



Representing the Interest of America's Industrial Energy Users Since 1978

Environmental, Energy & Technical Committee Meetings

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Radisson Hotel, Reagan
National Airport
Arlington, VA
(703) 920-8600

MINUTES

TUES-WED JUNE 8-9 2010

FOCUS GROUP SESSION

Focus Group Moderator - **Robin Mills Ridgway**, Purdue University

Robin opened the focus group meeting with an example from the Purdue facilities utilities plant. The plant employs 70 people to cover 4 shifts of operations. Operators are not always familiar with the environmental permit documents. Every year, there is a training program. During this period, Robin conducts training on the permits and the requirements for the operators. Example topics include spill response, Title V, NPDES permit, upcoming projects, campus events, and media issues. Simplifying the processes and requirements is particularly helpful for plant personnel. As an example, a flow sheet for spill response has proved to be very helpful in identifying whom to contact and what to do. Emphasizing the need for keeping good records and completing the paperwork is critical to having a compliant and functional program.

Organizational Behavior/Systems that Result in a Team Effort

Bernie Evans, Environmental Resources Management

Environmental management systems have been around since the passage of the Clean Air Act modifications in the 70s. Originally these were reactive as the requirements were new. Over time these programs progressed from compliance to proactive to advantage to sustainability. The goal of a management system is to produce good results (less risk, lower costs, and identifies opportunities). A good system results in a company culture that is attentive to environmental performance. The components are basically the same as outlined in the ISO 14001 standards. Over 110,000 entities have been formally certified to ISO 14001.

ERM conducts assessments of programs on a regular basis. The best performers have several key features. Senior leadership commitment leads to a culture of compliance. The compliance requirements are understood, communicated, and tracked. Clear accountability is established and effective core programs are established. Change management, audits, and corrective action programs are effective. Effective organizations have departments and functions that accept EHS responsibilities and integrate them into their business processes and daily operations. Performance and goals are reviewed quarterly and modifications are made in "real time". Management support needs to be visible and active. Management should drive performance and continuous improvement.

Management information systems can be useful tools which eventually lead to knowledge management and information sharing. On going compliance auditing is a key tool that can provide



“lessons learned” and opportunities for improvement. Establishing where the organization is now and where it wants and needs to be can lead to a gap analysis which identifies the direction the program needs to go. Performance will only improve if the front line personnel change their behavior. Behavioral change can only occur if the management behavior is conducive.

Operator Training - Bob Clarke, Pan Global Training Systems

Today there is a much greater recognition that training is a very important component of safe and effective operations and compliance. The four major issues are operating efficiency, staffing concerns, safety concerns, and environmental compliance. The demographics in the industry has led to concerns about older operators retiring and new hires lacking the experience. There are close to 700,000 registered boilers in North America. Safety has become a critical issue as corporate responsibility issues have increased the level of financial exposure.

In the US, there is no national level, certified standard for training. There are a number of programs at a variety of universities as well as ASME. There are a number of text materials that are published. There are bachelor's degree programs at a number of universities, as well as associate degree programs. There are also certificate programs and continuing education programs. One of the major activities is still “on the job” training. There are over 140 colleges and private training organizations providing support to state licensing programs.

In Canada, there are 5 national licenses (from 5th to 1st class). These range from trainee to senior shift engineer. Bloom's Taxonomy is a hierarchy of educational objectives. These are set up as levels ranging from remembering through understanding, applying, analyzing, evaluating, and creating. For a new operator, basic levels of identification and understanding are expected over a wide range of topics. As the levels increase, higher levels of analysis, evaluation, and systems management are expected over a broader range of topics.

In the US, state and local agencies have adopted some of these materials as a national standard program does not exist. Industry sets the learning needs and skills required. National organizations standardize the training materials to meet the skill requirements. Publishers produce the textbooks and learning materials. Educators provide training support and prior learning validation.

