliance schedule such as engines >1000 bhp installing CO CEMS one year earlier than smaller engines installing NOx/CO CEMS. 1-12

We again thank you for this opportunity to comment on the Initial Study and NOP of the draft Environmental Assessment for PAR 1110.2. Please contact Frank Caponi or Tom C. Fang at (562) 699-7411 should you have any questions regarding these comments.

Sincerely,

Stephen R. Maguin

Gregory M. Adams

Gregory M. Adams
Assistant Departmental Engineer
Air Quality Engineering Section
Technical Services Department

GMA:FRC:TCF:ch

CC: Marty Kay, SCAQMD
Laki Tisopulos, SCAQMD

Responses to Comment Letter #1
County Sanitation Districts of Los Angeles County
May 25, 2007

Response 1-1
PAR 1110.2 is considered to implement the 2007 AQMP control measure MCS-01 in part, because it would require affected equipment to be retrofitted or replaced to comply with applicable BACT levels. Although MSC-01 does take into consideration useful life of the equipment, for ICEs affected by PAR 1110.2, useful life has not been precisely defined, especially for ICEs.

Engine replacement with a new engine is not required and may not result in complying with PAR 1110.2 since new engines, without the add-on control technology, are not necessarily cleaner than older engines. The current BACT limits for natural gas engines were established in 1994. These BACT limits would be incorporated into PAR 1110.2. Therefore, only natural gas engines installed before 1994 (i.e., at least 16 years old) would need to be retrofitted.

Even though SCAQMD staff has not verified the claim that commenters may replace ICEs with alternative control technologies, staff has committed to conduct a technology assessment in 2010 to evaluate whether or not cost-effective control technologies are available to allow compliance by biogas engines with the final emission compliance limits in the proposed amended rule, avoid the need for biogas flaring, and eliminate or minimize potential adverse impacts identified by the regulated industry. If the assessment shows a potential for flaring or that cost-effective control technology is not available for biogas engines, staff will return to the Governing Board with a proposal to address any new significant adverse impacts. Depending on the conclusion of the technology assessment, the emission concentration requirements of PAR 1110.2 may need to be modified.

In response to this comment, Alternative D in the Draft EA contains a useful life condition that would extend the requirements an additional two years for equipment that would be less than ten years old in 2010.

Response 1-2
As indicated in Chapter 3 of the Draft EA, the surveys and unannounced compliance testing indicates tat lean-burn engines with CEMS tended to comply with applicable limits, while lean-burn engines without CEMS tended to violate their applicable limit, although the number of test was considered to be too small to be conclusive. For additional information refer to the section entitled "Unannounced Compliance Testing" in Chapter 3. Further, SCAQMD unannounced tests show that when they properly operated and maintained, natural gas engines have significantly lower emissions than biogas engines.

Response 1-3
Based on comments from stakeholders the proposed CO concentration in PAR 1110.2 has been raised from 70 ppm to 250 ppm. Further, in recognizing that additional data are needed for biogas engine control technologies SCAQMD staff are proposing to not submit the proposed

biogas emission limits to EPA as part of the SIP submittal for PAR 1110.2. In addition, PAR 1110.2 contains a provision to conduct a technology review in 2010 to assure that cost-effective control technologies are demonstrated and available prior to moving forward with the proposed limits.

Response 1-4
The Draft EA includes a comprehensive analysis of adverse construction impacts from retrofitting existing engines with add-on emissions control equipment and the removal of ICEs and the installation ICE alternatives such as turbines, biogas to LNG plants, etc. Since construction and operations would occur concurrently, peak daily construction and operational criteria pollutants were added together and compared to the operational criteria pollutant thresholds. The analysis and conclusion can be found in Chapter 4 of the Draft EA.

Response 1-5
With regard to the analyiss of impacts from the various compliance options, refer to the Response to Comment 1-4.

