Instructions and Template for Requesting that data from $PM_{2.5}$ Continuous FEMs are not compared to the NAAQS.

Section A - SUMMARY and INSTRUCTIONS:

1. Background:

As part of the PM NAAQS final rule published on January 15th, 2013 (78 FR 3086), EPA has developed criteria for monitoring agencies to use, if they choose, that allow for $PM_{2.5}$ continuous FEM or ARM data to be set aside and not used for determining NAAQS calculations, if certain performance criteria are not met. The regulatory requirements for this provision are detailed in §58.11 (e) – Network Technical Requirements. This template has been developed to provide an illustration of the level of detail that may be useful to include in a request to an EPA Regional Office to set aside certain data for comparison to the NAAQS. Such requests are normally expected to be included in an Annual Monitoring Network Plan; however, requests may be sought at any time of the year. Monitoring agencies are not required to follow the recommendations in this template; however, doing so should provide uniform documentation for developing such requests and ensuring that EPA Regional offices have the appropriate information to consider and approve, where appropriate, such requests.

2. Instructions:

I. Review Network – Specifically, review which $PM_{2.5}$ samplers and monitors and at which sites are supporting the $PM_{2.5}$ Network Design Criteria. Ensure that your network meets both the minimally required sites and any additional SLAMS identified from your most recently annual monitoring network plan according to Appendix D to Part 58.

II. Review the data comparability of the $PM_{2.5}$ continuous monitors - Monitoring agencies, should review the comparability of their $PM_{2.5}$ continuous monitors related to collocated FRMs. This should include both pre-FEM and FEM $PM_{2.5}$ continuous monitors. Section C below identifies options for performing these assessments.

III. Identify which, if any, $PM_{2.5}$ continuous FEMs are candidates for requesting exclusion of data –

a. At this point, we also recommend reaching out informally to your EPA Regional Office technical contacts to ensure there is a common understanding of the monitors and sites in play for the request.

IV. Draft Request for Exclusion of Data – Using the application template in section B below, or other similar level of documentation, identify and document the information necessary to support a request to exclude data.

V. Seek Monitoring Agency Approval – Each monitoring agency should ensure the appropriate management level who normally signs off on the annual monitoring network plan is supportive and signs off on the request to exclude $PM_{2.5}$ continuous FEM data.

VI. Submit Request to Exclude $PM_{2.5}$ Continuous FEM Data to your EPA Regional Office – We recommend sending this to the same contact point as you normally send your annual monitoring network plan to. We also recommend you cc the EPA Regional Office Technical staff who would be reviewing the information.

a. For Annual Monitoring Network Plans:
    i. Make available for Public input per §58.10 (a)(1) and §58.10 (c).
    ii. Submit to EPA Regional Office by July 1.
    iii. EPA Regional Offices have 120 days to respond. However, Regions may, at their discretion, respond sooner, even if only addressing the exclusion of data.
b. For letter requests outside the scope of an Annual Monitoring Network Plan
    i. Submit to EPA Regional Office
    ii. Ensure next Annual Monitoring Network Plan characterizes status of $PM_{2.5}$ continuous FEMs as of the time a plan is submitted. This could be:
        1. We are using the $PM_{2.5}$ continuous FEM data for NAAQS and AQI, or just AQI; or
        2. We do not intend to use the $PM_{2.5}$ continuous FEM data pending approval by EPA. However, we are meeting the monitoring requirements by…
        3. The following $PM_{2.5}$ continuous FEMs have been approved to exclude from comparison to the NAAQS

VII. Follow the AQS data coding information detailed in section 6 below - If exclusion of $PM_{2.5}$ Continuous FEM data is approved by the EPA Regional office.

VIII. Include status of $PM_{2.5}$ Continuous FEM monitors in subsequent Annual Monitoring Network Plans.

3. Applicability:

The monitoring requirements are specified by regulation in 40 CFR Part 58. These requirements are applicable to State, and where delegated, local air monitoring agencies that operate criteria pollutant monitors. In Section 4.7 of Appendix D to Part 58, EPA specifies minimum monitoring requirements for $PM_{2.5}$ to operate at State and Local Air Monitoring Stations. For stations to be compared to the NAAQS, the monitor must be an approved FRM, FEM, or ARM. The monitoring regulations also provide that each CBSA must operate a minimum number of $PM_{2.5}$ continuous monitors; however, this requirement does not need to be met with a continuous FEM or ARM. Consequently, the monitoring requirements for $PM_{2.5}$ can be met with a combination of filter-based FRMs/FEMs and pre-FEM continuous monitors or with continuous FEMs at each required SLAMS.