Startup/Shutdown/Malfunction Issues - Chris Henderson, Automation Applications Inc, LLC

Years ago, fuels were relatively cheap and excess air levels were set to be “easy to run” rather than most efficient and emissions compliant. Recent court rulings have changed the game with regard to permissible emissions during startups, shutdowns, and malfunctions. These are periods of non-continuous operations which tend to have higher emissions levels. Environmental pressures have led to the need to control emissions during these types of events. In the absence of real standards, the EPA has issued some guidelines offering an approach.

For malfunctions, it is not always possible to predict the emissions. Malfunction plans and documentation are critical for these events. Start ups and shut downs are not always planned events, but occur often enough that some degree of prediction may be possible. Typically “ startup curves ” are developed to help guide the startup sequence. Historically, the economics of fuel savings at low



loads has not been worth the effort and “safe” operation has been emphasized. Control challenges at low loads include process variable noise (signal issues), control element dynamics (small movements at low loads), and air fuel mixing issues (low gas velocities). Thus, a tight air/fuel ratio is difficult to maintain under low load conditions. It is easier to operate with higher excess air at low loads. However, higher excess air tends to increase NO_x and SO₃. Low levels of excess air tends to increase CO and particulates.

Air demand can be based upon stoichiometric calculations rather than empirically derived “load curves”. Characterization of control elements to linearize the controller output versus flow at low loads is important. More attention will have to be paid to operation at low loads, including tuning the boiler for low load operation.

Shutdown procedures should seek to shut down more quickly to minimize operation at low loads. Avoiding running the units at idle is another approach to minimizing emissions at low loads. Start up has to be done more slowly in order to minimize thermal stresses in the thick wall pressure parts. A start up curve is often used to guide the start up procedure. There could be a trade off between expected tube/equipment life and start up time. Steam coil drum heaters might be considered. An automated startup supervisory control system can be used to test the operation constraints to minimize start up time. There is no one unique solution. Examining every opportunity for small incremental improvements may make the difference between compliance and non compliance.

ENERGY COMMITTEE SESSION

Frederick P. Fendt, The Dow Chemical Company, *Energy Committee Chairman*
Robin Mills Ridgway, Purdue University, *Energy Committee Vice-Chairman*

Introductions - **Fred Fendt**, The Dow Chemical Company

Bob Corbin, CIBO Consultant, introduced the new members and guests. The usual “round the table” introductions were done. Bob Bessette, CIBO, gave the antitrust admonition.

Practical Implications of Energy Efficiency Regulatory Mandates - Bill Orthwein, DOE ITP

The DOE Industrial Technology Program is one of 10 programs that deal with industrial energy efficiency and supply. The manufacturing sector employs over 12 million people and makes the highest contribution to GDP. For every million dollars in energy cost saved, the industry can retain 16 - 17 jobs. Energy efficiency is one of the simplest approaches to reducing emissions and saving fuel costs. The goal of the DOE “Save Energy Now ” program is to drive a 25% reduction in industrial energy intensity by 2020. Industry has been reducing its energy intensity continuously.

The goal of the program is to accelerate the adoption of energy efficiency technologies and practices. There are two program areas in the program: industry specific applications and cross cutting technologies. Higher temperature processing, energy conversion systems, reaction and separation processes, and fabrication/infrastructure are key technical R&D areas. Highlights include the isothermal melting process and the “super boiler” (gas fired boiler with flue gas condensing heat exchanger).



Save Energy Now services include tools, standards, training, information, and assessments. Software support tools include Motor Master +, Air Master +, Pumping System Assessment Tool, Fan system Assessment Tool, Industrial Facilities Tool, and Chilled Water Assessment Tool. Fuel based systems include Steam System Scoping Tool, Plant Energy Profiler, Process Heating Assessment and Survey Tool, Steam System Assessment Tool, 3E Plus Insulation Tool, and the Energy Management Tool Suite. The Steam System Assessment Tool (SSAT) is designed to demonstrate the magnitude of energy, cost, and emission savings related to specific steam system improvement opportunities.

