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**CLEAN AIR ACT ADVISORY COMMITTEE (CAAAC)
Meeting Minutes**

**June 24, 2004
Mayflower Hotel
1127 Connecticut Avenue
Washington DC**

AGENDA

- Introductions and Opening Remarks - Assistant Administrator Jeff Holmstead, EPA Office of Air and Radiation
- Presentation and Discussion of Clean Air Mercury Rule - Sally Shaver, EPA Office of Air Quality Planning and Standards and Sam Napolitano, EPA Office of Atmospheric Programs
- Presentation and Discussion of the Radon Program - Tom Kelly, EPA Office of Indoor Air and Radiation
- Presentation and Discussion of Clean Air Diesel Rules - Chet France, EPA Office of Transportation and Air Quality
- Subcommittee/Workgroup Report Outs
 - Subcommittee on Economic Incentives and Regulatory Innovation Rapid Response Team - Ben Henneke, Co-Chair, Economic Incentives and Regulatory Innovation Subcommittee
- Discussion of Next Steps to address NAS report on Air Quality Management Strategies - Steve Page, EPA Office of Air Quality Planning and Standards
- General Committee Discussion

Introductions and Opening Remarks, Jeff Holmstead, EPA OAR

Jeff Holmstead began the meeting by welcoming all of the Clean Air Act Advisory Committee (CAAAC) members and guests to the meeting. Since the last CAAAC meeting in March, several important actions have been taken in the Office of Air and Radiation (OAR) in EPA, including the design of the Clean Air Rules of 2004, which are a set of rules that reflect the administrator's desire to talk more effectively about how all of the efforts to reduce air pollution fit together. There have been many rules signed since the last CAAAC meeting, including the Clean Air Ozone Rules, the Clean Air Visibility Rule, the Clean Air Non-Road Diesel Rule, and the Supplemental Notice to the Clean Air Interstate Rule. Mr. Holmstead thanked all of the stakeholders involved in helping with these rules.

EPA is currently working on two new rules called the Clean Air Fine Particles Rules. Under this effort, EPA will be implementing the new PM_{2.5} standards in the next few weeks. EPA will make PM_{2.5} non attainment designations by the end of this year. In addition, EPA is currently

working on the Clean Air Mercury Rule, which is scheduled to be signed by March 15, 2005.

Mr. Holmstead reminded the committee that at the last meeting they talked about creating a subcommittee to help respond to the NAS report. He said virtually everyone from the full committee wanted to attend, so they created several small temporary working groups that will report directly to the full CAAAC. Mr. Holmstead also reminded the committee members that under the FACA process, the CAAAC committee must be re-chartered by November of 2004.

Mr. Holmstead announced that Bob Meyers, one of the leading clean air experts who worked for the House Energy and Commerce Committee, will be joining EPA's OAR. He said that Don Zinger will continue to serve as acting chief of staff for EPA's OAR.

The next CAAAC meeting is tentatively scheduled for December 15 and 16. Mr. Holmstead asked the committee members to let Pat Childers know if they have conflicts on these dates.

Presentation and Discussion of Clean Air Mercury Rule - Sally Shaver, EPA OAQPS and Sam Napolitano, EPA OAP

(See attached presentation)

Sally Shaver gave a presentation on the Clean Air Mercury Rule. She began by outlining the life cycle of mercury in the environment, covering its sources and pathways from emissions to deposition, and the different types of mercury compounds. It is a very complex system that is difficult to monitor and analyze. Mercury emissions contribute to human exposure by getting into the food chain, primarily through fish. The primary impact in humans is on the developing fetus. Mercury affects motor development and cognitive skills, and also causes cardiovascular, immunological, and reproductive impacts. According to data, forty-four states have fish advisories. The United States has about six percent of the global, anthropogenic emissions. Power generation is a major source of mercury emissions. Municipal and medical waste incineration were the primary sources of mercury until regulations greatly reduced emissions from these sources, leaving power generation as the major source of mercury emissions in the United States. The next largest source of mercury emissions is other stationary combustion, followed by industrial processing and transportation sources, lastly there are miscellaneous sources such as mining and dental amalgam.

Ways to reduce mercury emissions from coal fired power plants include add on technologies, end of pipe controls, and advanced power technologies like combined cycle. Additionally, fuel switching to natural gas eliminates mercury emissions. Emission control technologies that provide co-benefits provide potential for increased emission control at an overall reduced cost and there is a potential there for increased flexibility for facilities.

NOx control technologies

Low NO_x burners coupled with over fire air are becoming the burner of choice. Emissions reductions are hard to quantify but they are present. Selective non-catalytic reduction (SNCR) has a limited impact on mercury reduction, while selective catalytic reduction (SCR) converts elemental mercury into ionic mercury. Overall, there are reductions and they may be improved on bituminous units using SCR and wet scrubbers.

SO₂ control technologies

Wet scrubbers tend to get good reductions of the water soluble forms of mercury. The effectiveness of dry scrubbers in removing mercury depends on the PM removal technologies used.

PM control technologies

Although there is a high amount of variability in the test results for PM control technologies, mercury removal is enhanced when PM controls are used with NO_x and SO_x controls. Fabric filters have been shown to be better than ESPs for removing mercury but not always. The results of PM control tests on mercury are mixed.

Beyond co-benefits there seems to be great potential with sorbent injection. The extent of how much mercury is captured depends on a number of factors like the sorbent characteristics, particle size distribution, porosity, capacity at different gas temperatures, residence time in the flue gas, the type of PM controls, and the concentrations of SO₃ and other constituents in the mix.

Activated carbon injection (ACI) has been successfully used to reduce mercury emissions from waste to energy facilities and there is an effort under way to transfer this to coal fired power plants. It is not currently installed at any power plant but short term testing suggests that it may eventually be able to achieve up to ninety percent control for all coal types. EPA believes that ACI will be a viable option for mercury removal from coal fired power plants sometime in the future. Additional long term testing is being conducted for other coal types and different types of activated carbon. There is no data available for lignite but there may be some industry activity in this area.

The agency needs more NO_x, SO_x and PM reductions to meet the fine particulate standard and the eight hour ozone standard especially in the east. **The agency knows that there are some co-benefits from the control technologies for reducing those pollutants that give mercury reductions.** Mercury specific controls are not ready for full scale commercial deployment and there is a settlement agreement that says the agency had to propose a rule by last December and promulgate it by December 2004, which was moved to March 15, 2005. The agency is in the process of proposing the Clean Air Interstate Rule and the Clean Air Mercury Rule, and EPA is trying to look at a coordinated rulemaking effort that utilizes co-benefits to achieve reductions of mercury, SO₂, and NO_x in the most efficient manner possible.

