



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

## **STAFF REPORT**

### **PROPOSED REVISIONS TO MANUAL OF PROCEDURES**

#### **VOLUME IV – ST 40**

#### **VOLUME IX – WATER SAMPLING & LABORATORY ANALYSIS**

Prepared by the staff of the  
Bay Area Air Quality Management District

April 2016

## **Revisions to Manual of Procedures: Staff Report**

### **I. EXECUTIVE SUMMARY**

In December 2015, the Bay Area Air Quality Management District (BAAQMD or Air District) adopted amendments to Regulation 11, Rule 10 (Rule 11-10). As part of that rule amendment process, the Air District committed to adopting procedures that industry must follow for certain Total Hydrocarbon (THC) leak detection methods in Rule 11-10.<sup>i</sup> Those procedures are proposed for adoption into the Manual of Procedures (MOP).

One new procedure, the Modified El Paso Method (MEPM), will be incorporated into Volume IV of the MOP, while a second new procedure for water sampling/lab analysis will be incorporated into a new section of the MOP – titled Volume IX.

It should be noted that during the March 2016 workshop held for the draft MOP revisions pertaining to Rule 11-10, draft revisions for the Ground Level Monitoring (GLM) procedure in Volume VI of the MOP were also part of the MOP revision package. The reason for proposing revisions to the GLM procedure is to update guidelines to ensure that meteorological data is measured accurately and representatively. This change is unrelated to the procedures needed for Rule 11-10. Staff received several industry comments specific to the draft GLM revisions. As a result of the workshop comments, the proposed GLM revisions will be deferred until staff can address industry's remarks and modify the GLM procedure to be more in accordance with the requirements of the Air District's fence-line monitoring requirements in proposed Regulation 12, Rule 15 (Rule 12-15).

### **II. BACKGROUND**

The MOP is a compilation of technical specifications for various procedures to be used by the regulated community to demonstrate compliance with Air District rules. The document consists of eight volumes of required methods for Enforcement Procedures, Engineering Permitting Procedures, Laboratory Policy and Procedures, Source Test Policy and Procedures, Continuous Emission Monitoring Policy and Procedures, Air Monitoring Procedures, Guidelines for Environmental Processes as well as Procedures for Calculating and Generating Mobile Source Emission Reduction Credits.<sup>ii</sup> There are several parts of the MOP that need to be updated. Due to the urgent need for new MOP procedures relating to Rule 11-10 requirements that go into effect on July 1, 2016, staff would like to focus this MOP update on these two items. Other updates will be brought to the Board for consideration once they have been fully vetted with internal technical staff and the regulated community.

### **III. PROPOSED MOP REVISIONS**

#### **ST-40, Volume IV**

Staff proposes to incorporate an adaptation of the MEPM into the MOP. This procedure will be specified as ST-40 in Volume IV of the MOP.

The MEPM is an air stripping method that was developed in Texas to sample and quantify the concentration of Highly Reactive Organic Compounds (HRVOC) in petroleum refinery cooling tower water. This method is currently used by some refineries in Texas to comply with the leak requirements in the Texas Commission on Environmental Quality (TCEQ) Chapter 115 – Control of Air Pollution from Volatile Organic Compounds, SUBSHAPTER H: HIGHLY-REACTIVE VOLATILE COMPOUNDS. The MEPM is also approved by the US Environmental Protection Agency (EPA) for use by petroleum refineries to comply with leak detection requirements in the EPA rule to control toxic emissions from cooling towers. While the MEPM, as it is currently specified, is a satisfactory leak detection procedure for TCEQ requirements for HRVOC leaks, as well as EPA requirements, it contains limitations that staff has addressed to make it more suitable as a THC leak detection methodology. For instance, the Texas version of the MEPM was designed to detect only easily strippable hydrocarbons that have boiling points below 140°F. Whereas THC, as defined by Rule 11-10, encompasses a wider range of hydrocarbons. In addition, Air District staff is concerned that the current method does not provide enough guidance and clarity to ensure that the MEPM can be completed uniformly throughout the Bay Area, and to ensure that equipment used for this procedure reduces error to the maximum extent possible. As a result, the Air District is clarifying and, where needed, modifying the MEPM to ensure repeatable, accurate results. See Appendix A of the staff report for a copy of the Air District's version of the MEPM. Refineries that choose to detect cooling tower heat exchanger leaks via the MEPM method, as provided in Section 304.3 of Rule 11-10, will be required to follow the MOP guidelines in ST-40.

It should be noted that ST-40 has additional requirements over and above the MEPM version developed in Texas and is not meant to be used instead of the Texas version. The Texas version of the MEPM should be followed except where the Air District's adaptation of the MEPM provides stricter instructions or has additional requirements.

#### **P-1, Volume IX**

Staff also proposes to incorporate a second new procedure into the MOP to provide guidelines to petroleum refineries regarding the sampling and laboratory analysis of refinery cooling tower water. The procedure will be specified as P-1 in Volume IX of the MOP and will provide guidelines to petroleum refineries regarding where and how they can take cooling tower water samples as well as guidelines for the specific laboratory analytic method required to determine THC concentrations in the water sampled. P-1

references existing regulatory methods for grabbing and analyzing water matrix samples for hydrocarbon content. See Appendix B for a copy of the P-1 procedure.