The tool provides heat and mass balance information using a network program for equipment in a typical steam system. Steam improvement initiatives include the real cost of steam, steam quality, boiler efficiency, condensate recovery, steam trap operating efficiency, heat recovery, cogen opportunities, steam turbines, boiler blow-down, heat recovery, vent steam, steam leaks, insulation, and emissions calculations. A sample calculation for improved boiler efficiency, condensate recovery, and steam trap operation resulted in an 8% improvement in fuel cost along with a substantial reduction in emissions.

The Process Heating Assessment and Survey Tool estimates the annual energy use and cost for furnaces and boilers in a plant. A distribution report with annual usage and cost by piece of heating equipment is produced. From this, specific unit analysis can be done. In the last 4 years over 800 assessments have been done, identifying over \$1.1 billion in savings. Of these about 17% have been completed saving over \$165 million along with 2 million metric tons/year of CO₂. These savings are the equivalent of shutting down 59 coal plants, or installing 9,000 x 1.5 Mw wind turbines, or taking 2.4 million cars off the road.

In order to accelerate the implementation, the DOE has established a leadership program which will provide tailored technical assistance, priority access to plant assessments, resources and tools for energy analysis, training and workshops, and materials for industrial supply chains. The DOE is setting up standards for energy management in order to help meet their goals. The Steam Page on the DOE site is <http://www1.eere.energy.gov/industry/bestpractices/steam.html> .

GOVERNMENT AFFAIRS SESSION

Anthony Reed, Archer Daniels Midland Company, *Government Affairs Committee Chairman*

Anthony noted that on Thursday the Senate will have a vote on the Murkowski resolution that is negative on EPA regulating CO₂ emissions under the Clean Air Act (upset the endangerment finding). The majority leader Senator Reid is considering how to move the Kerry Lieberman bill. The EPA will be releasing their analysis of the economic impact of this bill. A number of senators are working on legislation covering liabilities for oil spills. One strategy could be to tie these two bills together.

The Congressional recess begins August 9th. There are a number of bills and issues that need to be considered before then, amongst them are financial regulation and the Supreme Court nomination. There are also over 100 federal judges to consider and budget appropriation bills. A lame duck session is also a possibility.

The main provisions of the Kerry Lieberman bill is being touted as a "cap and dividend" bill. Money raised by the cap and trade system would be used to reduce the government debt or be returned to



the taxpayers. One key feature of the bill is the “price collar”. The collar starts out at a relatively low level, but increases at inflation plus an increment, thus reaching high levels in the out years. There are some preemption features, but not as strong as some would like. There is consideration of renewable biomass. The bill allows EPA to do studies to determine if the biomass is really renewable (or has impacts on food prices). Allowances are provided for cogeneration. Incentives for carbon capture and sequestration are provided. Tariffs on goods from countries that do not have a cap and trade system persist in the proposal. Industrial units are included from 2016, but start to get allowances in 2014. It does appear that this bill does correct some of the issues with the definition of an electric generating unit.

ENVIRONMENTAL COMMITTEE SESSION

Maxine D. Dewbury, The Procter & Gamble Company, *Environmental Committee Chairman*

Rob Kaufmann, Koch Companies Public Sector, LLC, *Environmental Committee*

Vice-Chairman

Litigation Update - Lisa Jaeger, Bracewell & Giuliani, L.L.P.

For this meeting, a climate litigation chart was passed out. At the moment, there are only two other cases outside of climate issues that CIBO is involved in. CIBO is not involved in any of the litigation on climate change at this time. There are 5 rules currently in play for which there is already litigation. These include Mandatory Reporting of GHGs, the Endangerment Finding, the PSD Interpretive Rule, the Light Duty Vehicle Rule, and the Tailoring Rule.