EPA's Clean Air Mercury Rule

The agency proposes two alternative rules to reduce mercury emissions from coal fired power plants. The first is a Section 112 MACT requirement for coal fired generation units. This proposal would reduce mercury emissions from forty eight tons to approximately thirty four tons by 2008 using controls based on coal type. The alternative is a cap and trade approach and that is done under Section 111 of the Clean Air Act. **It commits to two phased in caps.** The first is in 2010, at the co-benefit level and the agency takes comment on what that cap should be. The second cap is at fifteen tons and would apply in 2018 and thereafter. The agency also took comment on a cap and trade approach under Section 112 (N)(1)(a). In terms of the proposal of the Section 112 MACT, existing sources are separated into six subcategories. The limits are based on the average of the top twelve percent of the sources in each subcategory. The agency has accounted for variability in those limits and the emissions standards are applicable to each source, i.e. there is no trading in the 112 MACT approach. For new sources, the same six subcategories apply. Limits are based on the best performing similar source in each subcategory.

Existing sources have the option of either using the input or the output-based format shown in the presentation. The numbers are based on the 12 month rolling average for mercury. Nickel units for oil fired facilities are based on a not-to-exceed annual limit. New limits are different for the new sources and are an output-based format. The agency is proposing beyond the floor for the new IGCC units based on controls that are installed in an industrial facility or chemical facility. There are three options for monitoring in the Section 112 proposal, continuous emissions monitoring, carbon absorption tube, and manual stack test. The agency allows for emissions averaging across the facility for mercury. The proposed Section 111 alternative deals with two parts of 111. First for new sources there is a federal rule proposed for 111(B). This includes mercury emissions for coal fired and nickel for oil fired units and the limits are the same as the new source MACT limits. Limits for existing sources are proposed in 111(D), as well as federal guidelines for state implementation plans. These guidelines set mercury emission rates for coal fired utilities under a cap and trade program which would then be administered by the states. Phase I is in 2010 at the co-benefits level. Phase II is 2018 with the cap at 15 tons. The agency also set guidelines for a limit on nickel emissions for oil fired units. In March of 2004, the agency released a supplemental proposal under Section 111. The components of the proposal are to establish of a model trading program, provide a model mercury trading rule, and allocate state budgets. State requirements include the **submittal** of a plan which demonstrates that the state will meet those emissions budgets. The states can then either join the federal emissions trading program, they can adopt their own trading program, they can achieve the reductions without trading, or they can choose to institute more stringent mercury emissions requirements. There are also monitoring requirements associated with the trading program. The proposed monitoring requirements under Section 111 require the continuous monitoring of mercury sufficient to support a trading program. There would need to be a comprehensive QA/QC program to ensure the adequacy and completeness of data. Regulated sources would also have the flexibility of being able to use alternative monitoring sources as long as the QA/QC requirements are met to support the trading program.

The benefit of the Section 111 alternative is that it would reduce the mercury emissions by sixty nine percent or thirty nine tons by 2018. There is also the potential for earlier and greater reductions than the proposed MACT alternative. It also complements the Clean Air Interstate Rule, creating an integrated multi-pollutant approach for controlling emissions from power plants.

The agency has taken comment on a proposal to promulgate under Section 112 (N)(1)(a), a cap and trade program for mercury and this would be a federally implemented program instead of the states serving as the permitting authority. Finally, the agency thought that Clear Skies was the answer because it provides more certainty, it is less complex, there are reasonable economic impacts. However the agency thinks that the Clean Air Interstate rule and the Mercury rule in combination, will help cities and states in the east meet the more stringent MACT standards for ozone and PM. These two rules will provide substantial health welfare and environmental benefits, maintain fuel diversity and low cost electricity prices, provide benefits at a reasonable cost and will address major power sector emissions in an integrated manner. There will be significant mercury reductions from the mercury portion of the rule. Further information is on the web page.

Questions and Comments

Vickie Patton said that there are some significant thematic differences between the way the agency addressed mercury when compared and contrasted to non-road diesel. She noted that the agency achieved great success with non-road diesel and a positive result for all the stakeholders, as well as the public health and environmental results that were achieved and praised the agency for its strong belief in American ingenuity and know-how to deliver a high degree of environmental performance and results. She said that one of the concerns that Environmental Defense has about the mercury proposal is that it is on a different trajectory, one where there is not a sense of involvement and cooperation and multilateralism working with all interests; furthermore, there is not the same bullish belief in American ingenuity that has so tirelessly delivered results.

Jeff Holmstead said that everyone can look at the non-road process as having been a very successful one compared with the polarization that has existed in the context of the mercury debate. He explained that there are some key differences between mercury and non-road diesel. With non-road diesel, the agency was only dealing with new engines and there was a great deal of flexibility in how the rule was phased in over time so the agency could provide a lot more lead time and certainty. The agency was not operating under statutory deadlines. In the context of a MACT standard, it must be source by source and it must be achievable in three years and this is one of the reasons why the agency has had a preference for the cap and trade system. He said that there is some frustration on the agency's part as well that there is not a more of an opportunity for collaboration. At some point the agency has to move forward and make decisions so if there are specific suggestions for how to accomplish this that would be great, but

between now and March 15, 2005 there is not a lot of time to engage in the collaborative process given the fundamental differences in stakeholders. In the non-road context, people started out much closer together. The agency believes that a cap and trade is likely to do a much better job of encouraging innovative technologies than a MACT standard which locks people in to a technology which can be commercially installed in a period of 3 years. The agency believes that there are innovative technologies and the flexibility of a cap and trade system will allow different technologies to continue.

Vickie Patton responded with a suggestion that a good place to bring people to the table is during the process of additional analysis of control scenarios. There are many people with expertise that could help the agency to conduct these analyses to make sure they are comprehensive and robust.

Charles Goodman emphasized the great deal of innovation and creative work that is pushing technology for coal fired power plants. He said the big issue in the Clean Air Interstate Rule is that there is not enough data to demonstrate the fine detail of how much is enough, but all of the control technologies will be working well and we appreciate all of those people who have been involved in the projects.

Lisa Gomez voiced a concern for companies burning Gulf Coast lignite. She said the data that EPA relied on for purposes of the lignite MACT proposal was flawed. She explained that EPA collected that data through an ICR process. Phase II of that ICR process involved a year long coal test where sources were given the option to use one of a number of specified mercury tests. She believed that one of the tests was flawed. Sempra Energy used a different mercury test for phase III than was used for phase II, specifically, ASTM 6414. The phase III data was orders of magnitude higher than the phase II data. Lisa Gomez said that Sempra Energy is very concerned that the data EPA relied upon for the lignite MACT was flawed and requested that EPA to look into this and conduct further tests on Gulf Coast lignite to ensure that the ultimate MACT rule is based on accurate information. There is a significant difference between Northern lignite and Gulf Coast lignite. EPA's proposed MACT is based on Northern lignite, which has much lower mercury content than Gulf Coast lignite. It is also easier to remove mercury from Northern lignite. Sempra Energy believes that it may be appropriate to establish a separate MACT for Gulf Coast lignite similar to what EPA has done for other dissimilar coals.