In 2006, EPA published performance criteria and field testing requirements for approval of Class III $PM_{2.5}$ continuous FEMs and $PM_{2.5}$ continuous ARMs. Subsequently, several $PM_{2.5}$ continuous monitors have been approved[1] as FEMs. As monitoring agencies implemented $PM_{2.5}$ continuous FEMs in their networks, the EPA assessed the available data from these monitors and included a summary of that assessment in the PM Policy Assessment in April of 2011[2].

Recognizing that in some cases monitoring agencies were still testing and working to optimize the performance of their $PM_{2.5}$ continuous FEMs, but were beyond the 24 month period that allows data from an approved method to be set aside using the provisions described in §58.20 on Special Purpose Monitoring (SPMs), EPA proposed and finalized a new provision to allow $PM_{2.5}$ FEM data to be set aside for comparison to the NAAQS under certain conditions, even if more than 24 months of data are collected.

Therefore, this provision to allow $PM_{2.5}$ continuous FEM data to be set aside for comparison to the NAAQS is applicable, when in accordance with Annual Monitoring Network Plan provisions described in §58.10 (b)(13), the monitoring agency has assessed and meets the criteria described in §58.11 (e), and has also sought and received approval from the applicable EPA Regional office.

The EPA also encourages monitoring agencies to perform assessments of their $PM_{2.5}$ continuous data for methods that are intended to be the primary monitor and for $PM_{2.5}$ continuous monitors operated in their network that were acquired prior to the approval of

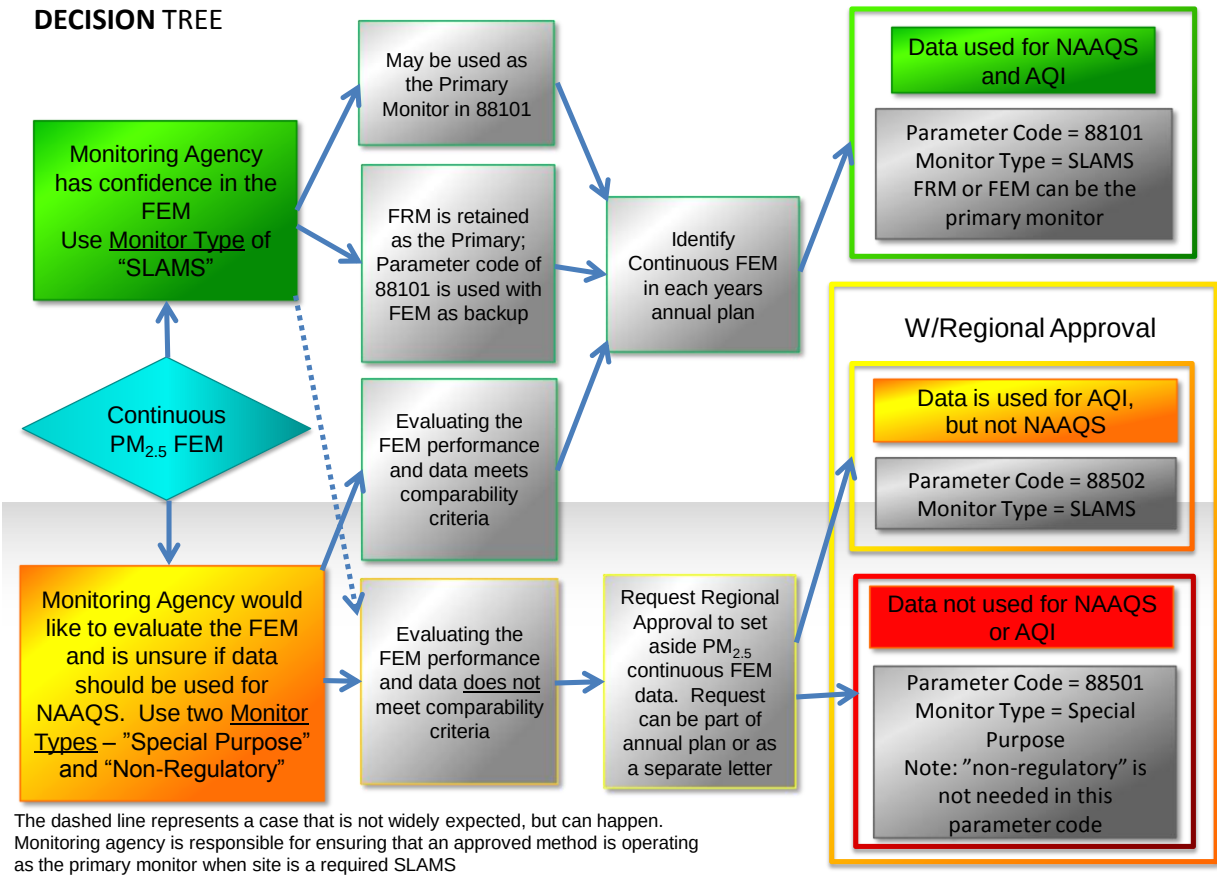
[1] EPA maintains a list of designated FRMs and FEMs on the web at: http://www.epa.gov/ttn/amtic/criteria.html

