



Metro

Metropolitan Transportation Authority

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JANUARY 24, 2008

TO: BOARD OF DIRECTORS

THROUGH: ROGER SNOBLE *[Signature]*
CHIEF EXECUTIVE OFFICER

FROM: CAROLYN FLOWERS *[Signature]*
CHIEF OPERATIONS OFFICER

SUBJECT: SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
PROPOSED AMENDMENT TO RULE 1110.2 - EMISSIONS
FROM GASEOUS AND LIQUID-FUELED ENGINES

ISSUE

The Los Angeles County Metropolitan Transportation Authority (Metro) received a draft of Amended Rule 1110.2-Emissions from Gaseous and Liquid-Fueled Engines, as proposed by the South Coast Air Quality Management District (SCAQMD) on January 25, 2007. The proposed amendments to Rule 1110.2 will establish more stringent limits on emissions from stationary internal combustion engines, and introduces requirements for Continuous Emission Monitoring System (CEMS) for many of the large horsepower compressed natural gas (CNG) engines that Metro operates. Since receipt of the proposed amendments staff has voiced serious concerns through public comments at the SCAQMD Workshops held in February 2007 and on September 6, 2007, because its implementation could result in significant cost increases, due to expensive retrofits to Metro's CNG engines. Most CNG compressors used at CNG fueling facilities are driven by natural gas fueled engines. These engines operate under air permits granted by the South Coast Air Quality Management District's Rule 1110.2, which governs the emission rates and emission testing procedures required for permitted stationary engines.

When the proposed amendment first came out, staff estimated that ten of our divisions would be impacted, with a projected magnitude of well over \$25 million in capital and residual costs. Staff met with SCAQMD staff on April 19, 2007 and formally submitted comments on the amendment. The proposed amendment was subsequently revised, which reduced Metro's potential impact to approximately \$10 to \$12 million in capital retrofits. Additionally, the new rule would create higher operational costs for the electricity necessary to operate the retrofits, which is estimated to reach as much as \$1 million annually.

Metro has since requested, and continues to request through proposed language, exemption from any rule changes for our existing gas compression engines used to fuel Metro's CNG bus fleet. These engines are expected to operate efficiently until year 2031. By adding the proposed exemption language, we will be able to avoid re-negotiation of the Public Private Partnership (PPP) agreements for our fueling facilities. The exemption language will allow us to continue utilizing our current gas compression CNG fueling assets. Doing anything otherwise would waste millions of taxpayer's dollars and jeopardize future capital projects including "green" projects.

DISCUSSION

The Board of Directors had committed to clean air programs long before any regulation was imposed to do so. Metro operates the nation's largest CNG fleet and is a partner in the effort to improve air quality in Southern California. We also operate a number of other programs that contribute to cleaner air such as: development of new transit systems; operation of the region's vanpool program; and the funding of High Occupancy Vehicle lanes. The fueling of our clean air fleet utilizes stationary Compressed Natural Gas engines that would be significantly impacted by this proposal. Ultimately, implementing these amendments, which would divert millions of dollars to fund required retrofits to our existing CNG engines, could adversely impact our ability to continue programs that serve to improve air quality in the region.

Metro's fleet of clean air vehicles requires CNG fueling at ten bus facilities. These facilities were developed from 1995 through 2001, using the best available technology at the time of construction. Construction of these facilities was accomplished through Public/Private Partnerships (PPP) with a capital investment of over \$60 million that will not be fully paid off until 2011. With proper maintenance, the existing gas compression CNG fueling equipment is expected to operate efficiently until 2031. Abandonment of these valuable capital assets because of the new rule would be a wasteful application of public funds.

The nature of Metro's operating mode makes compliance to the proposed new rule through Continuous Emission Monitoring impossible without expending millions of dollars to electrify our current gas compression CNG fueling facilities, which is what our CNG partners and independent consultant recommend.

Estimated one-time Capital Costs to implement the new rule run between \$10 million and \$12 million depending on the extent of the electrification. This cost is only to modify fueling facilities at Divisions 2, 8, 9, and 15. Not included in this cost are the additional annual operating costs that could reach as much as \$1 million based on higher compression costs per therm using electricity versus natural gas. Also, the PPP contractors would have a right to renegotiate their contracts, potentially costing Metro more per therm to fuel our CNG bus fleet. Another significant and unacceptable impact would be the PPP contractor's ability to nullify their current indemnification requirements. Although difficult to fully estimate the operational impact, any renegotiation is anticipated to increase Metro's costs by several millions.

These unexpected costs provide marginal reductions in total polluting emissions relative to their total cost to implement. The negative effect of implementation will necessitate taking resources from other programs that contribute to cleaner air. Projects that could potentially be affected are new transit systems similar to the Orange or Expo Lines, High Occupancy Vehicle Lanes, as well as “Green” facility initiatives for solar power and reduced dependence on electricity through investment in more efficient plant and equipment.

