Fuel Burning Stakeholders Meeting Notes
April 16, 2008, 9:00 AM, Phoenix Auditorium

Sign in sheet – will be used to contact group for future meetings.

Beyond HR comments

Bob Silvestri (PSEG): DEP did not receive negative comments on NOx rates previously proposed. The rates were seen as acceptable/achievable. Isn't that true?
Liz McAuliffe (DEP): There were problems with the 0.1 natural gas number (compared with 0.2 lb/MMBtu). There were fuel diversification issues raised.
Bob: I'm concerned about the SO2 numbers in the recently distributed tables, especially for coal. I understand the distillate numbers going lower. The sulfur numbers with respect to coal are so low you're limiting the supply to Powder River Basin or Indo-coal, and that is a fuel diversification issue. It might be useful to have the limits on a lb/MMBtu basis instead. Also, before RCSA section 22a-174-19a came out, there were no SO2 NAAQS numbers in jeopardy. What is the driver for going after further SO2 reductions?
Liz: PM and Regional Haze are drivers.
Cindy Karlic (NRG): Is that really needed? PM non-attainment concentrates on southern CT. Why are these sulfur numbers state-wide? There's no 1500 ppm no. 6 available, so you're talking about blending this with distillate fuel and that may impact unit operations.
Don DiCristofaro (Blue Sky Environmental): I would like to defend operations of emergency engines on OP-4 Action 12 days. I think there's some confusion between emergency demand response and economic demand response. These engines have only been called into operation three times since 2003. Emergency demand response is also curtailment. 99-100% of generators would drop out of the program if controls are required. Don encourages keeping the emergency exemption (OP4-Action 12). NH just changed its regulations to allow for OP-4 Action 12 exemption. ME does not have such an exemption. VT has a policy for all OP-4 (not just Action 12) sources.
Tom Scelfo (Woodard & Curran): What goal is the Department trying to hit for regulatory development?
Liz: Next spring maybe, but that is very aggressive.
Jack Dunne (Pfizer): Could the explosion slide be put in some sort of matrix? It would be easier to see everything and to plan.
Cindy: The timing is important – dates become important with respect to emission limits. Need information to justify need to management. The gap between 0.12 lb/MMBtu and 0.08 lb/MMBtu becomes critical. Repowering takes 5-6 years instead of 2-3 years.

Technology, where in 5 years
Cindy: PM numbers are the most stringent. For oil-fired units you'd need baghouses and then you could get into major modification permitting issues.
Bob: Unit 3 was impacted by Hg legislation. The changes we're making have cost in excess of 100 million dollars.

Tom Scelfo: The last two cogen applications I worked on were in excess of 100 million dollars. Implementing these numbers would cost billions of dollars. Why does it have to be this way?
Cindy: Our regional president says he was happy he didn't sign the purchase orders for the changes we were contemplating as a result of the earlier proposal, because theregulation never went final. The new numbers being talked about are even lower, so managers will not sign purchase orders unless the regulations are final.
Bob: Installing an SNCR on one of PSEG's units would only achieve a 20% NOx reduction for 15-25 million dollars (keeping the fuel the same). He doesn't know how the unit would achieve 0.08.
Bob Tyler (Cytec): Once the regulation is final, there needs to be an adequate amount of time given for the technology to be implemented.
Jack: For Pfizer, it would be about a 5 year window to go from boilers to oil-fired turbines. It would be a 50-100 million dollar investment.
Scott Smith (Pfizer): The OTC Model Rule had an emissions averaging program built into it. That would be helpful to be able to average on site.
Cindy: That may be a key. Nothing comes off the shelf. You might have a two year waiting period. Steel prices and supply impacts everything so averaging would be helpful.
Lon Solomita (Pratt & Whitney): How do NOx trading orders fit into this? They will be expiring in 2009.
Liz: Bob Girard is aware of that and it is being discussed.
Bob T: If the OTC Model Rule allows averaging, why would the Department not include it? If we're going from boiler technology to turbine technology it will be difficult to do without allowing averaging since turbines are in limited supply.
Liz: The workgroup wants to keep averaging so it is on the table.
Bob S: Does DEP have a sense of how many tons of reductions would have come from implementing the previous proposal? Would that number have achieved the short term goal?
Liz: There was a number Dave Wackter calculated but I'm not sure exactly what it was.
Cindy: It goes back to the high demand day issues because numbers used in the calculation were probably based on an average day instead of a HEDD.
Rick Soucy (GZA): I think we can be creative and go beyond emissions averaging. Maybe we could overcontrol on one pollutant to offset another. There needs to be a lot of flexibility.
Liz: I hear you, but I think that would get a lot of resistance.
Cindy: The recently proposed 42 ppmvd simple cycle turbine number is problematic. To achieve 42 ppmvd would require SCR, and then you're impacting PM. 45 ppmvd is achievable now. SCRs on turbines can cause pressure drop issues and the turbine could blow up. She doesn't know if it could be possible in 5 years. It's 5 million dollars for water injection compared with millions for SCR. There is nothing in between for existing turbines.