The Mandatory Reporting Rule has been challenged by the American Chemistry Council. Supporters of the ACC include the API, NPRA, the Fertilizer Institute, the American Public Gas Association, the Energy Recovery Council, and Kinder Morgan CO2 Co. Intervenors in favor of EPA include many states, the Sierra Club, the Environmental Defense Fund, and the Utility Air Regulatory Group. The case is currently being held in abeyance. Most of the arguments against the EPA are that EPA overstepped its regulatory authority. With the case in abeyance, the rule is still in effect and companies have to report.

There is a law suit challenging the Endangerment Finding. This finding is a necessary prerequisite for EPA to regulate GHGs. The list of challengers includes 74 entities as well as 12 senators. There are also 5 amicus organizations. Supporters of EPA include those states that have GHG rules and several environmental groups (NRDC, EDF, NRDC, etc.). There have been delays for reconsideration and motions for abeyance. With the number of petitioners and respondents, even simple motions take time to give respondents time to state their cases. One of the issues is the constitutional issue of non delegation. This argument is that the EPA exceeded its authority that was delegated to it by Congress (in that EPA has no authority to regulate the economy). There is also a statutory authority that the EPA re-delegated authority to the IPCC by relying so heavily on the IPCC findings. The EPA also included stationary sources in the endangerment impacts when the finding was supposed to be for mobile sources. There are also data quality arguments and generalized data issues. These are in addition to the Clean Air Act. There are issues of not accounting for the benefits of not regulating and of considering impacts outside the US. There is an issue of impact as well. If the regulation cannot impact the standard that is being proposed then there should be no regulation. This argument goes to the point that reductions in the US alone cannot and will not meet the goal of achieving world wide reductions in GHGs (the CAA being a piece of domestic legislation). There are also a number of



administrative reconsideration petitions to EPA. These may be addressed prior to the court taking up the more substantive court arguments.

The Interpretive Rule came out of the Johnson memo, which stated that permits did not have to consider GHGs as there were no specific regulations at the time. Statements of issues have not been posted. The light duty vehicle rule has not been published in the federal register. The Tailoring Rule was just issued. Petitions are due in court on August 2nd. All of these petitions get filed with the DC Circuit Court.

NAAQS and CAIR Update - Rob Kaufmann, Koch Companies Public Sector, LLC

A number of new NAAQS standards are being proposed. It is likely that all will be challenged. The new NOx standard has been challenged by API. The new SO2 standard has been proposed. The proposed new CAIR rule went to OMB. However, it is not clear when it will be released. The New NAAQS rule has proposed a one hour standard of 75 ppb. Industry had suggested 200 - 400 ppb. The CASAC had recommended a range of 75 - 100 ppb. The existing 24 hour standard and annual standards will be revoked.

Monetized health benefits were estimated by EPA at \$13 billion. The details will address short term (5 minute to 24 hour) impacts (a primary concern from a health effects standpoint). Secondary standards are due out in March of 2012. States will need to add 41 new monitors to the ambient monitoring systems. SIPs will be due by early 2014. States will then need to demonstrate compliance by August 2017. All other states will be required to submit maintenance SIPs by June 2013. Non attainment/attainment demonstrations will be based on both measured and monitored concentrations and refined modeling data. EPA will prefer to have large units modeled. At 75 ppb, 60 of 249 monitored counties would fall into non attainment.

There are a variety of implementation issues. The rule becomes effective 60 days after publication, but no SILs or increments are available. No guidance matching up the new tightened standard with revised modeling techniques is available. Reliance on conservative modeling (worst case emissions and worst case weather) rather than monitoring raised the threat of non compliance. Sources with any sulfur in their fuels will have difficulty modeling compliance as part of a PSD application. The new MACT requirements for HCl control may also reduce SO2.

RCRA Ash - Gary Merritt, Inter-Power/AhlCon Partners, L.P.

EPA issued the proposed rule on coal ash on May 4th. The rule has not yet been published in the Federal Register, but is expected soon. The proposed rule does not address placement of ash in mine fills. The regulation uses two terms: coal combustion residuals and coal combustion products (identified for reuse). A coal combustion byproducts coalition has a website with the details at <http://www.uswag.org/ccb.html>.

