

6/11/14 Preliminary Comments for review and deliberations by the CASAC Air Monitoring and Methods Subcommittee -- Please Do not Cite or Quote --This draft is a work in progress, does not reflect consensus advice or recommendations, has not been reviewed or approved by the chartered CASAC and does not represent EPA policy.

**U.S. Environmental Protection Agency
Clean Air Scientific Advisory Committee
Air Monitoring and Methods Subcommittee (AMMS)
Review of Federal Reference Method for Ozone: Nitric Oxide-Chemiluminescence**

Comments from Panel Members on 5/30/14 draft CASAC AMMS Report

Response to Charge Question 2:

- 1) Dr. Yousheng Zeng: The new FRM should contain enough specifications to distinguish it from other methods.**

As I stated in my individual comments, neither current FRM nor proposed draft FRM contains specifications (neither performance specifications nor design specifications) for the method in question. It only specifies how the ozone calibration standard gas must be generated. The only connection is the reference to the name of the method (ET-CL in current FRM or NO-CL in the proposed FRM). Vendors could design a ET-CL or NO-CL based instrument that may not perform well. With the structure of this FRM, they can legitimately claim this instrument is an FRM instrument. The FRM does not have “teeth” to be a standard. I feel that most of the discussion we are having is a moot point if the FRM does not contain adequate specifications about the method (in addition to generation of ozone standard calibration gas). I believe that most panel members favor performance based specifications (as opposed to design based specifications). If that is the case, this panel should push EPA to include performance specifications in the new FRM. This is an important point and should be included in the executive summary. The current draft summary does not bring up this issue.

- 2) Dr. Judy Chow: Specify performance criteria that are independent of the measurement method.**

ORD should specify performance criteria that are independent of the measurement method. See Appendix B of May 30, 2014 draft CASAC Report, Judy Chow individual written comments, for more detail.

Response to Charge Question 3:

- 1) Dr. Yousheng Zeng: The new FRM should contain enough specifications to distinguish it from other methods.**

See Comment to Charge Question 2.

Additional Comments:

1) Dr. Dirk Felton: Revoke the ET-CL method as FRM

The ET-CL method should be delisted for 2 reasons:

a) The ET-CL no longer performs adequately to evaluate proposed methods. This will only be more evident in the future as ORD scientists attempt to keep the antiquated ET-CL instrument operational.

b) The ET-CL method should be eliminated now so that the method cannot be used in the future. The same issue has come up with obsolete Pb methods as evidenced by EPA's guidance to monitoring Agencies (see EPA Office of Air Quality Planning and Standards "Technical Note –Pb Monitoring Implementation Strategy Analysis Method Issues" discussion on whether the public can continue to use one of the FEMs currently approved once an FRM is set):

Appendix G will be revised and EPA will take the necessary steps to address the use of existing FEMs moving forward. This may result in a future deadline to stop using the old FEMs. States can continue to use existing, approved methods but should consider switching to one of the newly approved FEMs.

Obsolete FRMs must be delisted when they are no longer adequate for the current NAAQS and no longer able to serve in an equivalency demonstration. The EPA should have a list of former FRMs and each should have a date range for applicable acceptable data.

2) Dr. Yousheng Zeng: Retain or revoke the ET-CL method as FRM?

I support the recommendation by Dirk Felton to revoke the current ET-CL method as FRM, maybe for slightly different reasons than those brought by Dirk.

Based on the EPA ORD presentations on April 3rd and May 5th, the performance of the current FRM is not the best. Both EPA and this panel agree that an FRM should be the "gold standard" for measuring ambient concentration of a particular criteria pollutant. The gold standard should be established based on its superior performance over other methods. The ORD data shows that at least NO-CL is a better method than ET-CL. The current FRM is more susceptible to water interference (see table on slide 9 of ORD 4/3 presentation – other metrics are not listed under FRM – not sure if ORD did not test them or there were problems with the current FRM). The current FRM has more zero and span drift than NO-CL and UV-SL (see ORD 5/5 presentation). Regardless of commercial availability, the better performing method should be designated as FRM. If the ET-CL

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were the best performing method, it should be remain the FRM and EPA should either allocate resource to keep it available as a reference method or design a program that gives incentive to equipment vendors to make it commercially available. The economical consequence of designating areas as attainment or non-attainment based on accurate ambient monitoring data far exceed any reasoning of changing FRM based on commercial availability. Commercial availability should not be the main reason for redesignating an FRM.

In the draft response to Charge Question 1, the commercial availability is cited as the only reason to change the FRM. I think we should deemphasize the commercial availability as the reason for the change. We should say that there are better performing method available and the current FRM has become obsolete.

I also think that EPA should designate only one, the best one, as FRM. Having one FRM will avoid possible regulatory issue that may arise from different results produced by two FRM's if two FRM's are promulgated. If two FRM's are promulgated, which one is true gold standard? A slightly less superior method can always be an FEM, and will not be excluded from deployment in monitoring networks. Based on the data presented by ORD, I would support designation of NO-CL as the FRM, and UV-SL can be a FEM if it meets all FEM criteria.

As a side comment, I have difficult to accept the notion that a new method must correlate well with the current, less superior method. We have a method to generate reliable ozone standard gas (which is all the current FRM is about). With this standard, we can evaluate a new method independent of the current FRM. The tight correlation is a plus, but not the basis for the new FRM.

3) Dr. Ken Demerjian: Revoke the ET-CL method as FRM

It would seem that decommissioning FRMs when they are obsolete is the consistency we should be promoting.

4) Dr. Allen Robinson: Retain or revoke the ET-CL method as FRM?

It appears that both the NO-CL and UV-SL provide adequate performance.

Letter to the Administrator:

See above comments on revoking the ET-CL method as an FRM.