

**Clean Air Act Advisory Committee**  
**October 7, 2009**  
**Crowne Plaza Washington National Airport**  
**Arlington, VA**

**Introductions and Opening Remarks by Assistant Administrator Gina McCarthy**

Robert Brenner, United States Environmental Protection Agency (U.S. EPA), asked everyone attending the October Clean Air Act Advisory Committee (CAAAC) meeting to take a seat, and established the order of introductions. He began by introducing Gina McCarthy, Assistant Administrator of the Office of Air and Radiation (OAR).

Mr. Brenner touched the vast range of Ms. McCarthy's accomplishments, but focused on her first four months at OAR. He said it was his pleasure this morning to introduce Gina McCarthy, and that he could talk about the previous 25 year career where she worked for both democratic and republican governors, local health officials, state health and environmental officials, and is person responsible for No Child Left Inside, which has now become a national effort. He said he could have talked about the way she was way ahead of many others in addressing climate change and energy efficiency, and the leader of the REGE program in the northeast. He said, however, that this is the air office, and they wanted to know what she has done over the last four months while she has been here, and what she is doing to make sure the Agency can get its work done. When Ms. McCarthy came in four months ago, Mr. Brenner focused on the division directors that she had been introduced to. First they introduced her to Lydia, who has a whole set of National Ambient Air Quality Standards that she has to get done on a five-year time frame, and because of Gina they now really are on that plan. She also has had to clean up some of the standards from before that were thrown back to the Agency from the courts. Next, she had the chance to meet Bill Harnett, who once Lydia puts out those standards, Bill has to implement them and do more clean up. Then she met Peter Tsirigotis who has 300 some regulations that he is tracking and working on, and a budget is 20 percent or more cut from what it was five or 10 years ago. Ms. McCarthy met Kruger next, who is launching the whole climate change program, and who has put out rules in a very short time to make sure emissions are being tracked, taking care to evaluate dangers of greenhouse gases, and doing the analyses to help Congress. He said that if he went through each of the divisions in OAR the audience would see that it is a really crushing work load, but Ms. McCarthy's reaction was that her eyes lit up and instead she said "wow this is really cool, I want to make sure this gets done and gets done right. Are we taking things into account like energy efficiency when we develop these rules? Are you really thinking about implementation, and designing these rules in a way that they really are going to work well when they happen?" Mr. Brenner said that this is such a good set of dynamics for OAR because it forces those who have been doing this for a long time to take a step back and think about it differently. He noted it was great to have somebody who asks them the tough questions, works with them, and is very goal oriented. He said finally that Ms. McCarthy sees opportunities and is a real champion, she will present tremendous ways to make progress around the globe and that all of them in the air office are looking forward to working with her.

The members introduced themselves around the table.

Ms. McCarthy thanked Mr. Brenner for his leadership.

Ms. McCarthy said that she has been working in these areas for all of her life, and is thrilled to be at EPA. One of the most exciting things is the quality of the staff at EPA. She confessed that she has a big enough ego and enough confidence that it does not faze her, but she is able to listen a lot. The clarity and vision they bring surrounding these issues makes her feel honored to be there. Ms. McCarthy pointed out that all of her government career has been appointed positions, meaning she has knowingly worked on the edge, that if the new boss came in she would be out. She credited this for her attitude about life, and claimed it allows her to live in the moment, and push really hard to get work done in a short period of time because she knows her time is so fleeting.

Ms. McCarthy intends to approach this job in exactly the same way, as her job is not to get the rules done, but the reductions intended by them. She focuses on implementation because if they are not designing rules that could be easily implemented she cannot count anything; there has been a lot of time and money expended in good faith, yet it gets them nowhere. She urged the committee to consider that the rules they will be making are going to take on a life of their own and are going to drive the change that is needed, and are going to be done smartly. Another point she made is that she does not shy away from controversy; rather she loves it, loves disagreements, loves the democratic process. She wanted the committee to have the balanced discussion that an advisory group is intended to have, that has the breadth of discussion of people coming at an issue from very different viewpoints, and even ending up at very different viewpoints. That is the democratic process, argue with each other. By not focusing on obtaining the solutions, she thinks members can offer the breadth of their expertise in as much detail as possible that will be tremendously valuable to her and the staff. She assured the committee that the one thing she does not lack is the courage to make decisions. Even if there is controversy, she will be able to make the decision and knows that people will be happy in one instance and unhappy in the next, but that this is the job she has been given.

Ms. McCarthy thanked everyone who had been participating in this process and asked the indulgence of all those new to the process, recognizing the level of work it demanded. She asked that everyone try to recommit themselves to this process, as she and her staff will do the same. She believes the Vision and Goals document that has been produced is an excellent one, and provides a foundation to grow from and enhance the work that they do together. There are some parts that have intrigued her more than others, and she is going to clue in members as to what those are and then invite feedback about which parts they believe are worthy of focus.

