Clean Air Act Advisory Committee
November 16th, 2011
Crowne Plaza Old Town Alexandria
Alexandria, VA

Subcommittee on Permits, NSR, and Toxics

Opening Remarks

Bill Harnett, workgroup chair and associate director for the Office of Air Quality Planning and Standards (OAQPS) of the United States Environmental Protection Agency (USEPA), opened the meeting by welcoming everyone.

Mr. Harnett started by informing the Subcommittee of the issues he would talk about, which are current and ongoing, and that he would be giving an opportunity to comment after different segments. Mr. Harnett said he would talk about the National Ambient Air Quality Standards (NAAQS), where they stand, and the implementation of them. Ozone and particulate matter would be addressed the following day by Janet McCabe. John Paul would talk about Greenhouse Gas (GHG) permitting, and then Mr. Harnett said he would give updates on things that have to be done on the rulemaking side, as well as the study on biomass, which is up for review.

Next, the Maximum Achievable Control Technology (MACT) standards would be discussed, along with other standards. Each standard would be discussed and then comments would be taken after each one.

Everyone went around the room and introduced themselves by stating their name and what organization they are associated with.

Mr. Harnett began by talking about the next review schedule and what implementation issues are coming up that are associated with guidance for SO_2, NO_2, lead, carbon monoxide, as well as their secondary standards. He continued that ozone and particulate matter would be covered tomorrow morning. The Agency is working on the Indian country designation policy, which would also be discussed. Part of the process of dealing with so many different ambient air quality standards and designations was realizing that there are not specific policies on each issue.

Next, regional haze implementation would be discussed. This is programmed to protect the visibility in national parks and wilderness areas. John Paul would then talk about GHG permitting, and following that the MACT National Emission Standards for Hazardous Air Pollutants (NESHAPS) new source performance standards would be discussed. Then, Mr. Harnett would finish with the national air emissions measurement study on KFO operations, or animal feeding operations, and give some background as to where that process stands. This study has been going on for a few years and is heading to some critical points.

Pam Giblin, Baker Botts L.L.P., had an initial general question. She asked Mr. Harnett to discuss if there are plans to develop a secondary standard for other pollutants, since there are secondary standards for only one of the NAAQS's.

Mr. Harnett replied that, generally speaking, there are secondary standards for all of them, but they are set equal. He stated that he would talk about them a little as he talked about SO_2 and NO_2 because that's where it's actually coming out right now.

He continued, stating that the schedule shows the proposal and final upcoming dates for different ambient air qualities standards, which are to be reviewed every five years. For particulate matter the USEPA is actually behind the five year review schedule. There is intent to sue over that issue because it was supposed to be done by end of September of 2011 but currently it is to be determined. The administrator announced recently in letters to Congressional representatives that it was her intent to recommend not changing the particulate matter 10 (PM10) standard in current form and level, when she did move forward sending it to the Office of Management and Budget (OMB). It did not speak to the PM2.5 standard. There was a lot of question from agriculture about that standard, and she felt the need to put out a letter to express her intent.

Mr. Harnett continued that the only court ordered schedules right now are for NO_2 and SO_2 secondary standards. Those were behind schedule and are now on a schedule to have a proposed answer in July, to be completed in March of 2012.

The rest of the dates shown are estimated, based on timing of the last review. These dates show the approximate timing for the five year review. Ozone is reflective of what Janet will be talking about tomorrow, with the latest information about when the review will be out.

He then showed a laid out schedule for lead and other pollutants. There are recently completed reviews for some standards and dates are shown for the next review, which are already beginning within the office of research and development. This includes a collection of studies, updating information, and beginning the process internally. Also, it will go through the Clean Air Scientific Advisory Committee.

Mr. Harnett continued that if there were no broad questions on the schedules he would go into each one individually.

Mr. Harnett began to discuss implementation milestones. The PowerPoint slide shows what happened after the NAAQS were set, the steps that states will be doing, what steps are done by USEPA, and it also gives a flow of what's going to happen, from the data promulgation on. For example, the 2006 PM2.5 standard was promulgated in September of 2006. Designations were effective December of 2008, and because they were done in September of 2006, there was a three year period for State Implementation Plans (SIPs) to be submitted to show there was legal authority to implement the NAAQS. The SIPS were due in September of 2009. They are now, as some are aware, being checked by more outside parties to ensure that states have met legal obligations to come in with the infrastructure SIPS and show they have everything in place. The Agency is getting watched on those schedules more than ever, as are states.

Attainment demonstrations are due three years after the designations, which is December of 2012 for PM 2.5, and that change is effectively only to lowering the twenty-four hour standard. Non-

attainment areas for the twenty-four hour standard need to come in with attainment demonstrations by 2012, and they have to show how they will attain by either 2014 or 2018.

There are two categories to end up in for particulate matter, which are moderate and serious. If extra time is taken to reach attainment, more measures must be committed to. This is similar to the way the ozone system works, where additional time always means additional measures.

Next, Mr. Harnett moved on to lead NAAQS implementation. The standard was promulgated in October of 2008 and there was an order of magnitude drop in the level of the standard. Designations were effective as of December of 2010, and the next batch will be December 2011. The second group consists of new monitors. 110 SIPS are due in October of 2011 that the state has just passed, and again, this includes the infrastructure to be able to implement it.

Attainment demos for the areas that have been named as non-attainment are 2012 and 2013. This is when the states' plans for how they'll bring areas that are not in attainment to attainment will come in.

And again, the attainment dates for overall is 2015 or 2016. The reason for two dates is that some of them won't be designated until December of 2011, so they have five years from the date of designation.

Mr. Harnett stated that he wouldn't go through the rest of them. The basic schedule of actions that have occurred are shown, along with the significant steps done by the state agencies for the adoption of the 110 SIP in order to implement it overall. Eventually the attainment demonstration for non-attainment areas will be done, if they have it, followed by actually achieving by the date.

Mr. Harnett then started to discuss the designations of pollutants. Some, like lead, are single source issues and there isn't really as much of a debate. With ozone and particulate matter, especially PM 2.5, every source contributing to a violation is encompassed because each area's contributions are looked at separately. For the purposes of new source review, layer offsets are required in the areas that are impacting the monitors.

It's a bigger issue in urban areas. Issues could come up with unique secondary standards, especially looking at NO_2 and SO_2. The purpose it to protect water bodies from impacts and to look at what areas are impacting a particular water body with NO_2 and SO_2. It could be an interesting geography issue because a lot of the deposits aren't arriving from right next door. It could have raised a lot of significant issues.