Jeff Holmstead said that the agency is aware of this issue. He said that there is a lot of work going on with bituminous coals and he wanted to know if there is any work going on with Gulf Coast lignite specifically. Lisa Gomez said that there are some tests and inquiries, we are not confident with what we are finding so far, but there is a lot of work going on. Jeff Holmstead asked if Sempra Energy is supportive of a MACT approach as opposed to a cap and trade approach. Lisa Gomez responded that Sempra Energy clearly supports a cap and trade approach. She said that should the agency decide to go with a cap and trade approach, the comment would

be more appropriately stated as basing the ultimate cap on numbers that reflect the more accurate Gulf Coast lignite data.

John Paul agreed that the working group was polarized at the beginning but once it agreed to identify the issues and have a full discussion of them, he thought that it worked very well because all the stakeholder interests were represented well, there were thorough discussions, and a good record of the issues was provided. He said that the working group discussed compliance deadlines and decided that especially with 1176 coal fired boilers out there that there would be a large number of retrofits that would take time. There was an unspoken consensus that all retrofits would not be accomplished by 2008. But, because there were provisions in the Clean Air Act for MACT compliance extensions, the working group suggested that the provisions play their way out. If by 2008 it looked like more time was needed, there was a process within the Clean Air Act where that could play out. He explained that the different stakeholders in the working group had different MACT levels that they proposed. The environmental groups recommend MACT levels between two and three tons per year, states and locals recommended about seven and a half tons per year and the industry groups recommended levels between twenty one and twenty six tons per year. John Paul said that the specific suggestion he has for the agency is to take the mercury levels recommended by each group along with the most recent technology estimates and perform IPM runs for years 2010, 2012, and 2015. This is solid data that could address specific questions that people have if EPA for example decides to do a cap and trade program in 2015. Some of the questions that could be answered are what the proposals will do to the price of natural gas or coal production.

Jeff Holmstead said that the agency is looking at what additional analysis needs to occur. The comment period is ending shortly and the agency plans to take a look at the comments and deciding how to proceed with additional analysis. He said that he can see how under 112 (D) that states could give sources up to one additional year so it wouldn't need to be three years, it could be four years if the state decided that was appropriate. The agency does not see a way to go beyond four years.

John Paul responded that the discussion in the working group was with regard to some kind of two year presidential extension. The working group would not be necessarily opposed to the Section 111 tract with a longer period of time but with using the MACT limit numbers that the working group developed.

Jeff Holmstead said that the agency spent time with EPA engineers looking at the path of technology forward and there is a fair amount of uncertainty. The 2010 date in the ORD analysis is the research development and demonstration goals. The engineers believe that with significant federal resources they can be in a position by 2010 to demonstrate that ACI can be adapted to be used for all coal types. There is a question of how long it will take to deploy it throughout the fleet. The engineers have not said that ACI will be commercially available for all coal types for 2010. Some ACI can be installed before 2010 with varying degrees of removal.

Eugene Trisko said that the trading approach under 111 (D) or 112 offers substantial advantages when compared to the MACT. The key virtues of the trading approach are severe deficiencies in the ICR database which the agency was forced to rely upon for the MACT numbers for different types of coal. The sample was biased, the tests were short term and there is no way to product a statistically defensible result from the ICR database. There is tremendous variability of mercury concentration and other chemical constituents in coal as revealed by the coal database. The variation of mercury runs two orders of magnitude. An emissions trading program can go a long way toward leveling the playing field between and among coal regions and coals with different mercury concentrations and chemical characteristics. One of the artifacts of the MACT process was studying a group of plants to analyze the extent of their mercury reduction based on technology that was installed not for the purpose of reducing mercury. With 1176 boilers, it would be imprudent to risk the imposition of a relatively stringent MACT requirement on that population in such a short time period of four years. The trading option clearly gives the agency a greater degree of freedom with respect to the time available for the installation of controls and its integration with the agency's Clean Air Interstate Rule. Experience with emissions trading programs generally has demonstrated that they are among the most effective means of promoting innovation in technology. They provide the incentive in terms of dollars and cents for firms to find the most cost effective way to reducing mercury. In contrast the MACT approach based upon historical data, derived from technologies that are installed on plants not for the effect of reducing mercury, serves only to freeze technology not promote it.

Tim Johnson, Corning Incorporated said that about 10 years ago Corning Incorporated invented an absorbent for mercury control in coal fired power plants. This was in response to the optimism that a tough mercury regulation would be promulgated. There were conferences, testing and a demonstration of an order of magnitude cost reduction relative to ACI. When the promise for a mercury regulation faded away 10 years ago, Corning Incorporated dropped the mercury absorbent technology, stopped the technical symposiums and shifted resources to other pollution controls. Now with EPA's proposal for mercury, Corning is reviving its mercury absorbent technology and looking for private and government partners to begin moving it forward from where it was 10 years ago. Based on experience in the gasoline emission control arena, the diesel emission control technology and the SCR control arena, *if a regulation is promulgated that pushes technology, technology will follow*. Tim Johnson said he supports a strong and rapid promulgation of the mercury rule. If there is concern about the evolution of technology, there are provisions for technology review by EPA in the 2007 Diesel Rule and the Non-Road Diesel Rule. It would be feasible to have a technology review at designated periods of time for the Mercury Rule as well.

Jeff Holmstead responded by saying that the agency believes that there is a role for technology forcing in our regulatory program but whenever the agency has done that, it has been with a clear understanding of what the technology is and what the likely technology path forward will be. The agency is optimistic about the technology and the future of that technology but in going

forward, the agency needs to do it on a strong footing. There is a lot at stake in terms of the electricity supply impacts.

Kelly Brown, Ford Motor Company commented on the surprisingly large share of mercury emissions coming from Asia and asked if any Asian countries are working on mercury issues. Jeff Holmstead said the biggest issue in Asia is SO₂ and it is a more significant concern than mercury. He said that if, as a result of the agency's regulatory process, industry innovates and develops technologies to control mercury for a few thousand dollars a pound, it is much more likely that that kind of cost effective technology will be exported to other countries. When looking at current marginal costs in the thirty to fifty thousand dollars per pound for mercury removal, it is hard to see where that becomes a high priority in the Asian countries. The agency is cognizant of having a system in place that will promote continued improvement in terms of the effectiveness and the cost effectiveness so that it can be an appealing export, especially as the agency looks at growing economies in Asia that are highly dependent on coal as fueling their economic development. No countries are looking seriously at mercury emissions from their power plants, but they are looking at SO₂ and NO_x control.

Jane Delgado wanted to know what has been said about mercury enforcement, assuming the caps are adequate.

Jeff Holmstead said the agency's goal is to set clear understandable requirements and then enforce those. One of the things that the agency knows about cap and trade programs is that they get effectively one hundred percent compliance because the programs are extremely transparent. The cap and trade program as proposed would have continuous monitoring. In the SO₂ trading program, in the few instances when someone has failed, it has never become an enforcement case because the enforcement office calls and says you don't have enough allowances to cover your emissions. In every case the company has retired allowances and paid a fine. When the agency develops standards it tries to find a way that they can be enforced as simply and easily as possible because what the agency cares about is compliance, but the threat of enforcement always has to be there.