[2] US EPA (2011). Policy Assessment for the Review of the Particulate Matter National Ambient Air Quality Standards. Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, NC. EPA 452/R-11-003. April 2011. Available: http://www.epa.gov/ttn/naaqs/standards/pm/s_pm_2007_pa.html.

continuous FEMs. The regular assessment of such data will help ensure data are meeting the performance goals for their intended use, even if the monitoring agency does not intend to request exclusion of these data.

4. <u>Decision Matrix on use of Data:</u>

As explained in the PM NAAQS final rule, $PM_{2.5}$ continuous monitors may be used for the NAAQS and in AQI reports; they may be excluded from comparison to the NAAQS when approved by the EPA Regional Office, but still provide data useful for inclusion in AQI reports; or the data may be of such poor comparability to a collocated FRM, that the data should not be used either for comparison to the NAAQS or in AQI reports, also when approved by the EPA Regional Office. The following flow chart provides an illustration of the expected most common decisions associated with operating a $PM_{2.5}$ continuous FEM, how the data should be stored, and the uses of the data.



The dashed line represents a case that is not widely expected, but can happen. Monitoring agency is responsible for ensuring that an approved method is operating as the primary monitor when site is a required SLAMS

5. Test Specifications:

The network technical requirements for requesting exclusion of data from comparison to the NAAQS are identified in §58.11 (e). These requirements refer to the performance criteria described in table C-4 to subpart C of part 53. To accommodate the differences in how routine monitoring agencies operate their networks, several additional provisions are described in §58.11 (e). When a topic is not addressed in §58.11 (e), then test specification from table C-4 applies. Options for generating the required statistical information necessary when applying for exclusion of data are detailed in Section C below.

The following table details the combination of §53 Table C-4 and the provisions from §58.11 (e).

Table A-1: Test Specifications:

Test Specification	From Table C-4 ($PM_{2.5}$ Class III)	Related information from §58.11 (e)	How to use in application
Test Specifications as identified in §53 Table C-4			
Acceptable concentration range (Rj), $\mu g/m^3$.	3 – 200	The acceptable concentration range may include values down to 0 $\mu g/m^3$	Use a concentration range of either: 0 – 200 or 3 – 200 $\mu g/m^3$ (One page assessment tool utilizes all data)
Minimum number of test sites	4	1; however, generally all collocated monitors in an agency's network are included as separate assessments	Include all sites in the agency's network with collocated (FRM to continuous FEM) data for the period of interest. Each monitor pair is assessed separately
Minimum number of candidate method samplers or analyzers Per site.	3	1	Include each $PM_{2.5}$ continuous FEM in the agencies network on its own (i.e., do not average multiple $PM_{2.5}$ FEMs prior to comparing to a collocated FRM)
Minimum number of reference method samplers per site.	3	1	Include the primary $PM_{2.5}$ FRM on its own (i.e., do not average multiple $PM_{2.5}$ FRMs prior to comparing to a continuous FEM)
Minimum number of acceptable sample sets per site. Each season: Total, each site:	23 (46 for two-season sites)	All seasons must be covered	All seasons must be covered with at least 23 data points in each season.
Precision of replicate reference method measurements, respectively; RP each site.	<= 10% Calculated as root mean square	Since multiple FRMs and FEMs may not be present at each site; the precision statistic requirement does not apply, even if precision data are available	The inclusion of precision data is optional, and not meeting it is <u>not</u> cause to request excluding data. Monitoring agencies will have access to a precision statistic for FRMs at the PQAO level, but not necessarily at every site.
Precision of $PM_{2.5}$ candidate method, CP, each site.	<= 15% Calculated as root mean square		

Test Specification	From Table C-4 ($PM_{2.5}$ Class III)	Related information from §58.11 (e)	How to use in application
Slope of regression relationship	1+/- 0.10		1+/- 0.10
Intercept of regression relationship, µg/m3.	Between: 15.05 – (17.32 x slope). But not less than -2.0; and 15.05 – (13.20 x slope), but not more than + 2.0.		Between: 15.05 – (17.32 x slope). But not less than -2.0; and 15.05 – (13.20 x slope), but not more than + 2.0. (This is illustrated in Figure C-2 to subpart C of Part 53)
Correlation of reference method and candidate method measurements. (Note: this is correlation and not correlation squared.)	See Figure C-4 >= 0.93 or >=0.95 depending on the concentration correlation coefficient		Include the correlation statistic, but do not use in recommendation to include or exclude data
Additional Specifications Identified in §58.11 (e)			
Period of time to include in assessment.		No more than thirty-six consecutive months of data in total aggregated together.	Include up to last 36 months of data. Generally this will be full years of data (i.e., January through December).