Mr. Harnett continued that there is no specific schedule for particulate matter. For Ozone, the 2008 standards are being implemented right now. A review schedule should be done in July 2014, and it will show, assuming everything stays on track, the schedule for getting to compliance.

For ozone areas, states are allowed up to 20 years to come into attainment, and they can voluntarily take a designation. Parts of California usually do request this. For extreme area that get the full 20 years, there are consequences such as offsets and other issues. This gets them on a practical planning cycle for what they will actually be able to do.

Mr. Harnett went on to talk about other areas that aren't extreme, which generally start out as moderate from USEPA's grouping. They kick up if they are unable to achieve attainment six years after designation. After that they go up to serious, severe, and eventually extreme. If they keep having trouble, it elevates the requirements as the time frame gets longer. When this happens the cut-offs for new source review in the area drop, the offset ratios increase, and it's a more complex system of mandatory requirements, though it does have more flexibility than other pollutants for allowing extra time.

Eric Svenson, PSEG Services Corporation, asked about how the new standards, including the 2008 or future standard, intertwine into section 185. Does it affect the applicability of section 185 fees, or are the one hour and pard 97 still applicable?

Mr. Harnett answered that, though he was lacking a lawyer present, he doesn't believe the Agency has spoken to the issue because they haven't faced it for any of the other ozone standards yet. The courts have interpreted that, even though an eight hour standard was adopted shortly after, the one hour standard must be achieved because it has been codified by Congress. The Agency couldn't change it. Mr. Harnett stated he would need assistance from the council's office to talk about where some of the measures fall out.

Mr. Svenson had one follow-up question. The ninety act actually has specific laid-out criteria for the one hour standard and why anything above that number is extreme. What are the criteria for those designations, in terms of re-designating things to be serious, severe, moderate, or serious, severe, extreme?

Mr. Harnett answered, saying that what they've done is look at and take comments on different criteria. One approach was to follow Congress, which used a percentage difference in the numbers to kick-in different categories. When using a percentage, most areas tend to fall in the moderate category. If areas felt the standard wasn't practical for them to achieve in six years and they wanted a longer planning cycle they could voluntarily request to be bumped up to a higher classification. The other option was to try to spread out and recognize differences in the severity of the problems. It was practical to say that Los Angeles needed twenty years, but not everybody did. There was a large spread with Houston, LA, and other extreme areas, while other cities like Cincinnati were down in the lower category of moderate. Usually people start using the percentage, but it's something USEPA takes comment on with every standard.

Mr. Harnett continued, stating that the USEPA has to put out an implementation rule for ozone to explain how cut points will be made and what criteria will be used. From the court's point of view there is no clear right or wrong on how to do the classification. It was not clear how congress intended us to move forward with future standards, so it comes down to whether it looks like reasonable judgment on the part of the Agency.

The ozone transport area is treated differently under the act and by the ninety amendments and it has its own sets of requirements. Whole states are treated as non-attainment so it's in a different category than every other kind of non-attainment area.

Don Neal, Calpine Corporation, asked Mr. Harnett to explain how the schedule for current review of the ozone standard and the 2.5 standard would integrate with the cross-state air pollution law re-modeling.

Mr. Harnett responded that the cross-state rule was on the basis of the ozone standard being adopted in 2008, and on the basis of the current PM standards that were in place in 2006. The reduction will come in time for areas that attain by 2014-2019 for the PM side of it, in the Eastern Area. For ozone, looking at schedule for moderate areas, a lot of the downwind areas are more in the moderate range, so looking at 2016 time frames for reductions.

Mr. Neal replied that Gina had discussed in a prior meeting that the model system for the Cross State Air Pollution Rule (Casper) would go beyond the current Casper rule. Presumably when the PM 2.5 or the ozone NAAQS is dropped, there will be a need for reduced interstate transport. Assuming the state would have to put together a SIP to achieve certain reductions, wouldn't they like to know what Casper will do for them in terms of trying to create that strategy?

Mr. Harnett responded that Gina spoke when a new structure for the ozone standard was being considered, and she was envisioning that if it were to be tightened there would be a need for reductions in the Eastern U.S. Analysis would still have to be done and defended. There is no proposal on particulate matter, but the standards would have to go through that process.

Mr. Neal replied that it would go up.

Mr. Harnett responded that the Agency would go through the scientific process and would take public comments, set standards as appropriate, and would seriously consider the ranges coming from the Clean Air Science Advisory Council because those are the guiding principles followed. While there are some recommendations from them, the administrator has not put out a proposal on particulate matter yet.

Robert Kaufmann, Koch Companies Public Sector, LLC, (KCPS) then asked a question about the SO_2 NAAQS, in particular the SIP deadline. Under the guidance out for comment there would be a lot of unclassifiable areas. States will have to model sources for 100 tons or more of SO_2 and determine if they attribute to non-attainment in these areas. Mr. Kaufmann then asked when the SIP is due and if control measures to deal with non-attainment are mandatory.

Mr. Harnett replied that what is being proposed is a first set of designations that will be based on the monitors in July of 2012. This includes the existing set of monitors where violations are seen. The second set will look in places without a monitor, which are in the unclassifiable category. In 2013, states will have a submittal of the 100 infrastructures to show how they will attain and maintain the NAAQS with their programs. States will have to deal with issues on modeling significant sources and show that they don't have existing violations.

Mr. Kaufmann asked if states do have violations in place, would they need to have control measures in the 2013 SIP.

Mr. Harnett replied that no, that would lead to the area being designated. In other words, the area would have to get classified as non-attainment and then the deadline would kick in from the classification of being non-attainment. Controls would be necessary to avoid designation.

Mr. Kaufmann replied that, backing up, the states would have to do a lot of modeling in early 2012 to be able to generate a SIP on schedule.

Mr. Harnett responded that the Agency has had discussion with states about this, and yes, they would have to do a level of modeling from unclassifiable to meet the requirement for the 110 SIPs.

John Paul, Regional Air Pollution and Control Agency (RAPCA) – Dayton, Ohio, then stated that if a model shows a problem, the state would have to be on the same schedule as if they had originally been designated.

Joy Weicks, Fond du Lac Band of Lake Superior Chippewa, asked if every area would eventually be classified as attainment or non-attainment, or if some areas would be left as unclassifiable.