Jane Delgado said that her concern is the use of data in everything we do. There is a lot of data that has recently come out about clean air and what is going on, with the shutdown of the Ohio plants for example. She voiced concern about the lack of focus on the health consequences of what goes on because the committee sets standards that are so low that enforcement is not needed. Enforcement is a key part of any regulatory agency. Without enforcement, there is no way to drive technology. If it will not affect the bottom line, they will not do it. Jeff Holmstead responded by saying air quality throughout the United States is improving and mercury emissions have dropped substantially, and the agency pays a lot of attention to enforcement.

Elaine Barron spoke on behalf of Dr. Andrew Ginsberg, Chairperson of the Council of Public Health and the Texas Medical Association. She said she would like to object to lowering the

standards for mercury emissions in recognition that it causes grave consequences to public health. The developmental delays the cost to the public will be great, not only in the efforts to provide health care for these individuals, many who will burden society more because they do not have health insurance. She said that the Council of Public Health objects to the allowance of mercury emissions that continually harm public health. She pointed to a need to conduct greater studies on the effects of mercury emissions on adults. The economic burden of damaged health, whether cognitive or physical is going to be great for the United States. Ms. Barron asked about the areas of the toxic hot spots for mercury emissions, specifically what the agency is doing to escalate its efforts to prevent harm to people. She also asked what has been done with the combination of air water cross contamination for mercury.

Jeff Holmstead requested any data that indicates an increase in health effects from mercury. He said the agency would be very interested in seeing those because all of the agency's data indicate that mercury emissions are coming down and have been coming down since 1980 pretty significantly. Jeff Holmstead said EPA is aware of the relationship between air emissions and water contamination. Out of all of the data that we have seen, the majority of the mercury that finds its way into fish and leads to exposure to humans is from air deposition, not from direct discharges into water. Direct discharges are a small part of this problem. Air emissions of mercury are about eighty percent of the concentrations in fish. The agency does not have any data suggesting that there are localized hot spots in any way. The agency has tried to get a better understanding of CDC data which found that about six to eight percent of women of child bearing age have mercury concentrations at or above our standard. There is no evidence to suggest that it is localized in any way. They seem to be fairly evenly distributed throughout the country. The agency is trying to get better data from CDC to see if there are any localized areas where there are problems. The agency has studies suggesting that mercury deposition is a regional issue in the east, but no real evidence to suggest that there are localized hot spots. The focus has continued to be reducing total mercury emissions.

Bob Wyman said he agrees with the virtues of the cap and trade system because it is through cap and trade that new technologies are going to evolve. The only way to reach Phase II targets is through rapid advancements in control technologies. There are a variety of technologies, not just ACI which are being evaluated as we speak. There are some residual concerns about ACI. It does render the fly ash unusable for resale as an additive for concrete and there is no data to determine whether ACI will work with small ESPs. Bob Wyman said that he believes the agency has the authority to implement the cap and trade program under section 112 (N). There is an important reason to do it under 112 (N) and that is the best way to ensure a uniform national rule. 112 (N) provides independent authority for the agency not only to establish alternative control strategies, but also to give independent authority to set deadlines consistent with the objectives of that section which are unique to electricity generating units and would allow the agency to recognize the pace of technology development but also the potential cost impacts on the industry and the advantage of coordinating deadlines for mercury control with other deadlines in the Clean Air Interstate Rule. He said it is extremely important that the

agency use 112 (N) as the basis for the rulemaking if it is to achieve the multiple objectives of driving technology innovation, of harmonizing the rule with the other air quality objectives in other programs, and of assuring a uniform national rule as opposed to a rule which might vary by state.

Steve Owens added his state's perspective of the cap and trade program. He said while Arizona generally is supportive of cap and trade efforts there are some fairly serious concerns about a cap and trade program in the context of mercury emissions. As the slides indicate the most significant issue is from airborne transport of mercury and deposition into water bodies. Arizona has an increasing number of lakes and water bodies that are under fish advisories. The department is virtually certain that the cause is airborne mercury emissions. It is not coming from Arizona because our power plants tend to be clustered in the eastern part of the state along the border of New Mexico and in our north east corner where we are sending our emissions up to Colorado. With a cap and trade program the department might be able to regulate power plants in our state but it will not benefit Arizona in terms of mercury contamination because those emissions are going elsewhere. The mercury deposition that the department is seeing is coming from other states. So unless the levels of the cap and trade are so low that Arizona DEQ could have some assurances that emissions coming from other states that might be landing in Arizona are reduced enough to help deal with our problem absent some sort of levels that deal with that issue. Arizona DEQ has concerns that a cap and trade will not benefit an individual state. It might reduce overall mercury emissions in a national context but in a state by state context the benefits might be hard to achieve.

Jeff Holmstead said that EPA has preliminarily analyzed the data and it has shown a substantial mercury reduction with a fair amount of certainty. He said throughout the east and in the western states as well, there are significant reductions. This is not necessarily a reason not to support a cap and trade program.

Pat Mariella commented that the National Tribal Air Association has been working with some of the tribes in the eastern part of the US and it brings up the issue of hot spots.

Vickie Patton said it seems like the discussion captures some of the polarization that exists on the mercury issue. One of the first steps to try to bring people together is for everyone to work using a common set of facts. She made a recommendation that EPA set up a working group drawn from this committee that includes John Paul, Charles Goodman from Southern Company, David Hawkins from NRDC, and commit to come back in December to take a hard look at the analysis, different control options that people are talking about, so that at the very least we can make this first significant step of having a divergent set of interests working from a common set of facts and information.

Jeff Holmstead said that the agency is trying to provide in the public record and the docket a common set of facts for people to see. As opposed to having a small group privy to all of that,

the agency is trying to get it out there as broadly as we can to help the conversation. He said his immediate reaction is that six months is not a lot of time in the regulatory process and as a practical matter, the administrator has made it quite clear that he really wants us to satisfy our obligation and the need to provide clarity to both the environment and business community what the regulatory obligations are going to be.

Presentation and Discussion of the Radon Program - Tom Kelly, EPA OIAR

(See attached presentation)

Jeff Holmstead introduced Tom Kelly and explained that EPA is hoping to use this CAAAC meeting to get feedback from committee members about what they think the next steps should be for the non-regulatory Radon Program.

Mr. Kelly began his presentation by saying that radon is not regulated under the CAA? The Radon Program has changed over the past twenty years from a highly visible, highly supported program to a less vigorous and less supported program. While the support and enthusiasm has dwindled over the years, the need for the program has not. Radon is the second leading cause of lung cancer in the U.S. There have been two reviews of the radon exposure data by the National Academy of Sciences (NAS), which reveal that, if anything, EPA has been underestimating the risk from radon inhalation. The results from BEIR six of a human study of radon risk conducted by NAS, reveal that the number of excess deaths due to lung cancer each year attributable to radon has increased from fourteen thousand to about twenty thousand. In addition, the actual risk of radon exposure to people who have never smoked is four times higher than previously calculated, over three thousand excess cancer deaths per year due to radon exposure. So, the EPA is interested in revitalizing the Radon Program by reinvigorating the public's concern about radon exposure.