She said she loves the multi-pollutant strategy, and the idea that we can move from individual rulemaking to where we are trying to get to in a more comprehensive way. She is a firm believer that many of the problems that government faces in getting work done is a lack of clarity in terms of where we are heading and what the rules of the game

actually are. She wants to define the rules of the game in a way that all of the regulated community knows what is expected of them, and so that permits can be reviewed with that expectation. Also there can be more certainty on the table when money is spent and energy is put into an effort. One of the values of a multi-pollutant strategy is that it will provide the opportunity for a sector-based approach, because she hates the idea that each sector has 17-20 different rulemakings that govern the small pieces of equipment. She likes clarity, such that someone can look up what they do as their business and know the rules of the game and how to follow them. It is essential that they work together to figure out what this means in the context of the Clean Air Act, and figure out how to deliver a multi-pollutant strategy in a way that a sector knows what is expected of them, where they are heading, and what the rules of the game are.

Ms McCarthy reiterated how a group like this is large enough to bring diversity, but thought that to have clarity sub-committees are essential. Sub-committees need strong chairs, defined timelines, and should not be created to last forever because they should be making deliverables and using their time wisely. She is looking for answers to specific questions so we can take those and put them into actions. She will make a commitment that if a subcommittee comes up with solutions, they will be moved forward.

Ms. McCartney addressed the expectation that she is going to go through a litany of rules, saying she will merely discuss them quickly.

One of the big questions asked of her when she came on board was, is everything going to be about climate? She assured the audience that it is not. Though climate is a very large problem that will change the direction of what they do in many ways, it is not all about climate, because we have not even begun the challenge of clean air. The real strategy involves how to use the energy over climate to drive the other changes that the Act intended, by looking at the criteria pollutants and the toxics. So the strategy involves not just climate, but how we continue to drive down the criteria pollutants and how to effectively engage on the toxics issues. This is a big issue that will continue to get bigger as time goes on. Much of the driver for change in the world outside that will be driven by the Clean Air Act, will be driven by toxics pieces. This is why she plans to focus considerable attention on the toxics side.

Ms. McCarthy moved into a discussion on greenhouse gas issues. She believes this is a good place to start because it is the topic that is on everyone's mind. They are moving forward with several different initiatives, and significant progress has been made. She revealed that no one was more ticked off than her about the clean car national announcement in the White House, because she was waiting confirmation from home, while it could have been her chance to meet the president. One of the first things you saw us do was make a commitment on the endangerment finding; the proposal was put out on April 17<sup>th</sup> and the final rule will be coming out within the next couple of months. The Agency is working hard on it, and has received almost 400,000 comments, and many of them were not post cards saying the same thing, so the delay after the close of comment period is to make sure that all of them are credited and considered thoughtfully. Should the endangerment issue be positive, they will move forward with light duty vehicle rule/

greenhouse gas emission rule, which is really a combination of California pushing and EPA pulling, and will be done by March of next year. That will allow them to get the 2012 model year reductions, and begin the program that will drive up fuel efficiency and drive down greenhouse gas emissions between the 2012 to 2016 period. Ms. McCarthy told the committee about Margo Oge approaching her prior to the proposed rule going out to talk to her about what is happening in 2017, indicating that this is the beginning of a national program. California is already having discussions about what is next, and in terms of the mobile source area, the California Waiver was one of eight waivers they have. There will be a lot more work done on the mobile source side, and the more they look at the possible work and reductions, for greenhouse gases as well as other toxins and pollutants, the significant opportunities will reveal themselves.

Next, Ms. McCarthy discussed the mandatory greenhouse gas reporting rule that has already come out in its final form. There have been two additional meetings about different sectors that did not quite make it over the finish line due to complexities in the counting and how the reporting is done. This focuses on the largest facilities that capture about 85 percent of the greenhouse gases that are being emitted. She feels it is a great rule, but one that has to be implemented effectively. People will have to be taught how to do the reporting, so that the reporting is reliable to reveal where there are opportunities. She believes it will provide a wealth of information to both the Agency and reporting community on where their inefficiencies might be. Every time one releases greenhouse gases it is money out of their pocket, and she sees this as producing a lot of opportunities for reductions that are not necessarily guided by regulation, but more by the need to become more efficient.