Mr. Harnett responded that a lot of areas are normally classified as attainment or unclassifiable if there are no monitors showing problems or there is no reason to suspect issues in that county. The monitor networks are designed with the intent of finding where there may be problems. Regions annually certify the monitoring networks in states for all pollutants as being adequate to demonstrate compliance with the NAAQS, to find problems, or to find attainment. Monitors are strategically located to try to find problems.

He continued that with SO2, even if it is known that there is a large source causing problems with the one hour standard, depending on meteorological conditions, the high concentration point around a source can move. It is not easy to look at a monitor and say no violation occurred. For this reason, the Agency is looking more at whether there are high concentrations or if there is an expected violation of NAAQS, and if so, what needs to be done to address it.

Mr. Paul asked Mr. Harnett to point out when the comment deadline is because it's close.

Mr. Harnett replied that a new one hour standard was set, which was the seventy-five parts per billion SO_2 standard. It was promulgated in June of 2010, and was based on health studies showing that exposures to short-term concentrations of SO_2, as short as five minutes, can lead to health effects, hospitalization, and emergency room visits. Currently a one hour period is most appropriate, but as short as a five minute period for setting an ambient air quality standard could be appropriate in the future. Using a tight one hour number provides protection from high concentrations of SO_2. This new standard has raised the issue of whether or not the monitoring network could adequately predict where non-attainment is.

Mr. Harnett explained that there are a lot of counties in the United States that do not have monitors (indicated in white on the map), and so a tight one hour standard could show problematic large SO_2 sources. However, the alternative of trying to fund a monitoring network around all of these areas is very expensive. He went on to explain that on the implementation side, they are addressing the challenge of finding the non-attainment areas and the difficulty of ensuring sufficient monitoring. The agency put out draft guidance, and comments on it are being accepted until the end of November/ early December. The proposed approach is to move forward on the 59 areas with violating monitors now, while using modeling information and accounting for reductions from major rules (for example CASPER rule or the Utility Rule in the east could be factored in) by 2017. In 2012 they will designate areas that currently have violations at the monitors, and then the infrastructure plans for all areas are due in 2013. Additionally, for areas that are not classified as non-attainment, the agency is recommending that modeling be used for

significant sources of SO_2. Submittals will be deemed incomplete if they fail to include this, for all states. He explained that once they determine how to classify based on these submittals, then they will be on the same attainment schedule for all areas, meaning that 2017 will be the attainment date based on the original designations. They will start off by designating the areas without monitoring as unclassifiable, and will change some of them based on what comes in on the 110 SIPS before moving on to controls. The guidance he described is available, and lays out the generic approach that states will have to follow. They are expecting to receive insignificant comments on this guidance, then will finalized it, and move forward on the designations for 2012.

Pam Giblin, asked a question in regard to the issue of modeling versus monitoring. She views modeling as a perfect tool to utilize when trying to predict something that has not been built, such as whether a proposed facility will contribute to exceeding the NAAQS. Monitoring, on the other hand, has traditionally been the way to determine if something is actually occurring. Ms. Giblin wanted to know if a county that did not have monitors, was deemed a nonattainment area by models, would they have the option to put up monitors in an effort to trump the modeling? Or does the model give the final determination?

Mr. Harnett replied that they have not closed on an answer because the comment period is still active, but believes the current approach makes it possible for monitoring to be used to indicate something down the road. He said that the first step will be the designation on the basis of the modeling, since there have not been many standards that were of such a short term and such a low number to lead them to expect issues. From looking across a year's worth of data, they have seen that the high concentration around a source will move, so monitoring is ineffective when dealing with short term, low concentrations. Modeling is the best tool when trying to determine attainment or non attainment in the short terms. He explained why this approach is necessary by using SO_2 as an example.

Howard Feldman, American Petroleum Institute (API), said that he was going to approach this topic from the standpoint of a meteorologist who has spent many years working with modeling approaches. He argued that the models tend to be inaccurate over the short term, and even the most recent ones have unacceptable uncertainty bounds. The predictions do not accurately compare to actual monitored data.

Mr. Harnett asked Mr. Feldman if there were some level of uncertainty that could be accounted for, that would make designating an area attainment or nonattainment acceptable.

Mr. Feldman replied this point can be established, but that industries and some states have raised the issue and are sensitive to how modeling is being used.

Mr. Harnett responded that it would be helpful to the agency if Mr. Feldman could provide information on this topic during the comment period.

John Paul, said that he would love to hear the different stake holder perspectives on this issue. He asked if the agency would find it useful for the subcommittee to have a discussion about this topic, during which they could present their opinions and questions could be addressed directly.

Should the subcommittee discuss issues that are open for public comment, and should USEPA be present for these discussions? Mr. Paul asked Mr. Feldman directly if he would be willing to come to the subcommittee meetings and present API's comments on selected issues, saying that this would be the type of discussion he would find most interesting.

Don Neal agreed that dealing with current issues that are out for public comment is valuable for the committee to do, and would provide insight to USEPA. Historically, Calpine has been able to share the things they have been doing, particularly on the GHG side, and he feels that enabling members to do this also provides great value. He asked if USEPA knows the accuracy of their models, and has figured out their sensitivity, and wondered if a discussion about modeling could be had based on this data.

Mr. Harnett responded that the agency has done testing for all the models for the different pollutants. Each new version of a model is evaluated by a workgroup, which is made up of external modelers from state and local agencies, the private sector, and other organizations. Further, USEPA's Office of Research and Development (ORD) takes them through that process as they develop new models.

Mr. Neal asked if it would be possible to have a representative from the modeling workgroup address the committee. Since USEPA is doing more with models, it may be a good topic for the entire Clean Air Act Advisory Committee (CAAAC).

Mr. Harnett said that he would take it back to the agency for consideration, and see if the timeline they are on will allow for it. The next meeting of the CAAAC could include a presentation on the different models they have, where they fit into the system, and the ways they use them. This presentation could include information about the more complex air quality models, as well as the single source models.

Rob Kaufmann spoke about his coalition, National Environmental Development Association (NEDA)'s clean air project. NEDA met with Chet Waylin, Tyler Fox, and the modeling group to discuss industry stakeholders' concerns about modeling, not only from the State Implementation Plan for National Ambient Air Quality Standards side, but also for Prevention of Significant Deterioration (PSD) purposes. He explained that a lot of the projects NEDA members have in the queue are going to trigger PSD, and then will require that NAAQS attainment be modeled. They are having enormous difficulties with this due to the stringencies and form of the new standards. When they presented this to members of USEPA, they said they understand their point of view and would like to work with them, but were hearing a slightly different story from the states. This led to an agreement that they would form a workgroup that included industry modelers, state modelers, regional office modelers, as well as Tyler Fox and Chet Waylin, that would be able to have an off the record, casual conversation to identify issues to present at the March modeling workshop.