Since the Radon Program is not a regulatory program, EPA has implemented an aggressive information campaign on radon risk in homes, which encourages homeowners to test their homes and encourages home builders to build radon resistant homes. Of the homes that tests revealed were high risk, seven hundred thousand have been fixed. This saves four hundred and fifty lives annually. Over a million homes have been built to be radon resistant, which saves one hundred and twenty lives annually.

The cost of mitigating radon risk is low. However, because radon is odorless, colorless, and invisible and because the harm to humans occurs over time, it has been hard for EPA to convince people of the risk. The action level that EPA set, 4 pico couries/liter (pCi/L) is not a safe level, but it is the technologically practicable level.

The EPA is considering bundling concern for radon with concern about other factors, such as asthma. They are completing field trials to test the idea that protecting a home from radon will

reduce moisture, which will reduce mold and in turn help asthma sufferers. The EPA is also working with the Energy Star program to come up with a label that builders can use that indicates that a house is protected against radon. In addition, the EPA is recruiting new partners and renewing existing relationships. As part of this effort, EPA is working with federal agencies, such as HUD and the Department of Defense. Mr. Kelly encouraged committee members to share their ideas about how EPA can revitalize the Radon Program.

Questions and Comments

Bob Avant asked if EPA has created a map that indicates which regions of the country are at higher risk due to geological differences.

Mr. Kelly said that there is a map on the website that indicates areas of higher risk based on test results. However, there is not currently a map that is based on risk due to geological differences. He added that the issue of episodically high levels of radon in carst regions, where limestone formation creates channels, should be examined.

Mr. Avant suggested the Health Physics Society as a potential partner for EPA.

Ursula Kramer said she recalls that the home test kits that were handed out around 10 years ago were well received by the public. She said that she thinks radon risk does need to be addressed and handing out the test kits may help. She also encouraged the EPA to consider addressing radon risk in poorer populations by involving local health agencies.

Mr. Kelly explained that one of the problems with the program is that there is no specific Federal funding for fixing homes, so it is a middle to upper class program because these are the classes that have the means to do something about the problem. So, there is a social justice issue. However, it may be easiest for EPA to first generate concern and action in the middle class. Then, once the concern and action has been generated, society could begin to work to protect people with lower incomes from radon exposure.

Pat Rahe said he was glad to hear that EPA is working with federal agencies like HUD because it is critical that the government work to correct radon problems within government agencies before asking realtors and local agencies to implement changes. He said he is disappointed to hear that health officials do not agree on the severity of the radon problem. He suggested that EPA get HHS and the surgeon general involved in creating a scientific certainty on the risk from radon exposure. Mr. Rahe said that one of the basic problems that must be dealt with is how to address the disclosure and testing of homes, so that the radon levels are safe and the sale of homes is not hindered. Right now if homeowners mitigate to get radon levels below the 4 pCi/L action level, the occupants of the home may still be at risk because the action level is not a safe level. This issue needs to be addressed, so that homeowners and realtors will be receptive to dealing with radon.

Carolyn Green asked how many states require radon tests and mitigation before the sale of a home.

Dave Rowson stated that no states require testing or mitigation, however some states do have disclosure laws. There are policies that have been adopted by state and local real estate agencies that recommend to sellers and buyers that radon testing be conducted. Rowson suggested that Mr. Kelly's remarks about the disagreement among health professionals over radon risk, may have been over interpreted. Mr. Rowson stated that there is a very strong agreement by virtually everyone in the public health community about the health risk of radon. However, there are some people within the radiation science community that have been concerned about EPA overemphasizing the risk of radiation exposure from radon.

Ms. Green suggested a way to address low income households. She suggested tying the Radon Program in with the weatherization and conservation assistance programs that currently have funding.

Jeff Muffat asked if the action level has decreased in the last sixteen years. He agreed that the EPA should take another look at how to get the information out to the public. He suggested that the EPA address radon risk in schools and how it impacts children's health. He stated that communities and businesses may be more likely to become actively involved if the issue is approached in this way. He pointed out that this is similar to what was done in the diesel school bus retrofit program. Mr. Muffat added that once people become educated about radon in schools, the EPA can focus on radon in the home.

Mr. Kelly said EPA currently includes radon mitigation in an engineering control packet for schools called Tools for Schools. However, they have not emphasized radon separately.

Charles Collett stated that there is currently a process for mitigation of radon in single family homes. However, there is not a mitigation process for multi-family homes or the workplace. He suggested that EPA focus not only on single family homes, but multi-family homes, schools, and work places.

Mr. Kelly explained that EPA is starting the Radon Program in the residential sector because that is where the program has traditionally been focused. However, EPA is participating in a Green Building Movement, which addresses concerns about radon in office buildings. In addition, EPA continues to work with HUD on radon control in multi-family housing. Other than that there is not a current program for those sectors.

Jane Delgado stated that the National Alliance for Hispanic Health has partnered with EPA for twelve years to work on radon risk. She expressed that in the past, EPA has not put the proper support and resources towards lowering radon risk. She pointed out that over half of Americans are not middle class, so the EPA should keep in mind that the cost of mitigation is not small for

most Americans. She said public health professionals debate about how the excess deaths and suffering from radon exposure compare to that of other risks. Ms. Delgado said that she is thrilled about all of the data that EPA has on the excess deaths from radon and she hopes that they will gather similar data for other air pollutants.

Mr. Kelly said that he will work to allocate the appropriate support and resources to the Radon Program. He reiterated that the program is emphasizing the middle class due to the fact there is no public funding for mitigation of private homes. Only households that have the resources to mitigate will be able to. So, EPA is choosing to create public action and a background of public concern where it can.

Ms. Delgado pointed out that while people with low incomes who rent may not be able to address the radon risk, the owners of many of their homes may have the resources to deal with the radon problem. In addition, many of the people with low incomes do work on the homes of people with higher incomes. So, the people with lower incomes that have construction experience may be able to work on their own homes for less than the twelve hundred dollars that it normally costs to mitigate the radon problem.

Mr. Kelly said EPA will look into this. He said that fifteen years ago, the cost of mitigation was twelve hundred dollars, but now it is eleven hundred and fifty dollars. He stated that the mitigation of radon is not a homeowner project and must be done by a professional.

Ms. Delgado stated that people with lower incomes are normally the professionals that do this type of work. So, EPA should provide these people with instructions on how to mitigate themselves.

John Paul stated that the Regional Air Pollution Control Agency in Dayton Ohio has had experience in radon mitigation and testing since the 1980's. He said they were involved in conducting tests, performing demonstration projects, and promotion of testing. In addition, they conducted a study of day care centers, which garnered a lot of attention. Recently, the Regional Air Pollution Control Agency in Dayton Ohio has done alpha track tests and mapped the results by zip code. From the more than twenty thousand radon results that they have for the Dayton area, 55% are 4 pCi/L or above. So, Dayton would be a good area for EPA to work with.