6. Data Reporting and Coding:

Monitoring agencies will need to code information associated with their $PM_{2.5}$ continuous monitoring data such that the AQS and data users understand whether to use $PM_{2.5}$ continuous data in $PM_{2.5}$ design value calculations and under what provisions it may be substituted, if the primary $PM_{2.5}$ method at a site is not available. Monitoring agencies are to load $PM_{2.5}$ continuous FEM data to PM2.5 Local Conditions (parameter code 88101), until such time as they are approved by their EPA Regional Office to exclude data in NAAQS calculations, per §58.10 (b)(13). The following table provides the most commonly expected options for reporting $PM_{2.5}$ data.

Table A-2: Data Reporting and Coding

Scenario	Parameter Name	Parameter Code	Monitor Type	Primary Monitor (Identified at site level as "Primary Monitor Periods")	Are data substituted on days that the Primary monitor is not available?	Eligible for NAAQS comparison	Eligible for AQI reporting
$PM_{2.5}$ continuous FEM data is acceptable and the Primary Monitor.	PM2.5 Local Conditions	88101	SLAMS	Continuous FEM	Yes, if available	Yes	Yes
$PM_{2.5}$ continuous FEM data is acceptable, but FRM is retained as the Primary Monitor.	PM2.5 Local Conditions	88101	SLAMS	FRM	Yes	Yes	Yes
$PM_{2.5}$ Continuous FEM is being tested and is less than 24 months old; FRM is retained as the Primary Monitor.	PM2.5 Local Conditions	88101	SPM and Non-regulatory	FRM	No	No, if discontinued within 24 months of start-up [§58.20(d)]	Generally, no. But it can be.
$PM_{2.5}$ Continuous FEM is being run as an SPM; more than 24 months of data are collected, but a request and approval to exclude the data has not been made.	PM2.5 Local Conditions	88101	SPM	FRM	Yes, data collected for more than 24 months are eligible for comparison to the NAAQS.	Yes	Yes
$PM_{2.5}$ Continuous FEM has been operating for more than 24 months and the monitor has been approved for exclusion to the NAAQS per §58.11 (e). However, data are appropriate for reporting the AQI.	Acceptable PM2.5 AQI	88502	SLAMS	FRM	No	No	Yes
$PM_{2.5}$ Continuous FEM has been operating for more than 24 months and the monitor has been approved for exclusion to the NAAQS per §58.11 (e). Also, data are not appropriate for reporting the AQI.	PM2.5 Raw Data	88501	SPM	FRM	No	No	No

Section B – APPLICATION TEMPLATE FOR EXCLUSION OF CERTAIN $PM_{2.5}$ CONTINUOUS FEM DATA FROM COMPARISON TO THE NAAQS:

The following application is written as if included as a section of an annual monitoring network plan. A letter application to the Region in advance of an annual monitoring network plan can be written even more concise.

Introduction:

Our monitoring program has historically operated $PM_{2.5}$ continuous monitors primarily to support forecasting and reporting of the Air Quality Index (AQI). These monitors supply data every hour to update the AQI on our web site as well as on national web sites such as AIRNow (www.airnow.gov). We have been using these monitors since the early part of the last decade as we implemented the $PM_{2.5}$ monitoring program. Over the last few years, a number of $PM_{2.5}$ continuous monitors have been approved as Federal Equivalent Methods (FEMs). By utilizing an approved FEM, any subsequent data produced from the method may be eligible for comparison to EPA's health based standard known as the NAAQS. The primary advantage of operating a $PM_{2.5}$ continuous FEM is that it can support both the AQI, while also supplying data that are eligible for comparison to the NAAQS. Thus, a network utilizing $PM_{2.5}$ continuous FEMs can minimize the number of filter-based FRMs operated in the network, which are primarily used for comparison to the NAAQS. These filter-based FRMs are resource intensive in that they require field operations as well as pre- and post-sampling laboratory analysis which results in data not being available for approximately 2-4 weeks after sample collection.