Mr. Harnett asked if Mr. Kaufmann had touched base with the National Association of Clean Air Agencies (NACAA) about their state and local modelers.

Mr. Kaufmann replied that initially people with strong relationships to modelers in the states had recommended to USEPA which modelers should be part of the group. As a follow up, USEPA was going to reach out to Mr. Becker and NACAA about other recommendations and decisions about which states would be involved.

Ms. Giblin agreed with Mr. Paul's point that overarching issues that cut across a lot of different areas deserve to be addressed by the workgroup. There is a difference of opinion about how modeling is being used in attainment and nonattainment designations, and she stressed the need to have confidence that all sides of the issue are understood, even if consensus is not reachable.

Pat Childers, Office of Air and Radiation, asked to clarify if they were suggesting that these discussions take place during the workgroup or during the full CAAAC. It seems like it would be valuable to have the discussion during the workgroup, and then present it during the report out to the full CAAAC.

Ms. Giblin suggested that they start by discussing it as a subcommittee and reporting out to the full committee, and then allow everyone with interest to join in on the discussion in some capacity.

Gary Jones, Printing Industries of America Graphic Arts Technical Foundation, agreed with Ms. Giblin.

Bill Becker, National Association of Clean Air Agencies (NACAA), agreed with the point made by Mr. Paul, and presented a solution to the modeling issue. While everyone would prefer there being sufficient monitors available to rely on monitoring, it is not feasible for congress to provide the money required to create the robust network of monitors to allow for this. Mr. Becker asked if industry would find it beneficial to collectively come up with 100 million dollars, give it to a third party, and allow this party to distribute it to state and local agencies in order for them to create these robust monitoring networks. He argued that by alleviating the burden of relying on federal grants, they would be able to avoid relying on modeling down the line to dictate what designations areas received, and what control equipment needed is required. Developing the monitoring network they need could be a very cost effective expenditure down the line. As long as the third party system is established, so that industry is not "buying" the monitor in its area, Mr. Becker feels this could be a very beneficial thing.

Phillip Wakelyn, National Cotton Council, asked if USEPA has a measurement for how accurate the models are. Several years ago, Dr. Wakelyn had a chance to spend time with modelers and learned that there was a tremendous amount of uncertainty with the models. While he imagines the research has gotten better since, he was curious about whether the data has been published and peer reviewed, and if it is being considered in how non-attainment is determined. He stressed the importance of using good science in the uncertainty ranges of the model's determination of non-attainment.

Mr. Harnett responded that the models have been greatly improved since the visit Dr. Wakelyn referenced, but that they still have uncertainty around them and probably always will. He said that the method of factoring in models has been lain out in the guidance for the implementation

of new standards, as it relates to the modeling for PSD. Also he talked about how the models were adjusted and scrutinized by the modeling community, and said that he would find out more information about this process to bring back to the subcommittee.

Dr. Wakelyn used an example of a cotton gin in New Mexico that they wanted to get permitting for, where modeling showed a value four times that of monitoring. Though models are based on the best available information, there is a tremendous amount of uncertainty. That uncertainty should be factored into how non attainment vs. attainment determinations are being made and implemented; otherwise it makes no sense in science.

Vince Hellwig, Michigan Department of Environmental Quality (MDEQ), supported Mr. Paul's comment that issues undergoing public comment should be brought to the subcommittee. He also spoke about a staffer of his who is a state representative on the modeling committee, who has reported that there is no consensus of opinion between members. The states are concerned that the modeling approach may not be accurate for attainment areas that are short of monitoring.

Mr. Feldman also agreed with Mr. Paul that a discussion that included subject matter experts would be really beneficial. In response to Mr. Becker's proposal, Mr. Feldman asked whether USEPA preferred using modeling data. He suggested that they define how dense a modeling network would need to be around a source to make the data sufficient for permitting, and how dense it would have to be in a county for designation. If this type of guidance existed, industry members would be able to make a decision about whether it was worth funding such an effort.

Mr. Becker asked if it would be in the industries interest to fund a robust modeling network, if there were an agreed upon number that would constitute a fair and expansive monitoring network. He reemphasized the importance of keeping this funding process independent.

Mr. Feldman responded that they could only determine if it would be in their best interest, if they could determine whether the investment was worth it. This would require knowing the number of monitors per county that would allow them to rely on the monitoring data. He suggested that this could also be done on a localized basis.

Mr. Harnett clarified that one monitor per county is not currently required for any of the pollutants, rather the requirement depends on the nature of what they expect to find. He used SO_2 as an example, and said that the question becomes is there a monitor present, and is it where SO_2 would be expected to be present. The issue for western counties stems from the fact that they are so large, there could be two large SO_2 sources that exist at opposite ends of the county, which may require more than one monitor for detection. There are also the ubiquitous pollutants such as PM 2.5 or ozone, where the point of high concentration is less important than how far they spread across an urban area. The question of determining what is a sufficient monitoring network depends on the type of pollutant and the size of the county. He said that once a network is established, they do certify that the data is sufficient to make determinations based off of.

Joy Wiecks, Fond du Lac Band of Superior Chippewa, said that the issue of modeling versus monitoring has come up a lot among region 5 tribes as they have been expected to make their

designations. Tribes neither have the money for monitors, nor the expertise for modeling. She said that they will need guidance in order to comply with requirements.

Susana Hildebrand, Texas Commission on Environmental Quality (TCEQ), expressed her issues with industry sponsored modeling, arguing that USEPA needs to define what adequate before any investments are made. She was under the impression that monitoring had been deemed insufficient up until this point, and that modeling was always required. In addition to establishing this standard for attainment designations, she would like to see if there is a mechanism that will allow monitoring in lieu of modeling when developing FIP plans, and suggested that this could be done via a pilot program with a state and a strong industry.

Mr. Harnett said that up until this particular standard, the agency has certified that networks are sufficient to comply with the NAAQS, except during the permitting process for certain pollutants. It is only the particular one hour standard featured in their discussion that they are mandating modeling be used for, since the monitoring system was deemed inadequate.