Mr. Brenner said EPA will want to follow up with Mr. Paul and other state, local and tribal agency representatives to get feedback on what has worked for them and what suggestions they have for the EPA on the Radon Program.

Mr. Paul suggested that a meeting be set up to capture state's, locality's, and tribe's experiences.

Tim Johnson mentioned that when he bought his house in upstate New York, where there are high levels of radon, the realtor gave him a radon test kit and a certificate, in addition to the keys

to his house. The certificate said that if the radon levels exceeded the action level then someone (maybe the state) would pay for the remediation. In addition, he recalled a line item on the closing papers for a fee to go into a fund, which would help homeowners mitigate radon. He asked that EPA look into innovative programs and fees like these.

Mr. Kelly thanked everyone for their ideas and offers of assistance.

Presentation and Discussion of Clean Air Diesel Rules - Chet France, EPA OTAQ

(See attached presentation)

Rob Brenner introduced Chet France. He told the CAAAC that Mr. France runs the division that has produced the Clean Air Diesel Rules. The progress these rules have made in reducing emissions from mobile sources has been a success story for the EPA.

Mr. France began his discussion by telling the committee about the three milestone EPA programs: the Tier 2 Light-Duty Vehicle Program, the 2007/2010 Heavy-Duty Program, and the Tier 4 Non-Road Diesel Program. All three programs have used a systems approach that looks at the role of fuel and technology. He briefly reviewed how the three **programs are being phased in. The Non-Road Diesel Program, which has been recently adopted, will be completed in two steps and will be fully phased in by 2015. The Non-Road Diesel Program will start to be phased in after the 2007/2010 Heavy-Duty Program has begun, so that technology advances from the 2007/2010 Heavy-Duty Program can be used in the Non-Road Diesel Program.**

Mr. France commented that these three programs result in dramatic reductions in pollutants as the fleets are converted. In 2030, without these programs **the total inventory of PM_{2.5}** would be around three hundred thousand tons. With these programs, PM_{2.5} will be one hundred thousand tons in 2030. There is the same dramatic trend in reduction of NO_x as well. In 2030, without these programs the emission levels would be over ten million tons, but with these programs the net reduction over that time period will be six million tons. One of the tenets of the program was treating the engine and fuel as a system.

Mr. France discussed some of the challenges involved in implementing the Non-Road Diesel Program, including the large range in engine size and equipment models, as well as the harsh operating environment of diesel engines. Mr. France said EPA is proud of the collaboration that was involved in these programs. There were many different stake holder groups involved in the process and the final rule received widespread support.

Mr. France said that EPA is considering applying the same approach that they used for the non-road sector to the locomotive and marine diesel sector. The Locomotive and Marine Diesels

Advance Notice was signed on May 11, 2004. The comment period for The Locomotive and Marine Diesels Advance Notice will be until the end of August 2004. EPA is considering beginning the Locomotive and Marine Diesel Program as early as 2011.

Questions and Comments

Pat Raher said the consensus that was seen in the development of these programs was impressive. He asked if the Agency has looked at how these programs affect fuel efficiency overall. He also asked if the EPA has looked into improving cetane, which will benefit the maintenance and operation of diesel vehicles.

Mr. France said that EPA is optimistic that as manufacturers develop this technology and make engine improvements, any significant fuel consumption impact will be offset. In the heavy-duty and non-road sector, cetane has not been a high priority for meeting new standards because of the nature of the engines. However, in the light-duty vehicle sector, EPA has been participating in an ongoing dialogue with states, engine manufacturers, and some of the oil companies about the use of cetane.

Ben Henneke stated that having so many people committed to the technology was a triumph. He said the EPA needs to continue to try to get the new technology into more vehicles more quickly.

Mr. France said that unless there is a high level of commitment from stakeholders, the chances for success diminish dramatically.

Don Clay stated that he was pleased with this process and the way that EPA had held firm on the waivers, which did not punish those who made the investments. He asked that EPA keep the implementation issues in mind, since it has yet been proven that low sulfur fuel can be brought to the pump. He said EPA may need to have another workshop on implementation issues.

Mr. France said that one of EPA's most important priorities is the implementation of these programs. The issues Mr. Clay raised are ones that EPA wants to make sure are addressed. He said they are planning another workshop for the fall.

John Paul asked if sulfur in gasoline is at thirty parts per billion (ppb) and if it will stay at this level.

Mr. France answered that sulfur in gasoline is higher right now, but by 2007 it will be thirty ppb.

Mr. Paul asked Mr. France how he can address questions about the sulfur content in gasoline and diesel fuel in Dayton, Ohio. He said he is often asked about this.

Mr. France said EPA collects information on fuel parameters and specifications. He said they are planning on putting out a fuel trends report sometime this year, although he is not sure how area specific the report will be.

Suzanne Rudzinski said that EPA may not be able to get to that level of specificity because of some of the confidentiality constraints associated with some of the data. However, she said that EPA will aggregate the data to as low a level as possible without breaking confidentiality.

Mr. Paul asked about how the fuel will be marked for identification.

Mr. France said that existing fuel is dyed for IRS purposes and this will not be changed. As part of the Non-Road Diesel Program, EPA expects that any dyeing of fuel will occur as far down the distribution system as possible in order to minimize contamination.

Mr. Paul asked if there will be provisions to prevent the dumping of sulfur into heating oil in the North East.

Mr. France said that the rule does not impact home heating oil. He said that some refiners with a large market in home heating oil have indicated that heating oil could actually get cleaner after the rule is implemented.

Mr. Paul asked what the schedule is for addressing aircraft emissions.

Mr. France said one of the challenges of addressing aircraft emissions is the international nature of the industry. EPA is trying to look at innovative ways to reduce pollution from aircraft ground support equipment. In addition, EPA is working with the international organizations to achieve meaningful reductions in aircraft emissions.

Mr. Paul asked about the affect that reducing sulfur will have on the lubrication of equipment.

Mr. France said EPA put a clause in the rule to add more lubricating additives to the fuel. He said that the comments EPA has received so far tend to lean towards letting the marketplace deal with this issue. He added that there has been some dialogue recently by ASTM about lubricity issues. The highway program is driving these efforts and whatever is done for the highway program will be duplicated for the non-road program. EPA is optimistic that the marketplace will deal with this issue, but if they do not EPA will consider taking federal action.

Mr. Paul asked what components of fuel will be dealt with next. He suggested the Agency look at benzene next.

Mr. France said EPA has acted on the fuel parameters that are clearly important. He said that the oil companies are being greatly impacted over the next decade as they implement the sulfur

reductions. There are a number of other parameters that people have raised as possible areas for future focus. Benzene and cetane have been suggested. He said EPA understands people's concerns. He added that EPA will be analyzing benzene as part of the Mobile Source Air Toxics Rule.

Carolyn Green expressed a concern about what will be done with contaminated fuel that cannot be sold in the marketplace. She said that this may lead to short term supply issues if the issue is not addressed.