Response 1-6
Before the future biogas emission limits go into effect, AQMD staff will conduct a technology assessment in 2010 to assure that feasible retrofit controls are available for biogas engines. This will prevent replacement of ICEs at biogas facilities with continuous flaring. It is unlikely that biogas facilities would replace ICEs with electrification only because biogas must be treated.

In the Draft EA, the worst-case scenario assumed that all ICEs at digester facilities are replaced with gas turbines or microturbines and all ICEs at landfill gas operations are replaced with biogas to LNG plants and would obtain electricity from the power grid. Gas turbines were chosen for digester gas facilities because they are the least efficient of the replacement options of boilers and fuel cells and most digester facilities do not have sufficient room to install biogas to LNG plants. It was assumed that all landfill gas operators would replace ICEs with biogas to LNG plants and would obtain electricity from the power grid, since this would not only remove the electricity provided to the grid, but would require that landfill gas facilities use energy from the grid. The details of this analysis and the conclusion with regard to PAR 1110.2's effect on energy and renewable energy polices in California can be found in the "Energy" section in Chapter 4 of the Draft EA.

Greenhouse gas impacts form implementing APR 1110.2 are evaluated in the "Air Quality" section of Chapter 4 of the Draft EA. Staff has concluded that for some categories of ICEs, replacing ICEs with electric motors would cost less than complying with PAR 1110.2 for an estimated 225 existing non-biogas ICEs. SCAQMD staff assumed as a conservative analysis that operators of 169 existing non-biogas ICEs would replace their existing engines with electric motors. Based on this analysis, PAR 1110.2 would result in an overall CO2 reduction from existing CO2 emission levels from the replacement of existing non-biogas engines with electric motors.

Response 1-7
The NOxTech and CL.AIR technologies are intended for use with biogas engines. They do not require any additional natural gas use because any supplemental heat required by these devices can be provided by biogas rather than natural gas.

NOxTech and SCR controls may have some ammonia slip emissions. It is not clear why PAR 1110.2 would affect Priority Reserve credits. Operators who choose to retrofit existing engines to comply with PAR 1110.2 would be reducing emissions and, therefore, would not be subject to offset requirements. Similarly, operators who replace existing ICEs with new engines would also be reducing emission and would also not be subject to offset requirements.

Response 1-8
With regard to consturction emissions impacts, refore to Response to Comment 1-4.

Response 1-9
The proposed project assumes the use of biogas pretreatment. SCAQMD staff assumed that facility operators would use carbon adsorption to remove biogas impurities that would poison catalyst. The additional vehicle trips and cost for carbon adsorbion were included in the Draft EA analysis. Because biogas pretreatment was included in the analysis, and based on available information, SCAQMD staff assumes that catalyst replacement would occur every three years.

Response 1-10
PAR 1110.2 does not require electrication of engines; however SCAQMD staff believes that facility operators may replace existing engines with electric motors which may be less costly than complying with PAR 1110.2 requirements.

Based on the current version of PAR 1110.2, which would require fewer CEMS than the original version of PAR 1110.2 circulated with the IS, SCAQMD staff has not identified any remote locations that would require a CEMS.

If a water agency operator wants to electrify an engine, and is concerned about a diesel engine providing adequate run time in an emergency, there are other complaince options. The existing natural gas engine and pump could be used as an emergiency back-up to the electrical pump. Diesel engines can also be converted to run primarily on natural gas with a small amount of diesel fuel, which would signifcantly extend the run time of the engine.

A low usage exception from the CEMS requirement has also been added that addresses the commentor's concern about low-use units.

Response 1-11
It is possible that operators of engines without CEMS may need to conduct one or two additional tests every three years. However, staff estimates that the proposed new low-use exception (less than 2,000 hours between tests) would allow about 159 engines to remain on a once-in-every three-years schedule. Semi -annual source tests were assumed in the air quality, and transportation analyses in the IS and Draft EA.

