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**Subject:** Air Stack Tests - PM 2.5 and Condensibles...Will Companies Still Be In Compliance?

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## AIR STACK TESTS - PM 2.5 AND CONDENSIBLES WILL COMPANIES STILL BE IN COMPLIANCE?

Press Release

EPA and many states are now focusing on particulate matter, 2.5 micrometers in diameter and smaller. This relates to particles 1/30th of the diameter of a human hair. Primary particulates emitted directly into the air include solid particles and liquids, as well as condensible organic particles. Secondary particulates include compounds such as sulfates and nitrates, that form in the atmosphere as a result of chemical reactions.

When conducting stack tests of air emissions sources, it has not historically been required that PM-2.5 and/or condensibles be measured. Condensibles have generally not been required for applicability determinations, and air emissions permits have generally not included limits for condensible emissions. However, permitting authorities may consider condensibles when setting emissions limits going forward.

The latest details on this issue include:

- For the purposes of determining control technology needed at individual plants, BEST AVAILABLE CONTROL TECHNOLOGY and NO LOWEST ACHIEVABLE EMISSION RATE determinations are applied to "direct" PM-2.5, sulfur dioxide, and other included precursors. (Secondary particulates, including sulfates and nitrates which form in the atmosphere as a result of chemical reactions, are "indirect", and are not included).
- The final New Source Review PM-2.5 Rule does apply for National Ambient Air Quality Standards, NAQVR/ visibility determinations.
- The final NSR PM-2.5 Rule applies to PSD preconstruction monitoring, on a case by case basis.
- With respect to offsets, where there is non-attainment and a New Source Review is underway, emissions only need to be offset once, and the PM-2.5 Rule applies for direct PM-2.5 emissions, and, PM-2.5 precursors are included, to the minimum 1:1 ratio.

In addition to the above:

- Different ratios for specific non-attainment areas may be included in the state implementation plan, if supported by adequate modeling / technical demonstrations. Inter-pollutant offset trading can be considered, using "preferred trading ratios", such as 200 tons of NOx equaling one ton of PM-2.5. No case by case determinations on an individual permit basis will be allowed.
- No inter-pollutant trading is allowed in cases where there is "netting". Virginia has moved forward with permit modifications and requests to determine the degree of PM-2.5 present at air emissions sources.
- Where there is testing for PM-2.5, Conditional Test Method 40 (CTM-40), and EPA Method 202 (wet impinger method), are the preferred EPA test methods to determine filter bowl and condensible PM-2.5 emissions. CTM-40 captures the filterable portion of PM-2.5 and is considered to be accurate. CTM-40 determines filterable PM-2.5. The method involves cutting cyclones in the front half of the sample train, to capture PM-2.5.
- Method 202 (the wet impinger method) is used to determine the amount of condensible PM-2.5 emissions in the flue gas stream. Although most stack testing firms have used Method 202, the accuracy of this method has been questioned by EPA, and challenged by the industry as "biased high" for PM-2.5, by as much as 15% in some cases. EPA has attempted to develop a more accurate test method for capturing quantifications of condensible 2.5 emissions. A "dry impinger method" or "Other Test Method-28" has been developed and posted on the "Other Tested Methods EPA website" under OTM-28. EPA feels that this method will provide an accurate and precise measurement of

condensable particulate emissions. To obtain a copy of the OTM-28 Method, go to <http://www.epa.gov/ttn/emc/prelim.html>.

- Concurrent with development of the dry impinger method, EPA has reformatted and edited CTM-40. It is now known as OTM-27. In many states, the issue of PM-2.5 emissions and condensibles will come up when permits for existing air sources are to be renewed. Whether there will be concerns and/ or potential future non-compliance is heavily dependent on the actual air emissions involved and the plant source type. Those operating air emissions sources should speak to their State Air Permit personnel, and should be careful not to agree to future emissions limits, if for particulates, the current permit limit would still apply after PM-2.5 and condensible emissions are added. The degree to which condensibles will be or not be a problem, is principally dependent on the dew-point at the stack which is typically related to source emissions temperature and stable height. Those emission sources where there are wet scrubbers, or where there are combustion startup issues until an "operating" temperature is met, should be careful to understand their situation, and not just agree to a rollover of existing particulate limits in a renewed permit, where the actual measured emissions may appear to "increase", because PM-2.5 and/ or condensibles are measured in the next stack test, but they were not measured before.

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