Next, she discussed the Prevention of Significant Deterioration (PSD) and Title V rule. This rule had come out the week before, and its timing will align with the light duty vehicle rule, which if it gets finalized in March then greenhouse gases are a regulated pollutant under the interpretation of EPA. This is already out for comment, and has been named the Johnson Memo. This is a significant challenge to the EPA, and she asks that the committee look at it and read it because she feels they made both a very strong legal and common sense argument on why PSD should apply to the larger facilities but is not the best tool for the smaller ones. Ms. McCarthy hopes that they will convince people that they have gone about the rule in a thoughtful and deliberate way, but she needs peoples' comments and for them to look at the implementation challenges. They also need state input over whether this is the right balance, or if some of the other issues or options raised are a better way to look at it. She is anxious for the comments to be sent in. The PSD rule is not about what is being exempted; rather it is about what they are capturing. She makes no apologies for PSD being triggered, because it gives a chance to talk about what the control technologies are for the larger facilities, and ensures that as Congress takes its time to pass this comprehensive legislation, PSD is still a growth strategy. PSD helps make sure everything is not business as usual, and that greenhouse gas emissions do not just remain the same as new facilities are coming online. She believes it is the right thing for EPA to be looking at the technologies that are available and most cost effective, then identifying those and talking about them with the regulating community and making sure through regulation and permit that the best technologies are

put in place. Ms. McCarthy thinks it makes no sense that the EPA stand still and allow continued unabated growth, while debates are happening on rules for reducing greenhouse gases. She thinks PSD is a clever part of the Clean Air Act, and that they are doing their best to tailor it to make it an absolutely appropriate strategy to use in concert with legislation moving forward to continue to keep greenhouse gases in check.

Ms. McCarthy moved on to discuss her work with Lydia. She said that Lydia is not confrontational, she just knows what she is talking about, which is much appreciated. In sitting in briefings where Lydia and Karen do risk assessments, she has learned that they do not talk enough about the health implications of their rules. If people just began to grasp the seriousness of ozone and particulate matter (PM), she is certain they would be blown over by the length of discussions they have about what to do next. The health implications of not achieving these standards that have been talked about since 1997 are amazing. She is not interested in discussing regulations that were supposed to occur, because she wants to move on to what is next. She wants to know how to ensure what the administrator said, that it does not just meet the law, but is science proof. This is what drove the reconsideration of the ozone standards, and she is thankful to everyone on the committee that has helped accelerate that effort. The accelerated schedule for ozone reconsideration is that a proposed rule will be out by December of this year, and the final rule is scheduled for August 2010. The goal is to catch up with the rule that was proposed by the prior administration in terms of accelerated schedule, while ensuring that the best science drives this.

Ms. McCarthy ended with a discussion about PM<sub>2.5</sub>, which she believes must be a significant driver for what they do. Looking at health consequences alone, the opportunities are staggering. She said they are planning on moving the designations forward as soon as possible. The administrator wanted to have a deliberative enough process established. The goal was to base it on the 2008 data, rather than going out and then going out again, and the designations are now up to date to include these. There are new counties that have come in, and ones that have succeeded, and they should have the designations shortly.

Finally, she touched upon the air toxics rules, saying that they are going to be working on the toxics arena. They are trying to be smart about how to talk more about the sector approach. She asked the committee to help EPA to look at the toxics issues, since many of these will be drivers of investment. She feels it is important to look at a multimedia approach, and how toxics are driving emissions facility by facility, and how they can tell companies to invest once and provide certainty that they have met all expected changes that EPA will be driving through the CAA. She believes that this will be the challenge moving forward.

Janice Nolen, American Lung Association (ALA) said that she really appreciated Ms. McCarthy's comments. She agrees completely with Ms. McCarthy's health based concerns, and appreciates that they are finally looking to do the designations for PM<sub>2.5</sub>. Ms. Nolen wanted to urge that as they do the 24 hour designations, they should include any communities that are now in violation of the annual standard. It is a critical issue

where the health effects could not have a stronger impact, and she applauds the focus on implementation.

Kevin Coyle, National Wildlife Federation (NWF), thanked Ms. McCarthy for her comments. He had been in the audience when she spoke with the National Association of Clean Air Agencies (NACAA) two weeks ago, and got the sense both then and at this meeting that she would like to do an awful lot. Much of EPA's agenda is governed by litigation. He wondered if she did not have those kind of restraints, and instead had the ability to set her own priorities to take on whichever initiatives she could, what would they be?

Ms. McCarthy responded by saying there is an awful lot of work that needs to get done. She is approaching this feat in a couple of different ways, starting with trying to surround herself with some of the most credible, smart people she knows. Joe Goffman, from Senator Boxer's staff, will be joining the team soon, and she will also be bringing on a principal deputy. She wants to surround herself with these people because it is not her work it is our work. She has no doubt that people can get the work done, and just wants to bring coordination to this work and maximize what they produce. She also plans to divide the world; not have people below her but people who can run just as fast as she can, and whose capabilities are trustworthy. She knows where her skill set lies and believes herself to be of value in working with the regulated community, and the environmental advocates and staff in other agencies to help promote this sector based approach. In terms of litigation, she believes the litigants want the same common sense based approach that she does, and so even thought there are court ordered deadlines they can be smart about how to meet those, and come to the coordination that is being called for in the Vision document. She says that one of the things you learn when you have jobs like she has had is that you pick the things that are absolutely yours and you drive them. She is driving the multi-pollutant coordinated strategy herself.