Mr. Svenson brought the conversation back to Mr. Becker's suggestion, and argued that it is in everyone's best interest to have the best possible monitoring network. He asked if there could be an enforcement policy that allowed funds raised from certain fines be earmarked for enhancing the monitoring network in the state or locale where the violation occurred.

Mr. Harnett said he would take that suggestion back to the enforcement side, as they would want to be part of any resulting conversation.

Mr. Paul said that one of the real strengths of NACAA is that they hold committee calls every month, and that one of these committees focuses on criteria pollutants. On one particular call, which had over 100 participants, Minnesota raised an issue about a certain source and a specific monitoring network relating to that source. For this source, the monitors showed attainment and the modeling showed non-attainment. His concern was that at this meeting a question had been raised about how many monitors would be sufficient to outweigh the results of modeling, and a member of USEPA had responded that even if 100 monitors showed an area to be attainment, yet the model shows non-attainment, the model will always trump the monitors. If all members of this subcommittee prefer monitoring, we need to have assurance in the results of the monitors.

Mr. Harnett said that he could not respond to this sufficiently but would take it back to the agency. He then moved on to NO_2 NAAQS, saying that there is a one hour standard of 100 parts per billion, in addition to keeping the annual level. To determine the compliance, they made some changes to the NO_2 monitoring network by putting out near road monitors, which look for points of high concentration and peak short term concentration where the current system is not addressing them adequately. The highest concentration that is coming over our wider community areas is what they hope to accomplish, and so they have partnered with the states to work on this network in the timeframe of 2014. He reported that no violating monitors have been showing up under the current system, so no non-attainment areas are expected to be designated initially. Guidance is available on the modeling side about PSD permits and the one hour calculations.

Next he spoke about the secondary standard. Nitrogen and sulfur move through ecosystems, causing eutrophication and acidification. The secondary standards of nitrogen and sulfur were being lumped together because of their joint effects on water, whether it was for their acidification from both, or eutrophication from the nitrogen side of things. They wanted to examine how best to derive the environmental effects with the secondary standard, and wanted to provide one that would also address the ecological issues with a focus on protecting the aquatic ecosystems. Recently, a proposal was made to revise the NO_2 / SO_2 standards by establishing secondary standards that are equal to the primary standards. Mr. Harnett said that this was difficult, as there were a great deal of complexities and uncertainties of how to get to multi-pollutant, secondary standard that protects ecosystems and were not ready to get into the regulatory structures. Additional research will be done in this area prior to the next review, which will focus on how some kind of standard can be brought together. At this time, a proposal to set the secondary standards is out for comment, and final decisions will be made on this in March of 2012.

Mr. Paul reminded the subcommittee that there have not been secondary standards that were more stringent from the primary ones for a long time, but with this non-attainment for a secondary standard means non-attainment. All the new source review requirements for non-attainment areas will apply if the area is non-attainment for a secondary standard.

(AMY LEAD)
Ms. Giblin had a general comment about a trend she has seen on notice of new standards. It would help stakeholders to consider doing it differently. The lead NAAQS is a perfect example. It had not been touched since 1972, so prior administrations hadn't done their five year review. The proposal said it may be eliminated as an anachronism or it may go to one molecule above zero. Then the final rule came out, and it was closer to that latter end. It was a restrictive standard. It would help if the proposal said "Here is what we are proposing, here's why, and here's the effect it's going to have." If people don't see the thinking until the final rule comes out it makes it difficult. It would help stakeholders to have more specificity about the thinking and where USEPA is going.

Mr. Harnett responded that the Agency tries to do all of the above with the case act review. The USEPA is very public about the different effects that were showing up and the proposal got to one of the cores of problem with two real issues. The first is that a lot of the large stationary sources don't exist anymore. Exposures are happening from residual concentrations of lead and they are showing up in the monitors. There are real exposures happening but not from the original sources. Comments were taken on these issues. There was proper notice and the rationale was given. The way the health effects were laid out in the case act and the way the nature of the changing issue was laid out in the proposal was the best it could have been done for something so complex. With each standard there is a lot of complex information from the science side, the source side, and the implications side. It is hard to communicate it all to everybody. The information is there but it takes lots of time to go through the deep record.

Mr. Harnett then moved on to carbon monoxide. The final decision to retain the existing standards is August 12th. Co-locating of CO monitors next to roadside NO_2 monitors is being considered because mobile sources are a significant contributor. There have been estimates of

where these monitors would be placed, and states may request alternative locations to be used. Local input will be taken.

One issue with ozone particulate matter is figuring out how the Agency can give proper consultation to tribes whose lands are affected by ambient air quality prior to making decisions. Currently, the Agency is working with tribes now on how to designate areas separately from adjacent areas. In the past they were lumped into non-attainment areas and treated separately with their own management plan. Some could be looking to go into managing their own programs and participating at the state and local planning process. Acknowledging their area separately, as part of a larger whole, would give them the rights to do this.

Mr. Harnett continued that the key point is to encourage the states and tribes to coordinate and work together. This will be encouraged in the policy. The Agency realizes that it would have to provide some technical resources to the tribes because some don't have the ability to do the analysis themselves. Where it is designated separately it will be independently evaluated for re-designation to attainment and will be held to the same accountability. If it is part of a bigger geographic area there might be a source causing issues, especially for one hour standards. With broader issues like ozone and PM it is really important that the state and tribe work together and get whole area into attainment.

Ms. Weicks asked where tribes would get the technical resources from and used SO_2 as an example. Tribes were told to do their own modeling or to take what state has. She continued, saying that she was not clear on what happens when a reservation is in non-attainment due to a source off the reservation.

Mr. Harnett said he would check into the resource issue. He continued that if a tribe is being treated as a separate entity they would have rights under section 126 of the act. If another area is causing pollution to a reservation they can petition to get the Agency to take action to bring them into compliance.

Ms. Weicks continued that there is a source three miles off the reservation that could cause a problem with SO_2. They were told to take care of it themselves with modeling or to see what the state had.

Mr. Harnett responded that he would check in to the resource side. A state has already taken action against a state and asked the USEPA to rectify the problem. The state did technical prior, and then the USEPA confirms it after they have the petition. He concluded that he would get back to her on that.

Jason Walker, Northwestern Band of Shoshone Nation, began with an example from region eight, where there is a tribal monitor on the reservation. Is the whole county in danger of non-attainment for ozone even though there is no industry on the reservation? Also, back to another point Mr. Harnett made, some states and tribes do get along, however, some do not. Some smoothing and technical assistance is needed with that. Everyone needs to work it out to go forward and address pollution issues on reservations.