Our monitoring program has been working with $PM_{2.5}$ continuous FEMs including deployment at a few sites to evaluate their performance. Although the $PM_{2.5}$ continuous FEMs are automated methods, these methods still require careful attention in their set-up, operation, and validation of data. Once we were able to collect enough data we began to evaluate the performance of these methods compared to collocated FRMs. That evaluation is explained further below and includes our recommendations on the use of the data from these methods.

Request for Exclusion of $PM_{2.5}$ Continuous FEM data from Comparison to the NAAQS:

In accordance with the PM NAAQS rule published on January 15th, 2013 (78 FR 3086) and specific to the provisions detailed in §58.10 (b)(13) and §58.11 (e) we are requesting that data from the following monitors be set aside for comparison to the NAAQS. While our agency is working to optimize the monitoring instrumentation we use to meet all of our monitoring objectives, we are not yet at a point where the comparability of the $PM_{2.5}$ continuous FEMs operated in our network *(or a sub-set of our network)* compared to collocated FRMs is acceptable such that we are comfortable using the continuous FEM data for comparison to the NAAQS. After assessing the comparability of the $PM_{2.5}$ FEMs to the collocated FRMs for our network, we have determined that the sites listed below do not meet the comparability requirements. Detailed one-page assessments from which the information described below was obtained are included at the end of this section.

Table – Request for Exclusion of $PM_{2.5}$ Continuous FEM Data

Site Name	City	Site ID	Cont POC	Method Description	$PM_{2.5}$ Cont. Begin Date	$PM_{2.5}$ Cont End Date	Continuous/ FRM Sampler pairs per season	Slope (m)	Intercept (y)	Meets bias requirement	Correlation (r)
Sites with $PM_{2.5}$ continuous FEMs that are collocated with FRMs:											
							Winter = Spring = Summer = Fall = Total =				
							Winter = Spring = Summer = Fall = Total =				
							Winter = Spring = Summer = Fall = Total =				
							Winter = Spring = Summer = Fall = Total =				

Sites with $PM_{2.5}$ continuous FEMs that are not collocated with FRMs:											

Period of Exclusion of Data from the $PM_{2.5}$ Continuous FEMs:

The above table details the period of available data by monitor for which we are basing our recommendation to exclude $PM_{2.5}$ continuous FEM data. Per EPA Regional Office approval, we will load or move as necessary these data to EPA's AQS database in a manner where the data are only used for the appropriate monitoring objective(s) (i.e., use data for both the NAAQS and AQI, just the AQI, or neither the NAAQS or AQI). Additionally, we will continue to load any new data generated for the next 18 months (intended to represent the period until December 31 of 2014) in the same manner or until such time as we request and receive approval from the EPA Regional Office to change the monitoring objectives that the data from the $PM_{2.5}$ continuous FEMs can support.

$PM_{2.5}$ Continuous FEM data for Reporting the AQI:

(We will use it for the AQI)

While we are requesting the monitors above not be used for comparison to the NAAQS, we do believe that the data are of sufficient comparability to collocated FRMs that they be used in AQI reporting. Therefore, with EPA Regional Office approval we will report these data on our web site and to AIRNow (www.airnow.gov). Additionally, we intend to store the data in EPA's AQS database that is used for "acceptable AQI" reporting (i.e., parameter code 88502) so that data users will know that these data are appropriate for use in AQI calculations.

(We will not use it for the AQI)

In our assessment of the comparability of the $PM_{2.5}$ continuous FEMs to collocated FRMs, we believe that the data would not be appropriate for reporting the AQI. However, we will continue to utilize our pre-FEM $PM_{2.5}$ continuous monitors to support our real-time reporting needs. We will store the data from the $PM_{2.5}$ continuous FEMs that in parameter code 88501 so that it is available for data users with the caveat that it will not be used in NAAQS or AQI calculations.

Continued Operation of $PM_{2.5}$ Monitors to Support NAAQS and AQI Reporting

While we are requesting that data from the monitors listed above be set aside for comparison to the NAAQS, we will continue to operate $PM_{2.5}$ FRMs to support the objective of comparison to the NAAQS. We will also operate our $PM_{2.5}$ continuous monitors for use in AQI reporting. Each of these FRM and $PM_{2.5}$ continuous monitors will be operated at the locations previously described in this plan and at the locations that meet the objectives of the Network Design Criteria for Ambient Air Quality Monitoring described in Appendix D to Part 58.

Assessments:

The following one-page assessments are locations where our agency has collocated $PM_{2.5}$ FRM and continuous FEM monitors. Each of these assessments is represented in the "**Table – Request for Exclusion of $PM_{2.5}$ Continuous FEM Data"** above.