Eugene M. Trisko, United Mine Workers of America, was struck by Ms. McCarthy's comment about giving the generation sector an opportunity to invest once and meet all the Clean Air Act requirements. He recalled a process that went on at EPA more than 10 years ago under Mary Nichols called Clean Air Power Initiative (CAPI), which had at its roots the same objective. One thing lead to another, there were some stakeholder meetings and discussions, and eventually the discussion migrated over in the direction of what kind of legislation do we need in order to provide the certainty that industry was saying that they require. That led to the Clear Skies Act, which did not make it out of committee by one vote. He asked if she believes that she has enough flexibility and discretion within existing authority, to achieve that result short of the need to have a meeting with Senator Carper (D-DE).

Ms. McCarthy said she not holding up on any one rule in the hopes that they can coordinate them all. She is aware they might not be able to do that, so she is not giving up anything in the CAA in terms of driving the change they need in hopes of this larger strategy. She was not a fan of the clear skies proposal, and did not think it was fast enough or contained enough reductions. Similarly, she was not a fan of the Clean Air

Interstate Rule (CAIR), for the same reasons. While she wants a multi-pollutant strategy, it may end up being that EPA can with confidence work with sectors in terms of how to align their rules effectively, give them sense of where they are going, and allow each rule on its own to be commented on and decided on. She wants dialogue and a sense of where the Agency is heading, but is not intending to hold up on anything in the hopes that they have a larger vision to move towards.

Lisa Gomez, Semptra Energy, wanted to applaud Ms. McCarthy's point about the importance of clarity. Currently she is working with companies with sophisticated environmental professionals. In her prior life she worked with smaller businesses, and one of the things that continues to frustrate her, is how hard it is to figure out what you're supposed to do. She appreciated the comments on implementation and clarity to make things as simple as we can in a complex world. She also discussed when Ms. McCarthy mentioned multimedia and sector-based multimedia regulations. Her question for her was what is underway, or contemplated, to bring together the multimedia approach for sectors? How is the Agency coordinating on that issue?

Ms. McCarthy responded by saying she cannot tell you that they have a large initiative underway to deal with that issue, yet they have processes in place to raise those issues so that they can be considered in each rulemaking. She pointed towards work with water program on issues as an example. Some of the things they do have considerable impacts on water sources as well as energy efficiency, etc. One of the clearest examples of a multimedia approach now is geologic sequestration. It is a large issue, and they know that to do it well, EPA needs to provide a regulatory road map for how to do it. If they really want to have carbon capture sequestration, they need to provide a real framework for companies to understand and see how it would work. The Agency is working pretty closely on a multimedia basis to deliver that in a timely way.

Anna Garcia, Ozone Transport Commission (OTC), discussed the joint recommendation presented to Ms. McCarthy by the OTC and LADCO states about CAIR and other regionalized recommendations. Both organizations emphasized that addressing EG emissions alone will not solve the transport problem, as well as the need for national rules in other sectors. She is wondering if any dialogue is being initiated about national rules and how to take the good work the states have done and expand it out.

Ms. McCarthy responded by saying that the work that LADCO and OTC did to explore these issues was really important and thorough. It was exactly the kind of work that she is talking about, where she recognizes the struggle to find commonalities between groups first. She thinks it was great to get all those common features out in one letter, and to see the two groups coming in saying something only slightly different. It is great to get a sense of where the states across the country think this is heading. Ms. McCarthy said that CAIR is the one rule that made her realize that if they are not looking at timing on PM and PM2.5, and not looking at the toxics rules at the same time, then it's unclear to her that they can identify the best strategic opportunity. They need to look at it all, and that is what you challenged the Agency to do. She appreciates the effort, and said that they will have that dialogue. They are doing a lot of modeling efforts; one of the challenges that

has arisen with the courts is that the judges say when they constrain what they do. So EPA work with you on that, and they are doing modeling that hopefully will do a better job of meeting the needs of courts if the next rule is challenged.