The original draft went to OMB. There was an avalanche of comments that were negative to the original EPA approach. The revised approach offers both a subtitle C and a subtitle D approach. EPA cited 27 damage cases as part of their concern. Most of these cases involved wet treatment of ash (i.e. dams and impoundments as opposed to land fills). In the proposal, the subtitle C section definitely exempts non utility units. The subtitle D section is not specific and could possibly include



industrial units. The subtitle C is "federally enforceable". For subtitle D, EPA has included provision for citizen law suits. States can act as citizens. Under subtitle D, the states will have control.

EPA has described beneficial use to include the concept of "encapsulation". Large scale fills are not considered beneficial uses. Facilities which fail to meet the criteria in the proposed rule will be considered as "open dumps". EPA can take action to shut down open dumps. Ground water monitoring will be required for all sites.

Comments are being solicited regarding "D" vs. "C", beneficial use, surface impoundments, state programs, enforcement, and reclamation (mine fill). It is essential that comments are provided on the proposed rule by all sectors impacted. The issue deals with the terms "discarded", "abandoned", and "processing". The rule may impact co-firing or alternative fuels.

NOx NAAQS Issues - George Schewe, Trinity Consultants, Inc.

The proposed 1 hour standard is more difficult to model. Dispersion modeling is not ideally suited for the 1 hour standard. There are a number of guidelines that are available including federal and state guidance. The definition of ambient air is the portion of the atmosphere external to buildings that is accessible to the public. Models are more reliable for estimating longer, time averaged concentrations than for estimating short term concentrations at a specific location. Many of the uncertainties are not known in the short term.

The models are reasonably reliable in estimating the magnitude of the highest concentrations occurring sometime, somewhere, within an area. Errors in the highest estimated concentrations on the order of 10 - 40% are now possible (compared to a factor of two). The new NO₂ standard (and SO₂ standard) are now probabilistic. The probabilistic form of the models is not yet available. All NO_x emissions are not NO₂. There are atmospheric equilibrium ratios to reflect the fact that not all of the NO ends up as NO₂. There are alternative NO₂ modeling methods. The current guidelines are no longer really applicable.

The new NO₂ NAAQS is 100 ppb. There are no PSD SILs, SMCs, or PSD increments. The form of the new 1 hour standard is the 3 year average of the 98th percentile of daily high 1 hour value for 3 consecutive years. This means that the 8th highest value for a year could be used and then averaged over 3 years. This is not quite right, but pretty close and easier to do. Tier 2 and Tier 3 modeling in the current guidelines are under review. These methods allowed for factors to consider the amount of NO that converts to NO₂. For PSD considerations, other sources in the area have to be considered. Background concentrations can vary. Tier 3 modeling uses the plume volume molar ratio method (PVMRM) to provide case by case assessment of how much NO_x reacts with existing concentrations. Three variables are needed to input: in stack ratio of NO₂/NO_x, equilibrium ratio downwind, and background ozone levels.

Significant impact limits (SILs) need to be established. Some states are suggesting the use of 50 km for the area of impact. For SO₂ the level is 75 ppb at the 99th percentile. This would translate into the 4th highest annual value. EPA also plans to use modeling to discern which sites are contributing to non attainment. Suggestions for improvements include reasonable SILs, appropriate tools, near field dispersion models, monitors, rejection of spurious model results, and probabilistic emissions input (ie not 100% at worst case levels).



GHG Regulations and the Tailoring Rule - Maxine Dewbury, The Procter & Gamble Company

Today, for conventional pollutants (non-GHG and not toxics) the major source Title V and PSD permit threshold is at 100/250 ton/yr. This is based on thresholds set in the CAA by Congress. If EPA were to use this threshold for GHG emissions every building, small apartment complex and the like would be subject to complex Title V and PSD permitting.