Staff has been voicing concerns regarding the impacts of these amendments through numerous meetings and multiple public workshops with SCAQMD. Following is a chronology of Metro’s efforts to address SCAQMD Proposed Amendment to Rule 1110.2 – Emission from Gaseous and Liquid-Fueled Internal Combustion Engines:

- January 25, 2007 – Received a copy of the Proposed Amendment to Rule 1110.2 and SCAQMD’s Notice of Public Workshop scheduled for February 7, 2007 from our PPP contractor, Hanover.
- February 7, 2007 – Attended the SCAQMD Workshop that summarized the proposed rule amendment and provided public comment to SCAQMD staff raising concerns over rule changes and their possible effect on Metro.
- February 16, 2007 – Chief Operations Officer (COO) issued a letter to SCAQMD Science and Technology Advancement staff raising concerns over the effect of the proposed rule change to our efforts to implement air quality improvement projects.
- February 28, 2007 – Received Rough Order of Magnitude cost proposals from our CNG partners that substantiate our concerns over the cost of implementing the proposed rule change.
- April 19, 2007 – Met with SCAQMD staff to describe the negative impact the proposed rule change will have on all ten of our CNG Fueling Facilities and once more requested exemption for all of our existing CNG fueling stations.
- August 7, 2007 – SCAQMD released a revision to the Proposed Amendment to Rule 1110.2., increasing the Brake Horse Power threshold for CEMS from 1,000 to 1,500; which would reduce our potential costs from \$25 million to approximately \$12 million in capital and residual costs.
- September 6, 2007 – Staff attended SCAQMD public workshop to voice concerns and impacts over the amended rule and reiterated how we have been and continue to be a partner with SCAQMD in the region’s air quality issues.
- September 21, 2007 – COO issued a letter to SCAQMD Science and Technology Advancement Staff reiterating concerns over the continued effect of the revised proposed rule changes to Metro’s operation, and again asked for exemption to the amended rule.

- October 30, 2007 – SCAQMD released Notice of Completion of Draft Environmental Assessment, which described all public notices issued to date.
- November 27, 2007 – Metro staff met with Supervisor Antonovich's Transportation Deputy to brief him on the impacts of the amended rule, which was passed onto the Supervisor's SCAQMD Deputy.
- January 3, 2007 – Received proposed exemption language from our CNG consultant for the proposed rule changes. A copy of the proposed exemption language was transmitted to Supervisor Antonovich's Deputy on that date.
- January 4, 2008 – Metro attended SCAQMD Board meeting and pronounced its opposition to the proposed rule change. Supervisor Antonovich made a motion for Metro's proposed exemption language to be implemented. The motion was seconded, but the SCAQMD Board directed SCAQMD staff to work with Metro staff to address our concerns and to present the issue at the SCAQMD Stationary Engine Committee and to come back to the February SCAQMD Board meeting for final vote.
- January 17, 2008 – Sent a letter to SCAQMD Executive Director Barry Wallerstein, from Metro CEO, and again asked for exemption and included the proposed exemption language as an attachment.
- January 18, 2008 - Attended the Stationary Source Committee (SSC) meeting on January 18, 2008 at SCAQMD's headquarters. Committee Chair Yates put forth a motion to accept Metro's exemption language to which there were no further objections by other committee members. SCAQMD staff continued discussion on other options, but the Committee did not change the motion. Several comments were made to the affect that the SSC did not want to unnecessarily overburden public resources.
- January 24, 2008 – Received District staff's version of the Stationary Source Committee (SSC) meeting outcome and recommended actions. Instead of just inserting the exemption language, as submitted by Metro, into the Rule, District staff is saying that "the Stationary Source Committee recommended that staff provide in the rule an option for public agencies to not install a CEMS on an engine if the operator does periodic monitoring with a portable analyzer, as smaller engines would be required to do, but on a more frequent schedule. The SSC also recommended that if the periodic monitoring showed a significant frequency of excess emissions, then a CEMS would be required." In essence, Metro is not exempt from the amended rule. Metro will be subjected to increased testing, potential renegotiation of existing contracts and increased down time for fueling as we will be forced to cease compression of the gas if we fail to comply with CEMS. District staff's interpretation of what was stated at the SSC would clearly overburden public resources, which was in direct conflict to what the SSC intended.

Metro's request to SCAQMD is to grant us an exemption, via implementation of the attached proposed exemption language, to Rule 1110.2 changes through the lifecycle of our existing gas compression fueling equipment. In turn, Metro is committed to constructing all future CNG fueling facilities using the most up to date and most feasible technology available at the time of design and construction.

NEXT STEPS

- Formally object to District staff's interpretation of what the Stationary Source Committee stated in the meeting on January 18, 2008.
- Contact SCAQMD Stationary Engine Committee Board Members and/or staff to further communicate our position on the proposed amendment to Rule 1110.2.
- Prepare a letter for Metro's Board Chair to communicate directly with the SCAQMD Board Chair to request implementation of our proposed exemption language.
- Attend the SCAQMD Governing Board meeting on February 1, 2008 to answer any questions that may help persuade the Governing Board to adopt our proposed exemption language.