Mr. France said this concern has been raised. In the 2007 highway program there is a 80/20 provision which says that 80% of the fuel must be 15 (ppm?). So there are provisions for off specification material to be used in highway fuel. In 2007 to 2010 under the Non-Road Rule there will be a 500 parts per million (ppm) pool where off specification material can be accommodated. In addition, locomotive and marine fuel programs will be phased in beyond 2010, so until then these areas can accommodate off specification material. As EPA moves forward in the implementation of these programs, they do not want to have these problems interfering with the implementation, so they will pro-actively monitor what is happening in the marketplace.

Ursula Kramer expressed her appreciation for these rules, which help areas remain in attainment. She asked if it is reasonable to look at lower sulfur diesel buses as a replacement for Compressed Natural Gas (CNG) buses.

Mr. France said that CNG will likely require the same control technologies as diesel. In 2007, a diesel engine will have gasoline-like PM levels and should not have a disadvantage when compared to CNG.

Mr. Brenner said that the issue Ms. Kramer brought up has become an issue in other parts of the country as well. He said EPA can provide Ms. Kramer with data indicating what they expect emissions will be from today's new buses and the 2007 buses.

Subcommittee/Workgroup Report Outs

Rapid Response Team-Rob Brenner

Rob Brenner briefly summarized the work that the Rapid Response Team has been doing to help states, tribes, and localities get SIP credits for innovative measures. Interest in the Rapid Response Team's work has increased as areas that are going to be in non attainment for ozone and PM are being designated. Some of the accomplishments of the Rapid Response Team so far include the production of both energy efficiency and cetane guidance. The group has also been working on coming up with ways to get credit for anti-idling measures, retrofits, land use planning, and smart growth. He asked the CAAAC members to let EPA know of other measures

that would help lower emissions, but that have obstacles that must be overcome before states and localities can implement them. These are the types of issues that the Rapid Response Team can address. Mr. Brenner said he has asked each OAR office to provide a representative to work with the Rapid Response Team. He added that the Rapid Response team will meet prior to each of the full CAAAC meetings.

Carey Fitzmaurice told the CAAAC about the upcoming Innovations Conference that will be held in Chicago in August. The key audience for this conference is the state and local people who will be developing SIPS. She said that during the conference there will be breakout sessions that will allow small groups to discuss previous barriers to innovation. Some of the issues that come up during these breakout sessions will feed into the Rapid Response Team efforts.

Steve Page added that EPA is excited about the opportunity for state and local people to come together and share what they have found is helpful and what is not. He said that EPA hopes that this will help them identify barriers, so that they can then work to remove them. Once these barriers are removed states and localities can turn some of the innovations into SIP credit.

Economic Incentives and Regulatory Innovation Subcommittee-Rob Brenner

Mr. Brenner mentioned that at the Economic Incentives and Regulatory Innovation Subcommittee meeting there were several presentations. Brian Cook made a presentation on innovative funding mechanisms. The presentation addressed the case study of the Clean Air Investment Fund in New Hampshire. Next, Chuck Mueller made a presentation on Texas Emission Reduction Program (TERP), which focuses on reducing diesel emissions. Then, Larry Weinstock made a presentation on a new EPA program, Community Action for a Renewed Environment (CARE). This multi media program gives communities the opportunity to deal with their exposure to toxics. CARE allows communities to work with EPA to set toxics priorities. Then, EPA helps communities choose voluntary EPA programs to implement..

Questions and Comments

Vickie Patton said she believes there is an argument that can be made that EPA does have the authority to regulate the fuel characteristics of home heating oil under 111 of the Clean Air Act. Regardless of that, she thinks that EPA can provide positive incentives to encourage the lowering of sulfur in home heating oil. Ms. Patton suggested that the EPA provide guidance for SIP credit for lowering the sulfur content of home heating oils. This would positively impact the fine particle standards.

Mr. Brenner said he will put the issue of home heating oils on the agenda for the Rapid Response

Team to address. He asked Ms. Patton to let EPA know in the next few weeks about the legal rationale for EPA's authority to regulate home heating oil that she feels exists.

Pam Giblin stated that having a universal way to identify and calculate SIP credit would drive some of these programs.

Mr. Brenner said that was the idea behind this program. He asked Ms. Giblin to let him know if there are specific issues or programs that she is interested in having EPA address.

Pat Rahe asked if, at the next CAAAC meeting, they could address the problems that states are encountering in calculating how many SIP credits they can get and in the way they are having to go about getting the SIP credit. He said Tennessee could be used as a case study for the committee to examine.

Mr. Brenner agreed that Tennessee would be a good case study for CAAAC to look at. He told the committee that Tennessee has encountered problems while trying to implement NOx reduction programs. Tennessee is having trouble combining the programs that they want to do with what is required under the Nox SIP Call. In addition, they are having trouble figuring out the SIP credit that they should receive for the programs. He said that the Rapid Response Team, Region 4, OAQPS, and OAR are trying to address this issue. He said this would be a good topic for the next CAAAC meeting.

Ms. Fitzmaurice told the CAAAC members that as EPA has worked through the process they have found that sometimes it is not possible, for various reasons, to give SIP credit to measures that do improve air quality. She suggested that a state or locality could implement measures that improve air quality even though the measures will not give them an approvable SIP. She asked if the committee members had any suggestions on how EPA should deal with this problem.

Mr. Rahe said that since the SIP Credit program is driven by the fact that the credits have value, if a value cannot be assigned then the states and localities will not be able to afford to implement the measure. He said this is where the EPA needs to become creative in how to assign credit. He suggested that the EPA set a presumptive inventory and reduction when they cannot figure out how to assign SIP credit. Then, if it is not verified it can be taken out of the inventory.

Mr. Brenner stated that they will try to set up a session at the next CAAAC meeting to discuss these types of SIP Credit issues.

Mr. Page said that OAQPS has been working on developing the methodology to assign credit to SIPs that they are having trouble assigning now. In December 2004 the draft of the methodology will be completed.

Discussion of Next Steps to address NAS report on Air Quality Management Strategies -

Steve Page, EPA OAQPS

(See attached presentation)

Steve Page outlined the progress that has been made since the last CAAAC meeting on developing next steps to address the NAS report. He presented the results of the Air Quality Work Group Planning Meeting held on June 23, 2004 (see PowerPoint presentation for more detail). The Work Group is co-chaired by Greg Green, EPA OAQPS and Janet McCabe Indiana DEM Office of Air Quality. The Work Group is divided into two sections. One section, co-chaired by Lydia Wegman EPA and David Shaw, New York Department of Environmental Conservation will focus on policy and planning issues. A second section of the Work Group, co-chaired by Peter Tsigotis, EPA OAQPS and Mike Koerber, Lake Michigan Air Directors Consortium will focus on science and technology issues. Additionally there will be a steering committee lead by Dan Greenbaum and Mike Bradley, who will both act in a senior advisory role.

At the planning meeting, key milestones were proposed, which consisted of three work group meetings between July and September, followed with draft recommendations October 15, 2004, a conference call with the CAAAC October 20, 2004, a draft report to the CAAAC December 1, 2004, the CAAAC meeting December 16-17, 2004, and finally, submission of the final report to EPA January 14, 2005.