Section C –GENERATING THE REQUIRED STATISTICAL INFORMATION:

There are multiple options to generate the statistical information required in §58.11 (e). Monitoring agencies could:

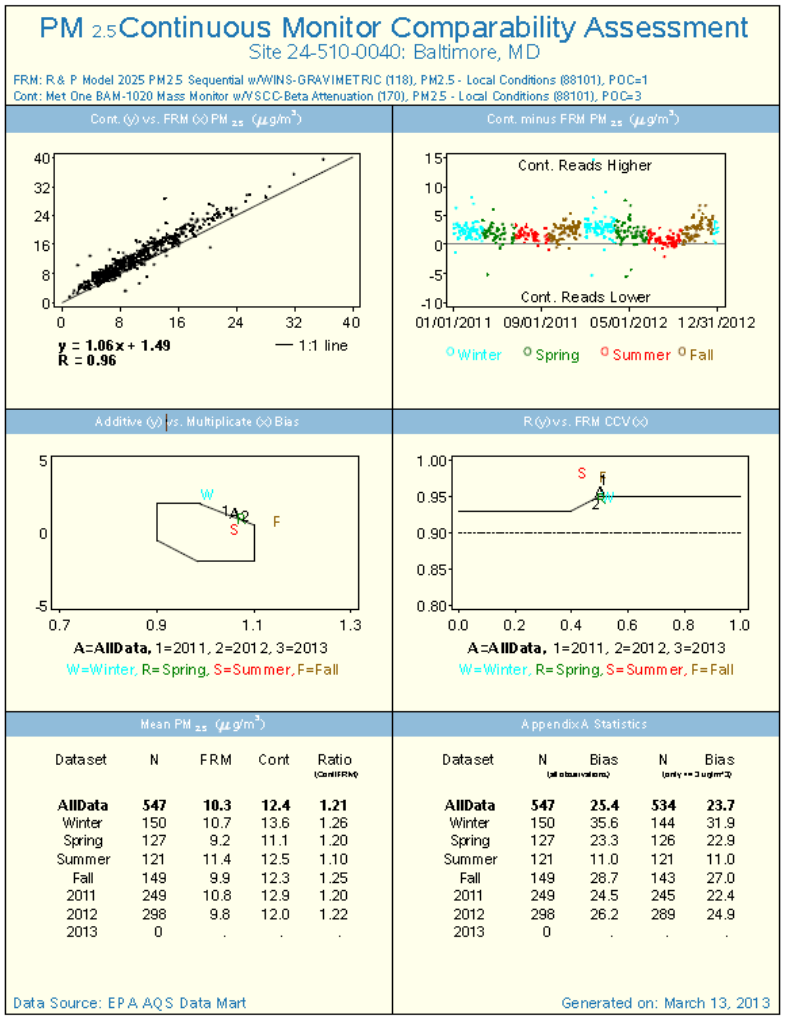
- Run the one-page assessment "PM2.5 continuous monitor comparability assessment tool" available on AMTIC. When data from both a $PM_{2.5}$ FRM and collocated continuous FEM are loaded to AQS, this tool provides the necessary statistical information to use in an application to exclude data. The comparability assessment tool and a technical note explaining its use are available on the web at: http://www.epa.gov/ttn/amtic/contmont.html
- Utilize one of the spreadsheet templates also available on AMTIC that were originally developed to support FEM and ARM applications. The file: "This spreadsheet can be used for assessing collocated FRM and continuous data at sites with up to 366 data pairs (XLT file)" may be the most useful file as it allows up to 365 data pairs to be included. This file is also available at http://www.epa.gov/ttn/amtic/contmont.html
- Develop your own spreadsheet or utilize statistical software with the equations identified in 40 CFR Part 53. These equations include: Slope - equation 19, intercept - equation 20, and the correlation coefficient (not correlation squared) - equation 21.

Interpreting the one-page assessment:

To ensure clarity in interpreting the one page assessments, we are providing the following example. The bottom line is that if the overall bias requirement for a $PM_{2.5}$ continuous FEM is not met when compared to a collocated FRM, for a period of up to the last 36 months, then a monitoring agency may request that the data be set aside to use in design values calculations. When approved by the applicable Regional Office these data will be stored separately in AQS and not used in design value calculations.

This is just an example and does not constitute an official action to request or approve exclusion of data.

