

REGULATORY WORKSHOP

August 7, 2008

Portland, Maine

I. Stack Testing Workshop - Dan Todd, Air Quality Services, LLC

Planning is the key to a successful stack test. Plan to identify the key people in the organization that will be involved with the testing. These include the overall coordinator, the facility contact, and those that need to know the results. If the test is for compliance or an audit, the appropriate agency contact should be identified and notified. The pre-testing activities should include a site visit, the testing location, safety considerations, agency meetings, and identification of required paperwork and permits. The test needs to be defined for pollutants to be tested, level of emissions, process details, test methods, process data needs, and any preliminary testing. As stack testing gets into more exotic measurements (mercury, PM_{2.5}, condensables), the appropriateness of the test methods, the sampling plan, and the protocol should be defined, along with which entity will provide what information. The requirements of the test report should be identified up front. The units for the data should be identified. A permit calls for certain units (ie lb/MMBTU), but there may be requests or requirements for other units (ppm, mg/m³). Any preliminary results or draft review processes should be identified. The responsibilities for each entity or contractor should be clearly identified in the beginning. The source should provide clean ports, safe access, power, historic data, contact person, and operations at the appropriate level for the test.

The “source contact” is a critical individual that is knowledgeable of the operations and personnel and must be available during set up and testing. For a compliance test, State and Federal notification requirements need to be followed prior to the test. Plant personnel need to know when the test is scheduled and what test conditions are required. They need to be sure the right fuels are being run at the right operating conditions. The bidding process takes time and should be allowed for.

Testers like to arrive, set up, and “pre-test” the day before. “Rush” scheduling might cost more. The test location should be known. If testing has been done before, a report should be made available. This should provide information about the suitability of the testing location and any issues that might be associated with that location. In selecting a testing company, the usual contracting provisions apply. In addition, CIBO membership provides a network of companies that have had to do compliance testing and have experience with testing companies.

Expected data levels are helpful in setting up for a test. Preliminary testing can be helpful in going through the requirements of the test without the compliance officer on site. This allows for corrective action before the compliance test. Contingency day(s) should be considered, especially for a “first of a kind” test. Resources include internal reports and documents, prior testers, testing companies, trade associations, and web based materials. EPA and the Source

Evaluation Society have web based materials. Active participation in the testing and set up provides for a much better understanding of the actual results and allows for immediate corrective action.

Certification by the AETB is only required for Part 75 sources. However, certification should be a consideration. The AETB (Air Emissions Testing Board) certification follows an ASTM standard that is patterned after the ISO standards for testing laboratories. The usual quality requirements include significant levels of documentation and record keeping, as well as a corrective action plan. Certification is both for companies and individuals. The Source Evaluation Society provides assistance for certification. As with ISO, certification will likely increase the cost of testing (document control, system audits, 3rd party testing, etc.).

Preliminary testing provides for the opportunity to find out if the equipment is in compliance. One could question the purpose of compliance testing a unit that is out of compliance. Discussing the results with the testing company before the final report is issued helps to explain any issues that might come up. In setting up a CEM system, there are a number of tests that have to be performed in order to certify the system, including a 7 day calibration test and a relative accuracy test audit (RATA). EPA has just received approval for an information request (ICR). Letters will be going out to 2500 units requesting information (data) for the Boiler MACT. After review of the data, EPA expects to send out 300 - 350 letters to selected units requiring testing for additional data.

II. How Do I Comply - Andy Bodnarik, N.H. Dept. Environmental Services

With all of the legal and regulatory surprises of the last year, there has been a “perfect storm” that has upset the plans of both the regulators and the business community. Self assessment will be needed to recover. Make use of the available resources (CIBO meetings, CIBO Energy Efficiency Handbook, state agencies, etc.). “Back sliding” should be avoided (ie shutting down a control device due to a vacature). It may only be a year or two and could be less if the states adopt case-by-case MACT before the device will be needed. Reviewing all of the applicable requirements is a considerable task. The entire panoply of regulatory requirements includes federal, state, regional, and local regulations that will impact plants. Over and above emissions limits, states often require permits to construct, fuel limitations, air modeling, operating permits, zoning ordinances, building permits, water requirements, height restrictions, lighting limitations, and waste disposal restrictions.

Control strategies are influenced by the source category. Major sources have more emissions limitations than minor sources or area sources. Options include the complete gamut of fuel choices including switching and blending. Even at the distillate oil level, there are choices with respect to sulfur level (2000 ppm, 500 ppm, 15 ppm). Fuel costs will likely increase. States that are still in non-attainment or been reverted to non-attainment have generally exhausted the RACT level of controls.

The vacature of CAIR has taken away a level of reduction (in the near term) that many states were counting on to meet ambient air standards. These states are looking at additional control

requirements. Within MANE-VU, the timely implementation of BART, low sulfur and ultra low sulfur diesel, and potential efficiency improvements are being pursued. A number of federal time lines will impose additional requirements. Continued research on the status of control equipment for ICI boilers is being updated in an effort to get as much cost and performance data into the evaluation of options. More stringent controls are coming to address ozone, PM2.5, and regional haze. All sources will be affected. All regions will be affected.

III. Emissions Control Technology Update - Richard Saab, Siemens Environmental Systems and Services

Siemens purchased the Wheelabrator Environmental Company in 2005 to expand their offering to the power industry. More stringent requirements are expected in the future. In a recent job for an 800 MW utility unit, a wet and dry ESP, a wet FGD, and a bag house with activated carbon injection is being installed to meet multi-pollutant requirements for SO₂, mercury, and particulates (including PM_{2.5}). Dry precipitators (ESP) are still being installed. A wet ESP can be used as a final polishing device. Fabric filters are becoming more common. Pulse jet filters are being designed for continuous on-line cleaning. Reverse air filters are used for gas flows over 1 million CFM. Longer bag life is expected from reverse air systems. Sonic horns can be used to help the performance. Mercury control by powdered activated charcoal typically achieves 85 - 90% reduction.