Key issues discussed by the group:

- **Regional and National Strategies/Multi-pollutant**
There was a specific comment that EPA should broaden its focus from ozone and PM to toxics and water issues. There may be a sub group that will spin off, develop some recommendations and report back to the main policy and planning group.
- **Ecosystem Protection**
People felt that this issue should be one that cuts across both the science and policy groups.
- **The group decided to pursue both early action items and loftier weightier issues as they arise.**

Richard Ayres, Ayres Law Group, recommended that the Policy and Planning issues group look at regulatory and non-regulatory incentives to achieve technological innovation. The goal of the committee should be to find out what works and what does not work. Further the committee should determine how EPA has integrated what works into the regulatory structure. An assessment of what works, what does not work, and an assessment of how to shape future policies to achieve this goal would be another element under the policy and planning group.

Pam Giblin, Baker Botts LLC, stressed the importance of communication across the work groups and to CAAAC members that are not part of the work groups. She said that the committee will not do as good of a job without the constant cross-fertilization, posting progress on a shared website as it comes out. It will be more productive if everyone is able to have input in the beginning and middle of the process, rather than at the end.

Steve Page said that Debbie Stackhouse will be setting up a website so people will be able to see the work products as they are produced for everyone's review. Debbie added that she will be putting information on the CAAAC website and will be working to make sure that people can get materials for the work group meetings and possibly in advance of the meetings for those that cannot attend them.

Steve Page said that currently there are 15 people in the Policy and Planning group and 8 people in the Science and Technology group. He anticipated that a few more people would join the Science and Technology group and said that there was a possibility that outside experts would join the group.

Jim Hendricks, Duke Energy asked if the members of the committees would be identifying expertise that they wanted to bring to the table. He said that there is a lot of expertise behind his organization that should be brought into this process.

Steve Page said that in addition to reporting to the steering committee, the work group will report to the full committee for review and hearing. Additionally, the work products will be available for review on the website. He said that if someone has an interest in one of the committees now, join up, talk to Debbie to find out when the work groups are meeting because they are open to all the committee members.

Rob Brenner said that what he is hearing from people is some uncertainty about what kind of expertise is needed by each of the panels. He asked if there is a way to show people what the work plan is or more of the details so that people will know what kind of expertise is required.

Steve Page said that he will be working to identify, for each of the groups, what are the big questions that are going to be addressed. He said that this information will be made available on the website and this should cover what areas are being addressed and what expertise is needed. Debbie Stackhouse said that the group has a host of questions which will be posted on the website.

Elaine Barron thanked the people that have done the work and commented that the project has brought a renewed energy to the committee. She said that the CAAAC needs better organization and documenting of what has happened in the meetings, which should be made available on the website. She also suggested developing a short and long term strategic plan looking at 1 year, 5 year, and 10 year intervals. She felt that the committee may have lost the focus at times with

regard to what the committee has and has not done. She would like for the committee to be able to evaluate its progress. She requested a firming up of the work groups by names which could serve to bring the organization as a whole tighter and could identify where the organization could be of most help. She also recommended working with other agencies that are doing similar work and always getting expert advice.

Rob Brenner said that this is a valuable set of comments coming at a time when EPA is going to be re-chartering the committee. He said that the NAS work provides the committee with an opportunity to think strategically about where it can be effective. At the next meeting in December the committee will talk about how to pivot off the NAS work and help create an agenda for the future. Debbie Stackhouse said that the other recommendation she got was to spend more time at the next meeting as a full group talking about the NAS report and the recommendations. Pat Childers affirmed that the next meeting will be primarily focused on the NAS Air Quality Management Report.

Carolyn Green said she would like to see the committee explicitly identify human health as an issue under science and technology because there are still some questions as to how these programs are linked to protection of human health. Rob Brenner responded by saying that the committee should think about how to do that. He said that a lot of the benefits work that is done at EPA tries to capture what the opportunities are to improve public health in these programs. He said the committee should try to find out where the benefits work fits in with these topics here. Carolyn Green asked how to take into account differential impacts on communities and take a look at multi-pollutant impacts on health. Rob Brenner said that those are both topics that the NAS report covered.

General Committee Discussion

Pat Childers asked committee members to notify him ASAP if they are planning to come to the next meeting scheduled for December 15 - 16, 2004. Pat said that for members and non-members that are interested in being on the future CAAAC should make sure to send their resumes to Pat Childers per the FR notice on June 2, 2004.

Jeff Holmstead concluded the meeting and thanked everyone for coming.

Draft 7-15-04

**Clean Air Act Advisory Committee Meeting
June 24, 2004
Member Attendee List**

| NAME | ORGANIZATION |
|----------------------------|---|
| Robert Avant Jr. | Texas Food and Fibers Commission |
| Richard Ayres | Ayres Law Group |
| Elaine Mowinski Barron | JAC Paso del Norte Air Quality |
| William Becker | STAPPA/ALAPCO |
| Michael Bradley | M. J. Bradley Associates, Inc |
| Rob Brenner | EPA OAR |
| Kelly Brown | Ford Motor Company |
| Pat Childers | EPA OAR |
| Don Clay | Koch Industries |
| Charles Collet Builders | National Association of Home Builders |
| Stacey Davis | Center for Clean Air Policy |
| Jane Delgado | National Alliance for Hispanic Health |
| Ronald Drewnowski | PSEG Power LLC |
| Chet France | EPA OTAQ |
| Mary Gade | Sonnenschein, Nath & Rosenthal |
| Pam Giblin | Baker Botts LLC |
| Lisa Gomez | Sempra Energy |
| Charles Goodman | Southern Company Generation |
| Carolyn Green | Sunoco |
| Jim Hendricks | Duke Energy |
| Ben Henneke | Clean Air Action Corporation |
| Jeff Holmstead | EPA OAR |
| Tim Hunt | American Forest and Paper Association |
| Timothy Johnson | Corning Incorporated |
| Carter Keithley | Hearth, Patio & Barbeque Association |
| Tom Kelly | EPA OIAR |
| Ursula Kramer | Pima County Department of Environmental Quality |
| Douglas Lempke | Colorado Department of Public Health and Environment |
| Paul Locke | Trust for America's Health |
| Patricia Mariella | Gila River Indian Community DEQ |
| Chuck Mueller | Texas Commission for Environmental Quality |
| Jeffrey Muffat | 3M Corporation |
| Robert Meyers | EPA OAR |

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Sam Napolitano
Stephen Owens
Steve Page
Vickie Patton
John Paul
Patrick Rahe
David Raney
William Rodecker
Suzanne Rudzinski
Sally Shaver
Debbie Stackhouse
Eugene Trisko
Richard Wilson
Robert Wyman

EPA OAP
Arizona DEQ
EPA OAQPS
Environmental Defense
Dayton Ohio RAPCA
Hogan & Hartson
American Honda Motor Co., Inc.
Eli Lilly and Company
EPA OTAQ
EPA OAQPS
EPA/OAQPS
Attorney
National Environmental Strategies
Latham and Watkins