Mr. Harnett responded by saying that when measuring non-attainment, even without sources, the area is usually designated so the people know their health may be impacted. That does not mean the area is expected to solve the problem by itself. The differentiation of health warnings are

looked at and people are told that the area is in violation. It is the USEPA's responsibility to get involved in that kind of situation and negotiate through the problems. This is the same thing the USEPA does when two states are disagreeing. It would be normal for the USEPA to push on the state causing the problem.

Mr. Harnett then stated that the NAAQS discussion was done, and began to discuss Regional haze SIPS on visibility. The Agency is still on the first phase, and it has best available retrofit technology for a one-time only look per source. Once this is completed, all plans will be about making progress to protect and preserve the National Parks and wilderness areas.

Complaints were filed that the process was not moving fast enough. The SIPS were required in 2008 and had not come in, or had failed to require the amount of controls in the SIPS. Now, the Agency is doing federal implementation plans as a result of this. Also, it is proposed to do best available retrofit technology in states where proper decisions have not been made. The Agency has said that the transport rule can be used to satisfy Best Available Retrofit Technology (BART) for certain sources. The proposal is expected to be out in December, with the final in May.

Mr. Harnett then moved into other upcoming requirements. These were all due in 2008 and there is a progress review required five years later in 2013. In 2018 it goes back to a full revision of the ten year plans. The original rule envisioned a sixty year period so there are six ten year plans to reduce pollution to natural background levels. The next plan cycle would be in 2018, and that would be a fuller review. The progress review looks at whether or not progress is made and whether adjustments are needed.

Mr. Kaufmann stated that he was very involved with haze regional planning organizations (RPOs) during the development of the haze SIPs. Funding for RPOS has dried up significantly. For the 2013 progress review, is USEPA envisioning beefing up funding for RPOs or is USEPA itself going to do modeling?

Mr. Harnett responded that he is out of touch with that issue so he would not try to answer.

Lori Schmidt, USEPA, Office of Policy Analysis and Review (OPAR), added that there would be an RPO discussion tomorrow.

Gary Jones had a general question. As the NAAQS standards are coming down, how is the impact of foreign transport being taken into account with respect to how USEPA will address that with the states' attainment abilities.

Mr. Harnett responded that beginning in 1979 the U.S. has been a party to agreement under the UN economic commission for Europe. It has evolved over time, and it deals with reductions in NO_2, SO_2, volatile organic compounds (VOC), and ozone. A new round of requirements is currently being negotiated. The parties to that particular protocol are all in the northern hemisphere. They are all parties to agreement and part of negotiation on VOC's and NOX. Under the last protocol on ozone in 1998, a technical body was formed to look at the hemispheric transport of air pollution.

In a lot of the different countries there are predominantly rural monitors. These are not being affected by local or close pollution sources. The group has come out with a report identifying the types of transport happening across the hemisphere. Also, National Aeronautics and Space

Administration (NASA) and National Oceanic and Atmospheric Administration (NOAA) have worked together, looking at U.S. transport of ozone across the Eastern Seaboard when it leaves Maine. NOAA is also doing studies off the west coast across from Asia. The Agency has separate programs with China which are pushing them on air issues. A rising contribution to ozone has been seen, for example, not seeing peak values at the time when the U.S. is having a peak. The Agency is trying to address it bilaterally and will continue to do so. That could be a topic presented at one of the hemispheric task force meetings. Terry Keating has been co-chair from the beginning. Mr. Harnett continued that there was a separate U.S. study done by U.S. scientists on this issue.

Methane, because of its long lasting nature, is the unaddressed pollutant in this mix. It does react and help form background ozone over a long period of time. It can be a factor, and most regulatory programs do not include this.

Mr. Neal asked whether states or individual sources can use the transport rule to satisfy BART for certain sources.

Mr. Harnett responded that it's a question of whether an equivalence of what would have been accomplished with BART is accomplished.

Mr. Harnett continued that the red states on the presentation slide are where there is a Federal Implementation Plan (FIP) or SIP right now, while the green states have submitted their SIPS for regional haze. The yellow ones have not submitted a SIP yet and the USEPA has not yet proposed a FIP yet. California and Delaware have final SIPs. Also, USEPA has them from the tribal areas. Some of the BART decisions from different states are currently being questioned, principally for nitrogen oxides best available retrofit technology.
(Paula LEAD)

Next, Mr. Harnett spoke about the status of the regional haze program. On a map of the continental United States, he pointed out that the states shaded in red indicated a proposed SIP or FIP is going on now, while the green shaded states have final SIPs submitted for regional haze, and the yellow means that no SIPs have been submitted nor FIPs proposed. Only California and Delaware have final SIPs. Tribal areas with FIPs were indicated on the map with different colored stars. He said that the agency is making BART decisions for most of the tribal areas, and questioning the BART decisions in different states, principally for nitrogen oxide. There were no comments or questions from the subcommittee, so Mr. Harnett passed it over to Mr. Paul to present.

Mr. Paul presented about Best Available Control Technology (BACT) for greenhouse gases (GHGs), and the 2011 experience. The expectation had been that: states would use Top-Down BACT or an equivalent process, energy efficiency would be the key to BACT for GHGs, terms and conditions in permits that expressed the energy efficiency as BACT would have to be worked out, tradeoffs between GHG emissions and criteria pollutants would be examined, and challenges to permits and decisions would go forward. He showed two good websites that allow users to track the experience of those using BACT. On one USEPA has been posting questions and answers, but it has not had much traffic. The other is a great help though, as it features comments USEPA has made on 18 permits, which allow users to read, download, highlight, and see exactly what it is that USEPA is expecting. The first important take away from their

experience with the process so far is that USEPA expects a number. Secondly, they expect that all GHG emissions sources will be included in the BACT determination, even those that seem trivial. Next, it is important to include all GHG emissions. Some people concentrate on CO_2, and have a limit and a way to measure it, and then forget the other pollutants. Another important element to include is the startup and shutdown emissions in the BACT limit. Finally, he stressed the importance of documenting all decisions made, such as emissions calculations and compliance methods.