<u>How to lean to reach objectives</u>
Bob T: If these regulations require companies to switch boilers to turbines it will probably take longer than 5 years.

Cindy: NRG has been aiming for meeting 0.15 lb/MMBtu. 0.15 lb/MMBtu is a break point. Going to 0.12-0.08 lb/MMBtu is another step. 0.15 is achievable in the short term compared with 0.12. 0.12 is in the 5 year range.
Liz: We'd rather have you think about a big change so you don't have to rip something out soon after you install it.
Cindy: A 0.15 rate might keep a unit going for 2-3 years. A 0.12 rate might cause the units to go away.
Lon: Maybe I'm missing something about the interim/final limits. I'd rather have just the final numbers.
Liz: How much do we lose going with only final numbers?
Bob S: The interim issue might not be a hard and fast number. You still might be able to get some reductions. Hard final numbers may have to include averaging.
Scott: Do you envision a requirement similar to what was in the previously proposed rule about submitting a plan? So you can get ball park reduction figures?
Liz: I don't know what else to do other than submitting a plan. It is a protective measure. We are aware of the fine line of being too invasive. How do you envision it happening?
Scott: As long as companies can choose from several options. Like averaging.
Lon: More flexibility will help. If meeting mid term number, add time to get to final. If going directly to final get less time. We need an identifiable goal – map out DEP needs.
Jack: If the interim target doesn't satisfy any of the "explosions", it won't be worth doing. That's why I think a matrix will help.
Scott: Decision making authority resided with the Commissioner in the previously proposed regulation. If a combination of options could be a part of the plan it would be helpful.
Liz: I think you'll have more flexibility with respect to SEPs and averaging.
Tom: I'm not aware of anything that EPA is requiring for the 2013 SIP.
Liz: Well, we do have a commitment to submit a Section 22 package. The discussion today about switching boilers for turbines was news.
Jack: Once you start investing that money, it tips to generating power and steam as well.

<u>Output beyond 1 lb/MWhr</u>
Tom: You're going to boilers for output based? Electricity is easy to measure. When it comes to steam it would be extremely difficult to measure output.
Jack: It would not be easy and I don't know how you could normalize that.
Bob S: If I'm not making MW, I don't know how startup/shutdown fits in.
Cindy: MA has output-based limits, but for NOx it's a 30 day rolling average. I understand that output-based limits are supposed to address efficiency, but I'm not sure that it gains much because that's already built into the unit operations. Aside from re-tubing no additional efficiencies are to be gotten.
Don: For turbines 1 lb/MWh is quite a bit lower than 42 ppmvd. That's problematic.

<u>Recap</u>
Jack: Going back to the matrix concept, DEP could show us what targets have already been missed.
Liz: We will lay out missed commitments and upcoming commitments for next time.

Bob S: Not knowing the tons reduced by various proposals, it's hard to plan. Going back to compliance plans from the previous proposal, one of the most negative comments was related to energy efficiency requirements.
Jack: It was so undefined because it appeared to be unlimited.
Bob S: Was the previous proposal BACT/RACT or something else? There was no number figure thrown out with respect to cost feasibility. Someone threw out a 5000 dollar/ton number. There is no threshold. Who decides? The dollar driver was problematic too. As I said with respect to Section 185 fees at last week's SIPRAC meeting, I don't like contributing to funds or paying fees. You could take the money going into a fund or for a fee and install controls at your facility instead. Then after all is said and done, the prices get passed onto the ratepayers.
Liz: The number I've heard lately is 8000 dollars.
Cindy: MA had two different compliance dates. A fuel switch was an early compliance date. If sources were installing controls, they would get a later compliance date. And everyone ended up installing controls.
Bob S: We still need to be concerned about fuel diversification. Everyone is moving to gas. We don't want all of our eggs in one basket.
Cindy: And that's what would happen with the PM numbers being talked about.
Scott: Financial incentives that DPUC offers might be something to think about. It might be useful to get them involved. Any financial incentives would help.
Tom: People are thrilled about these meetings at the start of the process. Maybe you won't get as many comments. But maybe you will.

Next meetings: May 14, June 18. Goal for next meeting: Discussion of later numbers and time frames to achieve them. Liz will put together a planning matrix.
Bob T: Some discussion of demonstrations needed to meet EPA requirements would be helpful.
Bob S: Don't overlook our comments on sulfur and PM today.
Wendy/Susan: Compile notes to send out to group.

Adjourn 10:20