EPA recognized that if it made GHG emissions a pollutant under the CAA, it would be impossible to manage the number of Title V and PSD permits using the current 100/250 tpy thresholds set in the CAA. EPA established the "tailoring rule" to establish more reasonable thresholds, on a temporary basis for GHG emissions. The GHG reporting rule set a reporting threshold of 25,000 metric tonnes per year. The proposed Tailoring Rule threshold was 25,000 ton/yr.. A key difference between the GHG reporting rule and the tailoring rule is that the reporting rule's threshold is based on actual emissions. The Tailoring Rule's threshold is based on potential to emit, which is much higher than actual emissions.

In EPA's estimates of impact, EPA failed to consider the fact that because of EPA's PSD policy that once a pollutant is major for one pollutant, it is major for all PSD pollutants. This is important because if a source becomes major because of GHG emissions, it is now major for all conventional pollutants. Under current regulations, once a facility is "major" for PSD, the increase in emissions that trigger complex PSD modification permits is only 10 tpy for PM_{2.5}/15 tpy for PM₁₀ and 40 TPY for NO_x/VOC emissions. Therefore, if a tiny source becomes major because of GHG emissions, small changes that would have required state permits to increase PM₁₀ emissions by 15 TPY would now require complex PSD permits that take years to obtain and cost huge amounts of money. \

Thus, while one concern re regulation of GHG gas emissions under the CAA was how to do PSD and BACT for GHG emission increase, but an even greater concern for today's small "minor" NSR/PSD sources was being swept into the Title V/PSD/NSR permitting world due to GHG emissions.

Based on comments on differences between actual and potential emission, EPA increased the threshold from 25,000 tpy to 100,000 ton/yr in the final tailoring rule. In the final rule, the major source threshold is 100,000 ton/yr for GHGs, with a significance threshold of 75,000 ton/yr GHGs through January 2013. From Jan. 2011 to June 30, 2011, these rules are only applicable to changes that already require a PSD or Title V permit for a conventional pollutant. After June 30, 2011, regardless of whether a PSD/Title V permit is required for conventional pollutants, sources that are over 100,000 tpy for GHG emissions will be major sources and if these sources increase GHG emissions over 75,000 tpy, these facilities will trigger PSD modification requirements for GHGs.

EPA has also changed their approach on "grandfathering" complete permit applications. In the past, if an application was complete based on the effective regulations in place when filed, it would be processed based on those requirements. Now, for GHG emissions unless a final permit is received by Jan 1, 2011 GHG emissions must be considered in the permitting process if the source is major for GHG emissions and if a significant increase in GHG emissions is planned. After January, 2013, EPA may reduce the GHG major source threshold to cover sources down to 50,000 ton/yr. After January, 2016, even smaller sources of GHG emissions may be regulated. States can interpret the term "subject to regulation" similar to EPA to attempt to avoid having to modify their SIPs. The new language is in section 52.21(b)(ii) in the definition "subject to regulation". However, EPA's changes to language in the definition of "regulated NSR pollutant" which defines major source is problematic. Based on current language of "regulated NSR pollutant" once EPA promulgates NSPS standards



under Section 111 of the CAA, the lower thresholds of 100/250 tpy may apply to PSD and Title V. We have raised this issue with EPA, since EPA is planning to set NSPS standards promptly.

Once a site has triggered PSD for GHG, the biggest question is what is BACT. EPA and the Clean Air Act Advisory Committee are dealing with this issue and plan to issue guidance before 1/1/2011. Generally, BACT for GHGs is based on energy efficiency. However, the application of this standard may differ from current BACT policy by looking beyond the emission unit in question. Issues such as facility wide audits, payback criteria, and implementation times are still to be announced.

The reporting rule requires CO₂ emissions from biomass to be reported. This raises questions about their application to the Tailoring Rule.

Boiler MACT Review of Rule Proposals - John deRuyter, E.I. DuPont de Nemours & Company

The Boiler and Process Heater MACT rule covers the major sources. The Boiler Area Source Rule covers everybody else (i.e. all minor sources of HAP). The rule was put in the Federal Register on June 4th. The comment period is 45 days, but a schedule is expected to show 60 days. An extension to 90 - 120 days will be requested. The final rule is due Dec. 16, 2010. It is likely that this rule will be litigated. Hearings are scheduled for Arlington, VA, Houston, TX, and Los Angeles, CA. Oral testimony is limited to 6 minutes.