Site Name	City	Site ID	Cont POC	Method Description	$PM_{2.5}$ Cont. Begin Date	$PM_{2.5}$ Cont End Date	Continuous/ FRM Sampler pairs per season	Slope (m)	Intercept (y)	Meets bias requirement	Correlation (r)
Sites with $PM_{2.5}$ continuous FEMs that are collocated with FRMs:											
Oldtown	Baltimore	24-510-0040	3	Met-One BAM 1020 w/VSCC FEM	Jan 1 2011	Dec. 31 2012	Winter = 150 Spring = 127 Summer = 121 Fall = 149 Total = 547	1.06	+1.49	no	0.96



PM 2.5 Continuous Monitor Comparability Assessment

Site 24-510-0040: Baltimore, MD

FRM: R & P Model 2025 PM2.5 Sequential w/WINS-GRAVIMETRIC (118), PM2.5 - Local Conditions (88101), POC=1

Cont: Met One BAM-1020 Mass Monitor w/VSCC-Beta Attenuation (170), PM2.5 - Local Conditions (88101), POC=3

Cont. (y) vs. FRM (x) PM 2.5 (µg/m³)

y = 1.06x + 1.49

R = 0.96

1:1 line

Cont. minus FRM PM 2.5 (µg/m³)

Cont. Reads Higher

Cont. Reads Lower

01/01/2011 09/01/2011 05/01/2012 12/31/2012

Winter Spring Summer Fall

Additive (y) vs. Multiplicate (x) Bias

A=AllData, 1=2011, 2=2012, 3=2013

W=Winter, R=Spring, S=Summer, F=Fall

R (y) vs. FRM CCV (x)

A=AllData, 1=2011, 2=2012, 3=2013

W=Winter, R=Spring, S=Summer, F=Fall

Mean PM 2.5 (µg/m³)

Dataset	N	FRM	Cont	Ratio (Cont/FRM)
AllData	**547**	**10.3**	**12.4**	**1.21**
Winter	150	10.7	13.6	1.26
Spring	127	9.2	11.1	1.20
Summer	121	11.4	12.5	1.10
Fall	149	9.9	12.3	1.25
2011	249	10.8	12.9	1.20
2012	298	9.8	12.0	1.22
2013	0	.	.	.

Appendix A Statistics

Dataset	N (all observations)	Bias	N (only >= 3 µg/m³)	Bias
AllData	**547**	**25.4**	**534**	**23.7**
Winter	150	35.6	144	31.9
Spring	127	23.3	126	22.9
Summer	121	11.0	121	11.0
Fall	149	28.7	143	27.0
2011	249	24.5	245	22.4
2012	298	26.2	289	24.9
2013	0	.	.	.

Data Source: EPA AQS Data Mart

Generated on: March 13, 2013

Determining if the bias criteria has been met:

In most cases determining whether the combination of the multiplicative (slope) and additive (intercept) bias is inside or outside the required test specification can be done simply by inspecting the Additive (y) vs. Multiplicative (x) Bias figure on the middle left side of the one-page assessment. Use the "**A**" from the chart as it represents all data. In this case **A** appears to be just outside the box, which indicates that this bias does not meet the acceptance criteria.

However, in some cases an agency may want to ensure that the combination of the multiplicative (slope) and additive (intercept) bias is outside the required test specifications. To do that, answer the questions below including solving for the allowable intercept.

From Part 53, Table C-4:

Does the Slope of regression relationship meet the test specification of 1+/- 0.10

Yes, the slope of 1.06 is within 1 +/- 0.10

Does the Intercept (µg/m^3) of the regression relationship meet the test specification of between: 15.05 – (17.32 x slope), but not less than -2.0; and 15.05 – (13.20 x slope), but not more than + 2.0.

15.05-(17.32 x 1.06) = -3.31, which is more negative than -2.0. Therefore use -2.0 as the most negative the intercept can be with a slope of 1.06.

15.05 – (13.20 x 1.06) = 1.058, which is within the maximum +2.0. Therefore use 1.058 (rounded to 1.06) as the most positive the intercept can be with a slope of 1.06.

No, the intercept of +1.49 is outside the bounds of -2.0 to +1.06 that is allowed for a slope of 1.06 and therefore this confirms that the overall bias has not been met.

Section D – FREQUENTLY ASKED QUESTIONS:

1. If the EPA Regional Office agrees that data should not be compared to the NAAQS, does that mean we can no longer run the site?

   No. This only means data are approved as excluded from the NAAQS. A request to no longer run a site per §58.14 is still necessary.

2. When submitting a request for exclusion of continuous $PM_{2.5}$ FEM data, does the request have to be part of the annual monitoring network plan?

   Requests for exclusion of continuous $PM_{2.5}$ FEM data can be made either as part of the annual monitoring network plan or in a separate request to the applicable EPA Regional Office. However, any changes in the monitors supporting the network should still be listed in the next and subsequent annual monitoring network plans.

3. If our agency includes a request for exclusion of continuous $PM_{2.5}$ FEM data as part of the annual monitoring network plan and there are other issues in the plan holding up its approval, can the exclusion of continuous $PM_{2.5}$ FEM data be approved without approval of the whole plan?