#### **IV. EMISSIONS AND EMISSION REDUCTIONS**

This report concerns the adoption of proposed revisions to the MOP as opposed to the adoption or amendment of an air district regulation. There are no emissions and anticipated emission reductions associated with this proposal.

#### **V. ECONOMIC IMPACTS**

The Air District is required to perform a socioeconomic analysis under Health and Safety Code section 40728.5 for a rule that will significantly affect air quality or emissions. It is also required to perform an incremental cost analysis under H&SC section 40920.6 for rules that impose best retrofit control technology. Neither requirement applies to these proposed revisions to the MOP, which are concerned only with test methods. Costs associated with the implementation of the new petroleum refinery cooling tower leak detection requirements in Rule 11-10, which employ these test methods, were addressed when the rule was amended by the Air District's Board of Directors in December 2015.

#### **VI. ENVIRONMENTAL IMPACTS**

The amendments to the MOP that constitute this project involve the means for determining compliance with Air District rules for which an environmental analysis has already been conducted. The methods are administrative in nature and neither establish new standards nor amend existing standards. They result in no changes to refinery process equipment or operation of refinery process equipment for which the methods are used. As a result, the amendments to the MOP can be seen with certainty to have no possibility for causing a significant effect on the environment and are therefore exempt from CEQA pursuant to CEQA Guidelines § 15061, subd. (b)(3).

#### **VII. REGULATORY IMPACTS**

Section 40727.2 of the Health and Safety Code requires an air district, in adopting, amending, or repealing an air district regulation, to identify existing federal and district air pollution control requirements for the equipment or source type affected by the proposed change in district rules. The district must then note any differences between these existing requirements and the requirements imposed by the proposed change. Test methods are among the requirements that must be analyzed. These proposed amendments to the MOP add a new Method ST-40 to the MOP. The method is a variant of the Modified El Paso Method and is in the process of being reviewed by EPA. The differences between the MEPM and ST-40 are discussed in Section III above.

## VIII. MOP REVISIONS AND PUBLIC CONSULTATION PROCESS

While researching and developing the new MEPM procedure as well as the cooling tower water sampling/laboratory analysis procedure, staff endeavored to engage all interested stakeholders, including affected industry and other governmental agencies.

Staff:

- Developed conceptual versions of the draft procedures with discussions of the concepts;
- Observed a refinery cooling tower hydrocarbon leak detection event using the MEPM at the Valero Refinery as part of the process of assessing the MEPM, in addition to performing testing and information-gathering on proposed methods and equipment;
- Had discussions with knowledgeable staff at the EPA and State of Texas Department of Environmental Quality;
- Hosted a workshop at the Air District Office on March 21, 2016 to solicit public input and comment on the draft MOP revisions;
- Met and consulted with industry to discuss concepts and potential concerns and issues; and,
- Prepared this package for the consideration of the Air District Board of Directors.

In addition, as a result of ongoing feedback staff received from the refineries and WSPA, the following changes were made to the the MOP revisions:

- Changed span gas back to methane so we stay consistent with the rule;
- inserted a screening requirement and explanation of purpose;
- added clarification that our adaptation has additional requirements in addition to the Texas version of the MEPM and is not meant to be used instead of the MEPM;
- pressurization information for canisters was re-inserted as a requirement because it is necessary unless operators add a pump to the design;
- added a requirement to heat the canisters if there is a possibility of condensables;
- clarified Tedlar back recovery study criteria; and,
- changed the time for sample analysis from 5 days to 5 business days.

## IX. CONCLUSION

Pursuant to Section 40727 of the California Health and Safety Code, proposed new rules must meet findings of necessity, authority, clarity, consistency, non-duplication, and reference. The proposed amendments are:

- Required to enforce provisions of previously adopted amendments to Regulation 11, Rule 10;

- Authorized by California Health and Safety Code sections 40000, 40001, 40702, and 40725 through 40728;
- Clear, in that the methods are written so that they can be understood by persons affected by them;
- Consistent with other Air District rules and test methods, and not in conflict with any state or federal law;
- Non-duplicative of other statutes, rules, or regulations; and
- Are implementing, interpreting, or making specific the provisions of California Health and Safety Code sections 40000 and 40702.

The proposed MOP revisions have met all legal noticing requirements, has been discussed with the regulated community, and reflects consideration of the input and comments of affected and interested parties. Air District staff recommends adoption of the proposed revisions to the MOP.

## APPENDICES

Appendix A: MOP, ST-40, Volume IV  
 Appendix B: MOP, P-1, Volume IX

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<sup>i</sup> <http://www.baaqmd.gov/~media/files/planning-and-research/rules-and-regs/reg-11/rg1110.pdf?la=en>  
<sup>ii</sup> Bay Area Air Quality Management District Manual of Procedures:  
<http://www.baaqmd.gov/publications/manual-of-procedures>.

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