SCAQMD staff does not understand how the prohibition of pre-tests and the limitations on pre-test maintenance will cause tests to be canceled and rescheduled. It is more likely that testing will be reduced, since operators would be prohibited from hiring a test contractor to do a pre-test, find that engine repairs are needed, and then reschedule the reported test for a later date. SCAQMD staff, therefore, agrees that the increase in contractor traffic will not be significant and, as a result, need not be analyzed further in the Draft EA.

Response 1-12

Staff has proposed a revised schedule so that CEMS would be installed in three phases over a three-year period. Also, the revised thresholds will reduce the number of engines requiring CEMS to about 83. Because of the timesharing and electrification possibilities, the number of actual CEMS systems could be as low as 24, further reducing potential traffic impacts.

EASTERN MUNICIPAL WATER DISTRICT
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May 25, 2007

Mr. James Koizumi
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, CA 91765

Dear Mr. Koizumi:

Eastern Municipal Water District (EMWD) appreciates the opportunity to comment on the Proposed Amended Rule (PAR) 1110.2 Draft Environmental Assessment (DEA). EMWD provides drinking water, fire flow, wastewater collection, treatment and reclamation services to a 555 square mile service area in western Riverside County including the communities of Moreno Valley, Perris, Hemet, San Jacinto, Menifee, Sun City, Murrieta, and Temecula and surrounding unincorporated areas. In support of EMWD's mission, EMWD operates approximately 70 ICEs ranging from 95 brake horsepower (bhp) to 1970 bhp. One of the primary reasons EMWD operates these engines is to ensure and maintain the reliability of our services, especially during catastrophic events such as fires, floods and earthquakes. 2-1

As noted above, reciprocating engines are an integral part of our operating philosophy given our continuous need to have reliable pumping and electrical power generation at all times. Engines are also an important means for the effective management and utilization of digester gas, a bi-product of the wastewater treatment processes, which EMWD views as a valuable resource of renewable energy. In addition, the State of California through its Climate Action Plan and AB32 has intended that renewable fuels be part of the solution for reducing the State's greenhouse gas carbon footprint. This fact should be considered by the South Coast Air Quality Management District (SCAQMD) as it formulates new requirements affecting the utilization of digester gas (and landfill gas) by ICEs.

The comments presented below identify the concerns that EMWD has concerning the Draft Environmental Assessment.

Initial Study, Chapter 2 – Environmental Checklist, III. Air Quality

While the DEA generally claims that the proposed amendments to Rule 1110.2 will not require the electrification or replacement of existing engines with other non-internal combustion type equipment (fuel cells, solar, etc.) or hinder the installation of new engines because the requirements are focused on additional 2-2

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compliance monitoring requirements and lowering of emission limits, it fails to note that these new requirements may push current engine operators (and those entities that might normally consider the use of internal combustion engines in new operations) to choose other alternative power (mechanical and/or electrical) strategies. These include the use of electric motor-driven equipment rather than engine-driven equipment. Because public water and wastewater agencies are providing essential public services (drinking water, fire flows, sewage collection and treatment, water reclamation, etc.) the vast majority of facilities must remain in service at all times, especially during disasters such as fires and earthquakes, both common threats in Southern California.

Currently, the use of engine-driven equipment has supported that reliability. However, the proposed requirements of this rule are so costly (capital and operations and maintenance) that it is likely that many existing and future engine operations will be converted to electric motors. In order to provide the same level of reliability that currently exists with the use of engines, operators will have to install diesel-fueled, engine-driven emergency electrical generators. The analysis that is included in this section, fails to evaluate the new emissions and the cancer health risk (chronic) that would be associated with these diesel-fueled generator engines (operation as opposed to construction emissions/risks). These emissions and added cancer burden should be evaluated. 2-2 (cont.)

Additionally, the analysis includes statements noting the Landfill industry's comments that the added cost for installation of CEMS would make flaring of landfill gas an economic alternative to installing SCR and that that would be examined as part of the Draft Environmental Assessment, and if it were found to be probable, that the related construction emissions from replacing engines with flares would be analyzed. EMWD has several comments regarding this analysis.