Rich Kassel, Natural Resource Defense Council, thanked Ms. McCarthy for the great summary of her thoughts. He agrees with the emphasis on implementation on the real world, and what is happening at the state and local level, and her emphasis on sector approach and note that there are opportunities on PM. He wanted to suggest three thoughts for her about PM in mobile source sector: 1) We have gotten a suite of diesel rules in place over last decade; your next 4 years will be a battle of implementation. We will learn a lot of lessons from early implementation and it is critical we see full and timely implementation across the suite of diesel rules. 2) We need to work towards full funding for DIRA, the key fund for retrofitting existing vehicles. Those rules are great, but full implementation is not until 2030 and that is too long to wait. We have seen through the stimulus process that there is a huge demand out there for funding and assistance to bring into place retrofit and replacement programs that will accelerate turnover of the existing fleet. 3) It is critical to finish the plate for the diesel program, which is the C3 engines, domestic rule, and IMO proceeding. The final step has to be put into place. We need to get to work on how to accelerate cleanup.

Ms. McCarthy noted the suggestions in her head, and agrees with each and every one of them. She is particularly interested in keeping tabs on the IMO issues, and the numbers associated with that step. She is beginning to see some opposition sprouting up.

Tim Johnson, Corning Incorporated, thanked Ms. McCarthy and said it was a pleasure to hear her opening remarks. He wanted to expand on mobile emissions as it pertains to the multi-pollutant bill. California is moving into LED3, which will incorporate the next wave of greenhouse gas tightening along with criteria emission tightening as well. Things are different now than when they did LED2, mainly a dozen other states are joining in with California representing 40 percent of the US market. He wondered whether the next wave of California is a precursor to what might be happening at EPA. Mr. Johnson then asked Ms. McCarthy what her perspectives on a LED3 regulation that incorporates CO2 and criteria pollutants, and wondering if this will be the first wave of tightening that will transcend into other sectors.

Ms. McCarthy responds by saying that she cannot answer that question yet. They know what is going on in California, but she thinks the president thought that the establishment of the national program was a significant step forward. But the program was designed to allow states to move ahead, and particularly California, in 2017. She thinks that California and EPA's goal would be same, to look at what technologies are available and how to best take advantage of those. They will have conversations with them and see if They can continue to align it or not, but They are in no way attempting to clip California's wings, because the technology and light-duty vehicles would not be where it is today. They want to continue allowing states to be innovative.



Stephen Hartsfield, National Tribal Air Association (NTAA), thanked Ms. McCarthy for her words of encouragement. One thing he wanted to bring up, especially looking at health based information is something that tribes have come across in the rulemaking process. When trying to create public comment, to come up with information that EPA is requesting during those times is hard because there is a lack of research on what is going on in rural America. The particulate matter rule is one they have flagged as a key example of this. When you are looking at exempting a rule of that size, and there is no scientific evidence out there to go one way or another, it makes the question of should we go that way. We need scientific information and research out there of disproportionate population groups with disproportionate health impacts due to PM and diabetics, looking at rural America, because those statistics are not there. Looking at multi-pollutant and multimedia approach, that's something that tribal programs have been doing from outset, and his question is, is this a debate/discussion that could fall into regional haze for what was regional planning commissions and the function they had several years ago with very successful collaboration? Looking at something like climate change, multimedia, and multi-pollutant approaches, could the RPOs be a prime place to have dialogue with local, state, and tribal governments?

Ms McCarthy thought this was an interesting suggestion. She had met with tribal organizations the day before and said it was enormously valuable for her. It was eye opening to get a sense of what the needs and priorities of different tribal nations across the United States are, and to see how much they varied. She is interested in further going out and making further visits. She also understands the value of the RPOs and knows that we need to think more comprehensively about taking advantage of capacity that has been built up and can be shared.

### **Health Impacts of Exposure to Traffic**

Dan Greenbaum, Health Effects Institute (HEI), explained that the HEI was founded based on traffic-related issues, but has broadened its agenda quite dramatically since its formation. The Institute has come back to the issue of health impacts of traffic exposure for a twofold reason: first, over the last decade, a large number of studies have been published suggesting that there is a special set of exposure related to traffic, and second, the United States Environmental Protection Agency (U.S. EPA) has asked HEI to convene a panel which will lay out what is known about this topic, and which knowledge is still needed in order to point to future steps.

The fundamental idea was to synthesize the numerous studies linking emissions and exposure, exposure and health, and toxicological and epidemiological associations. A pre-print of the report was released in May, and the final report will be published in the fall of 2009.

Mr. Greenbaum went on to put things in context for the Clean Air Act Advisory Committee (CAAAC) members, explaining that dramatic improvements in vehicle emissions have been made since before the late 1980s; however, while emissions have lowered, vehicle miles traveled (VMT) have still increased. Moreover, while there has

been a dramatic reduction in carbon monoxide, more and more people are living in cities and denser suburbs, and the increased number of vehicles is leading to increased congestion.

The HEI research group attempted to look systematically at emissions, gathering what is already known, especially in terms of the range of data and models accessible, and translating this background information into exposure factors and any existing connections to health. Over 400 studies have attempted to link traffic exposure and health effects, of which the panel was asked to sift through and determine those of importance. Mr. Greenbaum explained that one of the first questions the panel tackled was ‘how do we assess exposure?’ They focused on the extent to which they could find evidence of health impacts directly related to traffic exposure, using methods such as individual pollutant assessments, GIS models, estimates of traffic density, and populations living close to roadways.