He concluded by saying that the BACT process does appear to be working. Energy efficiency is the standard BACT determination, but it must be expressed in a limit. CO_{2e} limits should be expressed in numerical terms and should include compliance monitoring and test methods, address emissions during startup and shutdown, and include all emission sources and all GHGs. He said that this should serve as a reminder to agencies to follow the SIP process, which will usually be in the form of Top-Down BACT. It is crucial to document all decisions, include all emissions calculation and assumptions so it is clear where they came from, and to address public comments in the record. Going forward, he said they can expect legal challenges and court decisions. Also that compliance issues will arise, such as what will happen if an entity has a 12 month average rolling limit and they then exceed it. Limits will be compared and challenged, and eventually GHG control equipment will be developed and applied.

He thanked the subcommittee for listening to his brief overview of what is being seen at the state and local level, and asked for questions and comments.

Mr. Svenson asked in light of the 17 completed permits, what is the result versus the "anyway," meaning if BACT did not exist, is there something substantive happening from a GHG standpoint that otherwise would not have occurred under the normal BACT for conventional pollutants. Also, when looking across similar sources, is there actually a trend developing of standards getting tighter?

Mr. Paul responded that these were excellent question, but that they will not be able to answer them until later on, when more data has been collected. There has not been enough time to observe trends developing, but information is being gleaned about the limits and deficiencies.

Mr. Neal spoke about the three applications that Calpine has pending with USEPA region 6 and the state of Delaware. Most combine cycle gas turbines that he knows of have oxygen monitors, because the NOx limits are typically based on 7% oxygen. He expressed that CO_2 monitors are superfluous for regulating CO_2 emissions. Secondly, on the startup and shut down emissions, he understands that BACT needs to address these, but is concerned that tapping their efficiency will be difficult. He used the example of combine cycle gas turbines, and how drastically their efficiency will be affected if they have a cold start. The basis of the LCRA startup and shutdown was not clear to him, but needs to be closely evaluated.

Mr. Paul asked if Mr. Neal had spoken with region 6 about alternative methods to CO_2 SIMs, and if they are responding well.

Mr. Neal did not know if alternatives had been suggested.

Mr. Feldman asked if there were other permits that had been granted that do not have letters on the websites Mr. Paul talked about, as he was under the impression that about 100 permits have been granted dealing with CO_2.

Mr. Harnett replied that those featured are the only permits that have been issued. The only permits that do not have a letter on the website are the one that USEPA issued.

Mr. Feldman followed up by asking how many of the permits had been through Environmental Appeal Board (EAB) review, and compare that to how many USEPA had predicted would be issued in the first year.

Mr. Paul agreed that states and locals would really benefit hearing from the industry side whether or not the system is working. Thus far, he feels that it is working, and would like to know if members of industry concur.

Mr. Becker reiterated Mr. Paul's point. He recognized the tremendous job that Eric Svenson and Mark Macleod did of heading the BACT guidance effort. Predictions had been made that many hundreds of permits were going to be submitted during this first year, and that the resulting effect would be somewhat of a train wreck in handling them all. Instead they have only seen a very modest number of permits. Mr. Becker suggested having a lengthy discussion about the experiences of where BACT has worked, where it has not, where it can be approved, and the state, local, and tribal experiences.

Mr. Hellwig responded to Mr. Svenson's question, saying that MDEQ issued a permit for a coal fire power plant this year, and in their BACT analysis they did make changes to address that, such as springing for a more efficient engine and committing to a certain level of biofuels in the boiler. It made a difference in the way they approached their application, from how they would have done so under standard BACT. He said that because it was the first one they have ever done, it was difficult, but he imagines it will get easier as more are submitted.

Mr. Kaufmann responded to Mr. Becker that Koch as a company does not have a lot of projects in the queue for GHG BACT analyses, but did practice some PSD avoidance early on in the program as they did not know how it was going to work. He does not anticipate GHG BACT being a huge issue for them, but instead are seeing huge problems with NAAQS, especially with modeling compliance with the NAAQS. This is causing Koch to have enormous problems moving projects forward.

Mr. Harnett then moved back into his presentation, and spoke about the status of GHG permitting. Since November 2011, about 100 permitting applications that likely include a GHG component have been submitted, and 17 companies have been issued permits with 13 of them coming out of the SIP approved states. Four of these issued permits, 3 coming out of USEPA and one from a delegated state, which are the only ones that could be appealed to the EAB.

Next he spoke about Biomass Deferral. In January 2011, USEPA announced an expedited rulemaking to defer completely the application of pre-construction permitting requirements to

biomass-fired CO_2 and other biogenic CO_2 emissions for a period of three years. A study was also sent to the Science Advisory Board (SAB) about biomass and the implications of it, with the intention of determining whether biomass is an equal BACT. In spring 2012 they are expecting SAB to release a biomass study, and in late 2012 will have a proposed rule addressing this study if necessary based on submitted comments.

Mr. Harnett spoke about future GHG permitting activities, such as the proposed tailoring step 3 rule coming out in early 2012, being finalized in July 2012, and going into effect in July 2013. The states would have one year to implement this step if changes are made before it goes into effect. In 2016 the 5-year GHG NSR study and step 4 final rule will examine if there is a need to continue to have higher cut offs, and if so at what level should they be maintained and for how long. In the ongoing litigation, there is no longer any party challenging the tailoring rule.

Questions:

Mr. Feldman referred to the earlier discussion of there being far fewer permits submitted, and asked if this could indicate a possible freeze. As fewer permits were put in for than anticipated, the states were allowed to familiarize themselves with them as they processed them. He suggested that the entire ruling had a chilling effect on business development though, and that this should not be belittled.

Mr. Becker said that this was not an appropriate comment to make right before breaking for lunch. He argued that because this is a public meeting where press are present, it is incendiary to say that the GHG permitting program has frozen the industries' ability to expand their operations and to be far more active economically. Mr. Becker completely disagreed with this claim, and argued that they need to argue it substantively, so it should not be brought up right before a lunch break. He apologized if this had not been Mr. Feldman's intent, but said that that was the way he interpreted it.

Mr. Feldman agreed with this restatement of his argument, that GHG permitting was a negative factor in business development over the past year, and impacted business investment the previous year with a lot of people speeding up their investments to avoid being impacted by it.

Mr. Becker simplified to ask if Mr. Feldman thought that the guidance that was a negotiation between states and industry, and called for at most "improved energy efficiency" and not carbon capture and sequestration, is responsible for freezing development amongst many in the industry.

Mr. Feldman replied in the affirmative, that it chilled business development.