The rule impacts 1600 facilities with 13,555 boilers of which 11,500 are gas fired. There are 5 HAP (or surrogates) covered in the rule: particulates, CO, mercury, chlorides, and dioxins/furans. Gas 1 units burn natural gas or refinery gas. The number on non Gas 1 units are 2000, including about 600 coal fired boilers. For existing coal fired units the limits are 0.02 lb/MMBTU for particulates, 0.02 lb/MMBTU for Cl, 3 lb/trillion BTU for Hg, and 50 ppm for CO for stokers, 90 ppm CO for PC, and 30 ppm for CFB. The levels all drop for new units except the CO for PC and CFB. The new stoker CO limit is 7 ppm. Dioxin levels are all in the range of 0.02 - 0.03 ng/dscm for a variety of firing systems. Biomass units are called out separately. Liquid fueled units have very low limits as typified by a 1 ppm CO limit. The mercury limit for new oil units is 0.3 lb/trillion BTU. The Gas 2 rules (gases other than natural gas or refinery gas) also have a 1 ppm CO limit along with particulates (0.003 lb/MMBTU), HCl (2 lb/trillion BTU), Hg (0.2 lb/trillion BTU), and dioxins (0.009 ng/dscm). For natural gas units (Gas 1) there are no emission limits. An annual tune up is required (also on units < 10 MMBTU/hr firing any fuel). There are requirements for how the tune up is carried out and minimizing CO is stipulated.

Annual emissions testing is required for units that do not have CEMS. This could go the 3 years if the average of the last 3 years was less than 75% of the prescribed limit. CEMs are required for coal, biomass, and liquid fueled units. The Health Based Compliance Alternative is not in the rule. The preamble includes discussion of health based options and HBCA appears in the preamble. EPA may be willing to consider something on chlorides but not on manganese. Continuous compliance is required. Requirements are specified for fabric filters, ESPs, wet scrubbers, dry scrubbers, carbon injection, and fuel deliveries. There is a fuel compliance option, but the limits are so low that not many fuels will qualify. There is no requirement for an SSM plan. Emissions limits apply throughout startup shutdown, and malfunction. There is a requirement for a "one time" energy assessment. This would be an in-depth assessment of a facility with a 2 year payback being a trigger for implementation.



Concerns include the lack of a health based compliance option. Two additional metals have been added to the total metals definition (cobalt and antimony). The combination limits for coal and biomass units on CO are not achievable. The very low limits on CO for oil and gas units will make these difficult to achieve over the entire load range. The EPA cost estimate is \$9.5 billion. Industry estimates range from \$20 billion - 50 billion. There are a number of data issues including data quality and non detect levels. At this time, we don't know of any units that can meet all of the requirements simultaneously.

Boiler GACT Rule - Maxine Dewbury, The Procter & Gamble Company

Units that are not covered by the major source MACT rules will fall under the Area Source rules. Units that burn any waste are considered to be incinerators. For solid fuel fired unit limits, there are particulate limits on the same order as the major MACT source limits. For new sources, there are limits for mercury on coal of 3 lb/trillion BTU and 2 ppm CO. Biomass units are units that burn any amount of biomass but no coal either alone or in combination with other liquid and gaseous fuels. Units less than 100 MMBTU/hr can use annual stack tests or fuel compliance options rather than CEMS. There are also reporting requirements and record keeping requirements.