Carl Bozzuto noted that, in answer to a question on relative merits of various scrubber systems, there was material from an earlier conference that gave some information on the subject. The cost data is out of date (2002 data), but the relative performance is still valid. These 3 slides will be included in the CD for the conference.

IV. The Dysfunctional US Regulatory Process - Steve Gossett, Eastman Chemical Company

The chemical plant in Tennessee has 14 coal fired boilers, a number of other boilers, a coal gasification plant, and a substantial number of scrubbers and environmental control processes. The NO_x SIP call, the Hazardous Waste Combustor MACT, Boiler MACT, CISWI, and CAIR all impact the plant. The NO_x SIP Call required low NO_x burners on several of the coal fired units. The cap and trade portion of the SIP call was helpful in providing incentives for reductions. The Kingston plant does RATAs from January to April. The Hazardous Waste Combustor MACT required the addition of \$50 million of equipment on 3 units. The rule was petitioned and a settlement was reached. A new rule was proposed that was slightly different. The Brick MACT caused EPA to reassess their position. In its recent proposal, EPA used the unit that had added controls (MACT on MACT). The Boiler MACT has caused a significant amount of stranded capital investment, along with cancellations. These actions disrupt financial planning, punish early compliance, force risk taking with no assurance of compliance, impact the supplier market, waste resources, and breed mistrust.

There are very few positives (other than job security for environmental officers). Everyone has some responsibility for this problem. Each group (federal, state, regional, local, NGO, courts, and industry) has its own self interest and survival at stake. We are all involved in the process. Participation and contribution help to make these regulations workable. If a rule doesn't make sense, stop and think. Advocacy and petition are the means to arrive at workable regulations. Intricacy in the regulations often saves money. Establishing good working relationships helps the process.

V. General Discussion - John deRuyter, E.I. DuPont de Nemours & Company and Jeff Underhill, N.H. Dept. of Environmental Services

John pointed out that the goal was to develop topics for discussion on regulatory developments. Potential topics included the process for developing and using the data for the MACT process, MACT on MACT, simultaneous achievability, the 12% achievability and “cherry picking”, regional vs national standards, fuel utilization or exclusion, continuous shuffling of regulations, education and resources, relationship building, and GHG activities. The cost and benefit relationship is a difficult one as long as the positions are at opposite extremes. The ICCR process was an attempt to get the parties “on the same page” and was nearly successful. Unfortunately, the process was stopped at the brink consensus. In Missouri, the state air program holds monthly meetings (State Air Forum) to discuss air issues. All stakeholders can be members (industry, NGO, regulatory, etc.). Any member can suggest an agenda topic.

It was noted that the ICCR process took substantial time. The EPA has issued an ICCR for data. The time schedule appears to be compressed. This could be another problem for EPA. Another question is the data that was started in preparation for the vacated MACT, but was dropped with the vacature. The question about what represents good quality data. Simultaneous values for all emissions and operating parameters are desirable for good data. The age of the unit, the certification, type of unit, etc. all could have an influence.

In the ICCR, the CO was looked at as indicative of good combustion practice. The good combustion practice level was taken from state standards and was not symptomatic of the best 12%. Rather, since CO was a surrogate for VOC, and it was known that at low levels of CO this relationship no longer held, the 400 ppm was accepted. It is important to recognize that the EPA has to use what data is available. Limited data limits the ability to sub-categorize units to the point where some evidence to create a limit is possible. The more quality data that is available, the better the potential rule. Isolated cases can go to a case-by-case determination, but this is admittedly a “messy process”.

In a similar vein, the CO₂ regulation process is just starting. EPA has indicated that regulation under the current Clean Air Act would be exceptionally difficult and new legislation would be requirement. New legislation represents both a threat and an opportunity. Efficiency is one of the lowest cost means of reducing CO₂. However, in many cases there is the threat of invoking NSR in doing an efficiency project. Right or wrong, there is a perception amongst many owners that efficiency projects will trigger NSR.

It was noted that there have been a number regional proposals for national standards. The northeast and midwest regions are trying to gather data on costs and techniques to prepare some kind of potential comparison. Another survey is planned for gap analysis. Accurate inventories and expertise on types of fuels is hoped for. The idea is to go to EPA and indicate that this is the kind of information that we have and we recommend that EPA gather this type of information and utilize it for a national rule. Part of the philosophy is to have the same rules for all states. EPA could use the RACT authority for such a recommendation.

A major concern for the regulators on fuels has been the issue of picking winners and losers. The emissions levels in the US have been coming down. Yet we have little data on the actual health impacts (rather than epidemiological studies). Fuels vary in price and quality. The ultimate approach is a firm cap and trade system with a significant and enforceable cap. The difficulty is with transport and smaller units. The BART process is a case-by-case process that is time consuming. A substantial number of units “modeled out” of the BART process.

The state SIPs need to be modified as a result of the vacature of CAIR. In many cases, the hope is that the NOx SIP call that was left in place by the courts will provide the authority for reinstating the SIPs that were in place to respond. On the education front, it was suggested that perhaps some of the workshop type presentations that CIBO has done (Boiler 101, NOx 101, etc.) might be worthwhile for some of the regulatory and state agencies. Selling the story with solid data gives the regulator a defensible position with respect to requests or complaints by other entities.