The panel next addressed the question of who is most likely to be exposed. Data gathered from Toronto freeways show that pollutants quickly drop off after distances of 300-500 meters from roadways, suggesting that the most intensive traffic exposure occurs on roadways or within 300-500 meters of them. Forty-five percent of the population in Toronto lives within this 500 meter boundary of expressways, and 100 meters of major roads. In Los Angeles, 44 percent of the population lives in this area, and 37 percent in Portland.

A second question addressed which markers or surrogates are best suited for traffic exposure. Criteria that were determined for “good” surrogates are as follows: traffic as the major source; varying emissions with other motor vehicle constituents, and; pollutants which can be measured at low concentrations by reasonable inexpensive and accurate methods.

One example presented by Mr. Greenbaum is the use of NO<sub>2</sub> as a surrogate pollutant. There have been a number of studies on exposure to NO<sub>2</sub> in various settings (in vehicle, roadside, rural, indoors at home, indoors at schools), with some of the highest numbers found in vehicles and on the roadside. However, a wide range of roadside numbers were documented, and concentrations in homes (since natural gas stoves can be source of NO<sub>2</sub>), and in general urban areas (because of NO<sub>x</sub>) were also documented that are similar to the roadside numbers. A conclusion was made that NO<sub>2</sub> is a decent surrogate for measuring exposure, but only if a very fine spatial resolution can be attained.

The panel found that PM<sub>2.5</sub> is not a very well-suited surrogate. It is of limited value because there are many sources that contribute to urban PM<sub>2.5</sub>, and PM<sub>2.5</sub> concentrations are very varied within a region. The panel concluded that while markers and surrogates can provide useful information, none meet all the criteria for being valid, reliable markers.

Mr. Greenbaum moved on to the exploration into modeling data for exposure. He said that the HEI panel assessed a variety of models, such as proximity models, dispersion

models, and land-use regression models. They found that proximity models are the least effective (they can be confounded by socioeconomic status, noise, and other factors), and that newer models of exposure are better, but should be validated against real-world data.

When assessing studies for inclusion in their report, HEI ensured that one or more of the following exposure methods were included in the study: distance from and/or length of roadways; estimate of traffic density or intensity; modeling of primary traffic-generated pollutant exposure; studies of occupations characterized by exposure to traffic; and pollutant surrogates for traffic exposures only if data are provided to validate the pollutant as a reasonably specific surrogate for such exposure.

Mr. Greenbaum then discussed the health data that was found by the panel. He began with the effects of traffic exposure on asthmatics. One study's protocol took people for a walk in Hyde Park in London, and then on a different day took them to Oxford Street in London (a street with heavy traffic). Results showed that lung function declined in asthmatics when comparing Hyde Park to Oxford Street, and that this drop continued for up to one day after the exposure, thereby demonstrating the effect's validity.

Mr. Greenbaum spoke to the epidemiology studies assessed by the panel. The panel had to determine whether such studies provide enough data to show a causation effect of traffic, demonstrated based on the ability of the studies to control for confounding variables, the consistency of findings with other studies, and the quality of exposure estimation methods. The panel divided studies into three groups: those that had sufficient evidence for a causal association, those that were suggestive but not sufficient, and those that were not sufficient enough to show causality. A wide range of epidemiology studies were assessed to place into these three groupings, including mortality, cardiovascular morbidity, respiratory disease, and birth outcomes.

In terms of those studies done on the exacerbation of asthma symptoms by traffic exposure, the panel found that exacerbations of asthma are sufficient for causal association. The reason for this is that the panel found a large number of studies on this relationship that had adequate controls for confounding variables, and mostly precise effect information.

Studies that followed children from the time before their asthma diagnosis through their diagnosis found a strong, but not causal, relationship between traffic exposure and the likelihood of asthma. Cardiopulmonary mortality studies showed suggestive, but not yet sufficient, evidence to infer causal associations from long term traffic exposure. This lack of sufficiency is due to too few studies, and a relative imprecision of most estimates. Studies assessing the effects of traffic exposure on birth outcomes were shown to have insufficient evidence because only four studies met the criteria for inclusions.

Mr. Greenbaum summarized that traffic-related pollutants impact ambient air quality on a broad spatial scale, in regional, urban, and roadside manners. Based on the panel's synthesis, the area of most intensive exposure occurs within 300 to 500 meters of major roads. Mr. Greenbaum described the panel's finding that there is no single perfect way to

assess exposure to traffic; none of the pollutant surrogates met all the criteria for an ideal surrogate. Furthermore, while exposure models are important, they have various degrees of utility to health studies.