Definition of Solid Waste - Rob Kaufmann, Koch Companies Public Sector, LLC

There are some criteria to make a determination of whether or not the material in question to be burned constitutes a fuel or a waste. The first criterion is "traditional fuels". Coal, oil, gas, pet coke, virgin biomass, syngas, and others are traditional fuels. The waste definition hangs on the use of the term "discarded". Secondary materials that remain within the control of the generator are not considered to have been discarded and, hence, are not wastes. These are fuels. Materials that are handled as a valuable commodity can be considered as fuels. Materials that have a meaningful heating value can be considered fuels. There is a proposal to use 5000 BTU/lb as the "bright line guidance. The alternative is cost effective recovery of meaningful energy. A material used like other fuels may be considered as a fuel. There is a petition process for those materials that are still in question. The criteria are that the material has not been discarded and is indistinguishable in all relevant respects from fuel.

Materials that have been discarded can be converted to fuels by meeting the other criteria and "processing" the material to either remove contaminants or improving the fuel characteristics. Materials that should qualify as fuels are clean biomass, clean biofuels, wood product mill residuals, on spec used oil, TDF (with wire removal), and mill residuals. Waste includes whole tires, painted wood, resins and treatments, and materials in waste piles and land fills. All discarded materials would be considered wastes including coal refuse piles.

There is an alternative proposal that would classify any discarded material as a waste regardless of processing. Potential comment areas include the legitimacy criteria, the petition process, the degree of processing, the treatment of secondary materials, and the alternative proposal.

CISWI Rule - Jay Hoffman, Trinity Consultants, Inc.

The waste incinerator rules are not Section 112 rules. The rule comes in under a Section 111 (NSPS) process that falls under Section 129. The applicability comes about like an NSPS, but with an existing source guideline. There are currently 176 CISWI units. Of these 172 units will need to add further



controls. Under the criteria, energy recovery units (i.e. boilers) that burn any solid waste are considered incinerators. There are exclusions for units regulated under other rules. The regulated pollutants are particulate matter, HAPs, CO, NOx, SO2, lead, cadmium, mercury, chlorides, dioxins, and opacity. For most of these materials, the levels are slightly lower than the Boiler MACT, other than CO limits. The opacity limits are at 1 for most units. A monitoring plan is required. More frequent testing is required. Monitoring is more extensive. Revised state plans are due within one year. Potential issues include the need for more subcategories, the use of 112 methodology for 129, data issues, variability, opacity, new unit achievability, SSM, and number of units covered. Units need to be able to move between CISWI and MACT.

Boiler MACT Discussion - John deRuyter, E.I. DuPont de Nemours & Company

In order to effectively comment on the proposed Boiler MACT rule, more data will likely be needed. Members are asked to "contribute" where applicable. Major topic areas include energy assessment authority, fuel quality and variability, 112 vs 129 regulation, SSM (i.e. "malfunctions shouldn't happen"), hot standby, operating limits, PM CEMs, compliance timing, ERT problems, EGU definition, surrogates (TSM), fuel switching, achievability, work practice for dioxin/furan, statistical methods, non detect limits (especially mercury), additional subcategories, work practices for small units, Gas 1 approach, Gas 2 approach, new source MACT floor method, health based alternative, CO CEMs, emissions testing, emissions averaging, tune ups, exemptions, fuel analysis, monitoring, technical errors, notifications, record keeping, liquid fired units, table 1 and 2 emission limits, and alternative standards. For those units that are in the top 12%, the values used, or cited, by EPA should be checked as mistakes have been reported. Suppliers that either have data or guarantee issues should also review these limits for comments.

For the Area Source MACT, there is a similar list of topics. Key issues include work practices, CO limits, variability, additional subcategories, new source limits, exemptions, achievability, averaging times, monitoring, and exemptions. Technical errors also need to be reviewed. Members should be looking at the comment lists to determine where they could provide input. Right now comments are due by August 4th. There are a considerable number of comment areas and help is sorely needed.

Next, Technical Focus Group/Environmental & Energy Committee Meetings

TUESDAY & WEDNESDAY, SEPTEMBER 14-15, 2010

Radisson Hotel Reagan National Airport

2020 Jefferson Davis Highway

Arlington, Virginia 22202

Ph: 703-920-8600 ~~~Fax: 703-920-4033