   Yes, the EPA Regional Office may approve the exclusion of certain continuous $PM_{2.5}$ FEM data without approving the whole Annual Monitoring Network plan.

4. Is there a difference in the applicability of this provision to exclude certain data based upon whether the site is required or not?

   §58.14 requires that "For required SLAMS where the agency identifies that the $PM_{2.5}$ Class III FEM or ARM does not produce data of sufficient quality for comparison to the NAAQS, the monitoring agency must ensure that an operating FRM or other

filter-based FEM meeting the sample frequency requirements described in §58.12 or other Class III $PM_{2.5}$ FEM or ARM with data of sufficient quality is operating and reporting data to meet the network design criteria described in appendix D to this part". For other sites that are intended to be part of the SLAMS network, but beyond the minimum monitoring requirements, the monitoring agency needs to address moving forward how it will ensure an appropriate method is operating at the station. If the monitoring agency is requesting a change to a SLAMS other than provided for in §58.11 (e), (for example, no longer operating a site) it must do so in accordance with all other provisions of the monitoring regulations. Saying it another way, EPA Regional approval to set aside $PM_{2.5}$ continuous FEM data for comparison the NAAQS, does not constitute approval to shut down a SLAMS.

5. What if any differences are there between continuous $PM_{2.5}$ FEM data that should be considered invalid and data that should be considered valid but excluded from comparison to the NAAQS per §58.11 (e).

   Data that are invalid should be based on some aspect of data validation that has not been met. For example, a flow rate that has not met the requirements for a valid flow. Data that may be excluded involve monitors where all the data validation procedures appear valid as required by or described in the applicable SOP or QAPP; however, the performance compared to a collocated FRM appears to be beyond the acceptable performance criteria described above.

6. In our monitoring program, we previously, changed the hardware of an otherwise approved continuous $PM_{2.5}$ FEM. Is this allowed? How should we address the use of the data?

   We advocate maintaining the manufacturer recommended hardware and software configurations and to not break the method in any way. The only exception to this should be those cases where the monitoring agency is working to improve their method in such a manner such that the method may be eligible for approval as an ARM.

7. Does our agency need to apply for this every year?

There is no explicit requirement that the data from a $PM_{2.5}$ continuous monitor be re-evaluated each year as compared to collocated FRMs for purposes of continuing to exclude data as eligible in NAAQS calculations. However, all operating sites, monitors, and their objectives and other related information are required to be included in each annual monitoring network plan per §58.10. We also believe that it would be appropriate to evaluate and list the statistical performance criteria associated with each $PM_{2.5}$ continuous FEM as aerosol composition can change over time and as the method may be improved both in terms of the operations as well as vendor initialed improvements in things like firmware. At a minimum a comprehensive examination of the methods used in each network should be evaluated as part of the five year assessments.

8. If our agency has a site with an operating $PM_{2.5}$ FRM and collocated continuous FEM and the data are within the performance criteria identified in Table C-4 of part 53; however, we still have concerns with using the data from the $PM_{2.5}$ continuous FEM, how do I ensure that only the FRM data are used in a design value calculation?

   The requirements of Appendix N to Part 50, provide that a site level design value calculation is made with the primary monitor and with the average of all other valid data from approved methods when the primary monitor is not available on a given day. Thus, to avoid using $PM_{2.5}$ continuous FEM data in a design value calculation, the FRM would need to be operated on a daily sampling schedule. Note: even in this case valid data from the $PM_{2.5}$ continuous FEM would be substituted on any day that the FRM data were not valid.

9. How should our agency approach a case where after examining the performance of a $PM_{2.5}$ continuous FEM compared to a collocated FRM, we believe our operation of that method was not fully optimized; however, after a certain date, a change in the operation of the method was made such that we are now getting acceptable data comparability compared to the collocated FRM.

   To the extent that an improvement in the $PM_{2.5}$ continuous FEM was made, and data before the change does not meet the performance criteria, while data after the change indicates that it is does meet the expected performance criteria, a

monitoring agency may request that only the data before the change in operation be excluded, so long as all other criteria in §58.11 (e) are met.

10. With regard to the question above on excluding data that does not meet the expected performance criteria before a change in the method, while data after the change indicates it does, to what extent can the data generated before the change be used to support other monitoring objectives.

    $PM_{2.5}$ continuous FEM data that are approved by the EPA Regional Office for exclusion from comparison to the NAAQS as per §58.11 (e), may still be used for comparison to the Air Quality Index (AQI), if appropriate, either as is, or if necessary, with a data correction.