Mr. Greenbaum concluded that current data are incomplete on emissions, emissions transformations, and exposure assessment. There were enough studies to find sufficient evidence for causal association with exacerbation of asthma, and suggestive evidence for a number of other health effects, such as mortality, lung function, and respiratory symptoms.

Moreover, there was limited evidence found on effects, which was inadequate and insufficient to infer causal associations in adult onset asthma, health care utilization, COPD, non-asthmatic allergy, birth outcomes, and cancers.

The panel cautioned that epidemiology studies are based on past estimates of exposure and may not provide an accurate guide to estimating health associations in the future. However, given the large number of people living within 300 to 500 meters of a major road, the panel concluded that exposures to primary traffic-generated pollutants are likely to be a public health concern and deserving of attention.

Rob Brenner, U.S. Environmental Protection Agency (U.S. EPA), thanked Mr. Greenbaum for his presentation, and stated that this study is another example of where HEI has helped EPA in terms of assessing evidence with respect to the benefits of reducing air pollution and helping EPA set their priorities. Mr. Brenner opened the floor to questions.

Tony DeLucia, East Tennessee State University, commended Mr. Greenbaum on his presentation. He asked Mr. Greenbaum his thoughts on the changing demographics of society, and whether there are subsequent changes in life expectancy. He wondered whether there is an opportunity to combine forces with regard to some of the data being explored, by looking at data on multiple cities' life expectancy ranges and determining for example, if life expectancy decreases relative to particulate matter.

Mr. Greenbaum responded that a particular study the HEI has focused on looks at a given large improvement in air pollution and attempts to determine whether there is also an improvement in life expectancy. While the researchers cannot tell which sources caused the improvement in pollution (the Clean Air Act, changes in the steel industry, etc.), the HEI is funding a number of studies in major national cohorts of people in order to hone in on these questions and track them over time.

Janet McCabe, Improving Kids Environment, said that several years ago in Indianapolis, one of the National Air Toxics Assessment (NATA) reports came out which modeled and monitored a local neighborhood with high toxics. However, the NATA data was not quite accurate, and it turned out that the greatest health risk was from traffic in the community. Ms. McCabe explained that for reasons like this, Mr. Greenbaum's study would be

extremely interesting for people. She asked when he expects it to come out, and if there is a way to access his PowerPoint presentation.

Mr. Greenbaum replied that Pat Childers would have the PowerPoint, and that there is an earlier pre-print version of the report on HEI's website. They expect to have final report out in November.

Timothy Johnson, Corning Incorporated, said that the pollution levels at the center of roadways are two to three times higher than ambient, suggesting that the effects of this higher level pollution should be prominent. He reflected that there are numerous truck drivers, salesmen, and other people that might be on the road six hours per day, yet the HEI panel's results show that epidemiology is inconclusive. Mr. Johnson asked Mr. Greenbaum's professional perspective on why, if there is a two to threefold increase in pollution levels on roads, and a fairly definable set of vocational drivers that are exposed to this on a continuing basis, a clear health effect does not appear.

Mr. Greenbaum replied that there are not many studies that address this directly. One challenge researchers face is called a Healthy Worker Syndrome, which means that if somebody has a job in a setting where they are exposed to air pollution and are sensitive to it, they would quickly pick a different job, creating a self selection bias. It is rarely the sensitive subpopulations (elderly, asthmatic people) who will hold these jobs. Therefore the air pollution is less likely to have effects on these groups. The highest level of exposure, the on-road pollution, has not been studied with regards to those people driving on roads for a long enough time to assess consequences.

Lisa Gomez, Sempra Energy, asked for a definition of a major road.

Mr. Greenbaum responded that in general, a major road refers to anything from a major arterial, to four- to six-lane roads with large volumes of traffic that might have traffic lights, to a freeway.

Phillip Wakelyn, National Cotton Council, asked whether the HEI is analyzing exposure of people 300 to 500 meters from a road better than past studies, considering Mr. Greenbaum pointed out that they do not have a good measurement of dose.

Mr. Greenbaum stated that the HEI is funding studies to try to address this directly. For instance, the study in London had a whole suite of pollution measurement devices that were being wheeled along with the people as they walked. They have been funding very detailed ambient indoor and personal exposure studies for hundreds of individuals around country.

Mr. Wakelyn asked whether technology is improving for measuring ultrafine particles.

Mr. Greenbaum said he thought it was, considering there is much more experience with running devices on an ongoing basis. One problem is that Europeans tend to think that the only ultrafine particles are solid carbon particles, so they volatilize everything else before

they measure it; however, there is some evidence that what they are burning off is actually ultrafine.

Mr. Wakelyn asked whether the effects of exposure to ultrafine are really understood.