Mary Turner, Waste Management, expressed concern that with the levels being so low and additional lowering of the threshold being predicted, how much does the 100 permit level impact the committee's ability to lower the tailoring rule below the 50,000 mark.

Mr. Harnett reminded everyone that the final 50,000 mark was guaranteed until the final study in 2016. He suggested that they come back to this issue during the next meeting, once analyses have been completed.

Mr. Svenson said that from a power sector standpoint, he has not seen issues of development freezing; in fact, an air regulator within the industry had said it was turning out to be cookie cutter getting a permit.

Mr. Neal concurred with Mr. Svenson and said that one of the big positives that happened during the development of the rule was the raising of the threshold. If the original threshold had remained in place, Calpine would have been majorly impacted.

Mr. Harnett said that this information would be really helpful to present to the group as they consider what to do in the next phase. The presentation he is going to distribute to the subcommittee has information on the MACT standards, but there was only enough time to go over it quickly.

Mr. Paul suggested that people take 30 seconds to present what standards are big issues for them, and why they are problematic.
(Amy lead)

Howard Feldman began to discuss the underlying USEPA documentation. There were around five hundred and seventy-five to six hundred and seventy-five sources that would have gotten permits that year. There was a freeze because there were a lot fewer permits than anticipated, and maybe this was a very good thing for the states. The entire rulemaking had a chilling effect on business investment, which shouldn't be belittled.

Mr. Paul stated that it could have been the economy.

Bill Becker said that in the future, with respect, Howard Feldmann should not make a comment like that right before breaking for lunch. Mr. Becker continued by saying that Howard implied that the reason there have only been a handful of permits is the greenhouse gas permitting program. He is basically saying that this has frozen industry's economic activity. Mr. Becker believes this statement is extremely wrong and should be discussed.

Mr. Feldmann agreed with Mr. Becker's restatement of his ideas, and replied that it was a factor in business investment in the first part of this year and also in the previous year. A lot of people sped up applications to try to get them in before that.

Mr. Becker responded that the guidance called for, at most, improved energy efficiency, not carbon capture and sequestration. Improved energy efficiency has somehow frozen development amongst industry?

Mr. Feldmann responded that yes, it chilled business development.

Next, Mary Turner shared her concern. With levels being so low and only 100 permits so far, how much does the 100 permit level impact us looking at whether or not the tailoring rule needs to be lowered down below the 50,000 mark?

Mr. Harnett responded that this is an issue that should be discussed later. At the next meeting there will be a completed analysis of the permits, along with an update. This is a topic people

want to follow up on. If that is acceptable, a fuller discussion can be had in the future and it will include the analysis.

Eric Svenson commented that the power sector industry hasn't seen issues. Air regulators have said that getting a permit has been "cookie cutter."

Mr. Neal agreed with Mr. Svenson. He continued that one of the big positives was raising the threshold. If the original threshold had remained in place for greenhouse gases there would have been a chilling effect, but at this point it hasn't had an effect.

Mr. Harnett said information like that would be helpful for the next phase.

Mr. Paul stated that he wanted to hear which standards are giving people problems and about the big issues.

Mr. Feldmann started, saying that the USEPA announced that they are going to issue refinery sector rules for his industry on December 15th. USEPA announced they are going to be doing MACT, New Source Performance Standards (NSPS), and greenhouse gas all rolled into one. There are also uniform standards coming by December 15th. The refinery sector is hoping the USEPA will do a thorough analysis before proposing a rule. It was asked publicly for an advanced notice of proposed rulemaking to have greater discussion on the NSPS before it comes out. There is very large concern about that.

Mr. Paul stated that there may be a proposed rule out for comment at the next meeting. That could be a topic at the next committee meeting.

Mr. Kaufmann stated that boiler MACT was his greatest concern. There are concerns about dioxin limits. There should be work practices instead of limits. The CO limits are unachievable. Also, a longer term standard that is based on CO Simms would be beneficial. USEPA has been receptive on this. PM Simms doesn't work for biomass or multi-fuel boilers, so an alternative monitoring regime would be helpful. Last, there are issues with the nonhazardous secondary material part of the rule. If our materials are classified as waste, our boilers would turn into incinerators, unless USEPA makes changes to the legitimacy criteria.

Ms. Turner commented next. She said that data quality as rules are being developed, for landfill NSPS in particular, is a concern for the waste industry.

Mr. Harnett stated that these issues will be discussed.

Mr. Svenson commented that the power sector is supportive of numeric limits in the utility MACT. He highlighted that while industry often has different points of view on numeric standards, there are a lot of common feelings about how to comply. For example, on particulate matters, there are issues associated with the frequency of stack testing requirements because the rule is overly prescriptive. Work practice standards are more appropriate for start-up and shutdown, not numeric standards.

Mr. Paul asked if those comments are in the docket.

Mr. Svenson replied that yes, they are in the docket. There also conversations with OMB that are docketed.

Mr. Harnett thanked everyone for their time and interest. He asked for people to get back to him about anything he may have missed.

Mr. Paul commented there have been several conversations before about make these meetings better and more significant. He asked everyone to e-mail Bill Harnett and copy Janet McCabe with comments on what the subcommittee should be doing, what issues should be talked about, and how people should interact and challenge each other to give significant advice.

Mr. Harnett thanked everyone again for their time and discussion.

Clean Air Act Advisory Committee
November 16th, 2011
Crowne Plaza Old Town Alexandria
Alexandria, VA

List of Attendees

Maria A. Amaya	University of Texas at El Paso
Bill Becker	National Association of Clean Air Agencies (NACAA)
Pat Childers	United States Environmental Protection Agency (USEPA)
Howard Feldman	American Petroleum Institute (API)
Pam Giblin	Baker Botts
Terry Goff	Caterpillar
Steve Hensley	USA Rice Federation
Gary Jones	Graphic Arts Technical Foundation
Rob Kaufmann	Koch Industry
Bill Harnett	USEPA
Vince Hellwig	Michigan Department of Environmental Quality (MDEQ)
Susana Hildebrand	Texas Council for Environmental Quality
Liz Naess	USEPA
Don Neal	Calpine
John Paul	Regional Air Pollution Control Agency – Dayton, Ohio
Lorie Schmidt	USEPA
Julie Simpson	Nez Perce Tribe
Eric Svenson	PSEG
Mary Turner	Waste Management
Phil Wakelyn	Texas Cotton Ginners' Association
Jason Walker	Northwestern Band of Shoshone Nation
Joy Wiecks	Fond du Lac Band