ATTACHMENTS

- A. Power Point- LA Metro Impacts of SCAQMD Proposed Changes to Rule 1110.2
- B. Metro Proposed Exemption Language

Los Angeles Metro – Impacts of SCAQMD Proposed Changes to Rule 1110.2

Los Angeles Metro/South Coast Air Quality Management
District Issues – November 27, 2007



Metro

Metro's Role as Partner to SCAQMD

- **Metro Operates the largest CNG fleet in the nation.**
- **Metro's Clean Air Vehicle Policy in 1993 pre-dated local rule changes on new transit vehicle purchases.**
- **Metro Operates over 2300 clean air CNG transit vehicles, 90% of its existing fleet, 30% of the entire nations total CNG vehicles.**
- **Metro Bus Transit Services reduces 2.4 million miles of automobile usage per day, reducing air pollution by more than 152,000 pounds daily.**
- **Metro reduces 59 million tons of NOx, CO, and Particulate Matter each year.**



Metro Transit Facilities & Operation

- **Metro's clean air vehicles require CNG fueling facilities that use stationary natural gas engines at 10 bus facilities.**
- **Metro's CNG fueling facilities were developed from 1995 through 2001 using Public/Private Partnerships (PPP) with a capital investment of over \$60 million.**
- **Metro's PPP's will not be fully paid off until 2011, therefore abandonment of these valuable capital assets would be a wasteful application of public funds.**
- **Each fueling facility is driven by 3 to 4 compression skids that primarily use natural gas engines that range from 530 Bhp to 1050 Bhp. There are also a few electric drive motors.**
- **Metro's facilities were developed using the best available technology at the time of construction. Metro can commit to meeting the new rules for any new construction.**
- **The nature of Metro's operating mode makes compliance to the proposed new rule through Continuous Equipment Monitoring (CEMs) impossible.**



Impacts to Metro

- For Metro to be in compliance, if the new rule goes into effect, Metro's CNG partners and consultants recommend partial or full electrification of CNG fueling facilities.
- Estimated one-time Capital Costs to implement the new rule run between \$8M and \$12M depending on the extent of the electrification. This would be the cost to modify fueling facilities at Divisions 2, 8, 9, and 15.
- Estimated additional annual operating costs could reach as much as \$1,000,000, based on a higher compression costs per therm using electricity versus natural gas.
- These unexpected costs provide marginal reductions in total polluting emissions relative to their total cost to implement. The negative effect of implementation will take precedence over other programs that contribute to cleaner air.
- Projects that could potentially be affected are new transit systems similar to the Orange or Expo Lines, High Occupancy Vehicle Lanes, as well as "Green" facility initiatives for solar power and reduced dependence on electricity through investment of more efficient plant and equipment.

Metro's Recommendations

- **Exempt Metro from any rule changes through existing equipment lifecycle.**
- **Metro expects the existing equipment to operate efficiently until 2031 with proper maintenance.**
- **Metro is committed to constructing all new CNG fueling facilities to be in compliance with the amended rule by using the newest and most feasible technology available at the time of design and construction.**



Text of the Proposed Rule 1110.2 revisions
(New proposed text is underlined.)

Under Subdivision (c), entitled “Definitions”, insert Paragraph 19 above the existing Paragraph 19, as follows:

- (19) PUBLIC TRANSIT AGENCY refers to an agency which operates urban bus fleet(s) fueled by compressed natural gas (CNG), and which is subject to SCAQMD Rule 1192 – Clean On-Road Transit Buses.

Under Subdivision (f), entitled “Monitoring, Testing and Reporting”, amend subparagraph (1)(A)(ii)(III) as follows:

- (III) The following engines shall not be counted toward the combined rating or required to have a CEMS by this clause: engines rated at less than 500 bhp; standby engines that are limited by permit conditions to only operate when other primary engines are not operable; engines that are limited by permit conditions to operate less than 1000 hours per year or a fuel usage of less than 8×10^9 Btu’s per year (higher heating value of all fuels used); engines operated by public transit agencies before (date of adoption) for driving CNG compressors; and engines required to have a CEMS by the previous clause. A CEMS shall not be required if permit conditions limit the simultaneous use of the engines at the same location in a manner to limit the combined rating of all engines in simultaneous operation to less than 1500 bhp.

Under Subdivision (f), entitled “Monitoring, Testing and Reporting”, amend Paragraph (1)(D) “Inspection and Monitoring Plan” by inserting a new Subparagraph (1)(D)(xi), below existing subparagraph (1)(D)(x), as follows:

- (xi) Engines operated by transit agencies before (date of adoption) for driving CNG compressors are not subject to Subparagraph (1)(D).