Wastewater agencies (of which EMWD is one of) are likely to have the same issue. Wastewater processes naturally generate digester gas which is currently used as a fuel and combusted most often in internal combustion engines. The cost of CEMS and meeting proposed lower BACT limits for biogas engines will likely cause wastewater agencies to divert the digester gas to waste gas flares rather than incur costs that would be prohibitive when considered against the return on investment. Hence, the emissions from this same gas diversion at wastewater agencies should be considered as well. It should also be noted that not only may there be emissions related to construction for new flares but there will be the operating emissions from these flares as well. If gas diversion at either or both of these source categories (landfills and wastewater facilities) takes place, the flares will operate 24 hours per day, 365 days per year. Additionally, wastewater agencies will need reliability. Hence, new diesel-fueled, engine-driven emergency electrical generators will be installed to provide the necessary reliability of newly electrified processes. These additional construction and operating emissions and added cancer risk should also be evaluated as part of this analysis.

Initial Study, Chapter 2 – Environmental Checklist, VI. Energy

As noted in the above discussion, the proposed amendments to Rule 1110.2 will result in operators incurring substantial additional costs due to the capital acquisition and operating and maintenance costs associated with the increased monitoring (CEMS, portable analyzer monitoring, increase in emissions source testing frequency and number of load conditions 2-3

tested, etc.) and the more stringent emissions limitations (BARCT to BACT and distributed generation). These added costs, especially when considered on small engines (those less than 1000 brake horsepower), will likely drive many engine operators to electrify. The analysis done for the impacts to energy do not account for this added electrical demand. The analysis should also account for the energy demand impacts that will be associated with any diversion of landfill and digester gas to flares that will also negatively impact energy demand. The diversion of digester gas to flares should also be analyzed along with landfill gas diversion with regard to the negative impact it will have upon the State's goals for renewable energy programs and how it will affect power and natural gas utility systems and local and/or regional energy supplies. 2-3 (Cont.)

Another area discussed is the impact upon the demand for natural gas. The DEA discusses the impact that SCRs may have in reduced engine efficiency. This decreased efficiency will create a higher demand for natural gas consumption by these SCR outfitted engines. While many of the largest engines operating in the South Coast Air Basin are lean-burn engines (the type of engine that would require an SCR for NOx control), the majority of engines in the Basin are rich-burn engines requiring non-selective catalytic reduction (NSCR) to reduce pollutants. Existing BARCT engines would have to retrofit these systems with larger NSCR catalyst beds in order to attain the current proposed BACT limits. The DEA analysis should include any reduced engine efficiency that these engines may incur and any associated increase in fuel demand. Also, emissions control systems that may achieve the proposed emission limitation for distributed generation should be evaluated as well for any new demand on natural gas due to achieving these standards. 2-4

Under the section that discusses "Electricity Usage from Electric Motors" the analysis discusses the impacts from an estimated conversion of 22 two stroke engines to electric motors. The analysis then discusses the impact of one company's (Hanover Compressed Natural Gas Company) conversion of natural gas engines to electric motors. This analysis should include the impact from estimating how many other natural gas-fired engines will convert to electric motors as well as the impacts from the biogas engines converting (landfill and digester gas). In fact, since CEQA requires an analysis of all potential adverse effects flowing from the proposed rule, the analysis should determine the estimated impacts from a complete conversion of existing internal combustion engines less than 1000 bhp to electric motor-driven equipment. 2-5

Initial Study, Chapter 2 – Environmental Checklist, XIV. Public Facilities

In comments made by the Association of California Water Agencies (ACWA), ACWA suggested that PAR 1110.2 might take away the option to utilize engines from member agencies, thereby negatively impacting their ability to provide reliable services such as delivery of water for fire suppression. The SCAQMD's analysis provided in this section states that PAR 1110.2 would not require the removal of internal combustion engines, but would require some retrofits for monitoring and/or emission reductions. It further states that PAR 1110.2 would not interfere with a water agency's ability to supply water for fire fighting nor negatively impact fire fighting. While it is true that the proposed requirements do not specifically require the replacement of engines with electric motor-driven equipment, as noted above the significant costs associated with these requirements will push many engine operators to replace their existing engines with electric motors and likely cause new project proponents to shift to electric motors in place of engines. Hence, while not specifically requiring engine replacement, the proposed amendments will effectively have that end result. The DEA should evaluate and discuss the potential 2-6

Mr. James Koizumi, SCAQMD 4 May 25, 2007

impacts, including the potential loss of public water supply system reliability (fire flows, drinking water, etc.). ACWA's issue was that if member agencies replaced all engine-driven equipment with electric motor-driven equipment, it would make them more susceptible to the kind of disasters that affected Arrowhead Manor Water Company (AMWC) that lost all ability to provide water supply for drinking and fire protection when the fire burned all power lines in the area supplying power to AMWC electrified facilities. EMWD feels that the SCAQMD's analysis is incomplete, especially when it identified water agencies within EMWD's service area that do not utilize engines yet obtain water from EMWD which does rely upon the use of engine-driven pumps to convey drinking and fire suppression water. 2-6 (cont.)

EMWD sincerely appreciates this opportunity to comment on the PAR 1110.2 Draft Environmental Assessment. Should there be any questions or the need for additional information regarding these comments, please contact Mr. Edward Filadelfia at (951) 928-3777, extension 4318 or at filadele@emwd.org. Thank you.

Sincerely,

Jayne Joy, P.E.
Director, Environmental & Regulatory Compliance

JJ/tm

Cc: Anthony Pack, General Manager
Ravi Ravishanker, Deputy General Manager
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Responses to Comment Letter #2
Eastern Municipal Water District
May 25, 2007

Response 2-1
See Response 1-6 regarding renewable energy and greenhouse gases.

Response 2-2
Adverse air quality impacts from diesel particulate exhaust from emergency generators are evaluated in the Draft EA. The use of emergency generators would generate addition criteria pollutants, but with the reductions from PAR 1110.2, the criteria pollutants from backup generators would be less than significant. Noncarcinogenic health risk from ammonia slip was evaluated in the Draft EA and found to be less than significant.

The carcinogenic and noncarcinogenic health risk from diesel exhaust particulate from emergency ICEs are evaluated in the Draft EA and determined to be significant.

Se the analysis in the "Air Quality" section in Chapter 4 of this Draft EA for the details of this analysis.

With regard to the issue of biogas flaring, refer to Response to Comment 1-6.

Response 2-3

See Response to Comment 1-6 regarding the issue of biogas flaring and renewable energy.

PAR 1110.2 has been modified since the release of the NOP to include a low use exception. The low use exception that would ICEs from monitoring and emission control technology if engines are used less than 500 hours or 1,000 MMBtu annually, allowed for CEMS sharing. These changes should resolve the commenter's concern about facility operators replacing existing ICEs with electric motors.

Response 2-4
Based upon information obtained from a leading catalyst supplier, catalysts designed to meet BACT limits do not cause additional pressure drop for the engine, so there would not be any efficiency impact as asserted by the commentor. As a result, reduced engine efficiency with an associated increase in demand for fuel is not expected to occur, and therefore is not anlyzed futher in the Draft EA.

Response 2-5
Because of revisions to PAR 1110.2, AQMD staff does not believe that two stroke engines would be electrified. Instead, operators would install oxidation catalysts.

See Response to Comment 2-3 regarding the addtion of a low use exception.

See Response to Comment 1-6 regarding impacts from electrification.

Response 2-6

If a water agency decides to electify a natural gas engine water pump, there are several ways to address reliability during electrical outages. Either an emergency diesel generator can be installed, or the natural gas engine and pump can be retained as emergency backup. However, as indicated in Response to Comment #1-1, PAR 1110.0 has been modified to include a technology assesssment by 2010 to assure that feasible retrofit controls are avaliable for biogas engines. Based on the results of the technology assessment, PAR 1110.2 will be revised as necessary.