Mr. Greenbaum responded that they do not understand completely; while there are toxicology studies, they tend to focus on individual types of ultrafine particles. However, there is a growing awareness of the need to understand whether there are specific components that seem most likely to be impacted by ultrafine, for example, the ability to get into lung and blood.

Christopher Hessler, AJW, Inc, asked whether the data that has been found thus far is valid and serious enough that it is actionable at a policy level. For instance, the federal government operates child daycare centers located directly adjacent to major arterials. He commented that it might be useful for the government to begin taking action if data supports this.

Mr. Greenbaum replied that the HEI was not asked to make specific policy recommendations. However, childhood asthma is very real, and facilities are badly located and are therefore subject to high exposure. Therefore, it seems almost self-evident that change must occur. There have been some studies concerning daycare centers, although they are difficult to complete.

Mr. Hessler responded that considering the new Assistant Administrator's eagerness for the CAAAC to make useful recommendations to her, it may make sense for CAAAC as a panel to think about the presentation and make some recommendation that the Air Office look into a government reconsideration of childcare facilities..

Pat Childers, U.S. EPA, commented that they would need to share whatever language was drafted with the entire committee.

Janice Nolen asked whether the HEI report will address those people living directly next to roads in terms of health impacts. She also asked whether the report will have any recommendations about monitoring for these additional pollutants in the future.

Mr. Greenbaum replied to Ms. Nolan's first question, explaining that the report itself does not address this, but it is an issue that they will need to cover when they communicate the results. In terms of the second question, there will be a number of recommendations relating to better monitoring and better understanding additional pollutants in the future.

### **Subcommittee Report Outs**

Kimber Scavo, U.S. EPA, discussed the Permits, New Source Review, and Toxics Subcommittee. She said that she would be brief because there will be two separate agenda items later related to what was discussed in the subcommittee. The subcommittee

discussed Section 185 fees, which will be on the agenda later. Next, Bill Harnett, U.S. EPA, provided a status update on rulemakings going on in his division. The majority of the time was spent on the climate change work group. The work group's members include some members of the Clean Air Act Advisory Committee (CAAAC) and some from outside the committee. EPA is currently trying to firm up the representation. The purpose of the work group is to look at recommendations for implementing best available control technology (BACT) for greenhouse gases. The presentation later in the day will discuss the work group's timeline, next steps, reactions from the work group members, and the structure.

Rob Brenner, U.S. EPA, suggested they move on to the Mobile Sources Technical Review Subcommittee.

John Guy, U.S. EPA, said that the subcommittee meeting they had the previous day included all but two members. They have lost three members to new jobs, and currently have substitutes. He discussed the work groups. The MOVES model is EPA's mobile source model that will replace the current model. A draft has been out for a few months and the work group has been working toward a final form of this model. The Transitioning I/M and Clean Diesel work groups also reported on their activities.

The office had \$300 million in stimulus money, which was all dispersed within 90 days. They were the first EPA program to get any or all of its stimulus money out. For their yearly allowance of money under the Diesel Emission Reduction Program (DERA), they will have RFPs out in the next week or so. They were also required under DERA to do a retrofit report to Congress, which will be presented in the next few days.

The subcommittee also discussed new rulemakings and new studies. The committee will hear about the new rulemakings later. The studies included a Moving Cooler study from Natural Resources Defense Council (NRDC), which looks at transportation measures, and how to quantify greenhouse gas reductions from those measures. Dan Greenbaum discussed health effects. The third study discussed was about reducing heavy duty vehicle fuel consumption. It calculated that if certain technologies were applied, a certain amount of greenhouse gases were reduced during the payback period. Truckers look for short payback periods. Lastly, the subcommittee voted on an issue concerning a petition that the Agency had received. The members voted without dissent to support the Agency's proposed rule to reduce emissions from oceangoing vessels and not provide exemptions for Great Lakes vehicles. The Agency received a petition from this shipping interest. That was the subject of discussion and vote.

Dennis McLerran, Puget Sound Clean Air Agency, said that this goes back to the remarks by Gina McCarthy, U.S. EPA, that morning. This is probably the most impactful of all diesel rules over the last five years. This fuel switching could save between 13,000 and 33,000 lives per year. That is a good cost/benefit ratio. This rule will phase down the sulfur levels in fuel for oceangoing vessels. Currently these vessels use 27,000 ppm sulfur diesel, and this will phase it down to 1,000 ppm sulfur diesel. Diesel for on-road vehicles will be phased down to 15 ppm sulfur by 2012. This proposed rule had some late

opposition from Great Lakes and Alaska shipping interests asking for riders to appropriations bills that would grant them exceptions. The subcommittee discussed supporting the full implementation of these rules, without exceptions.

Rich Kassel, Natural Resources Defense Council, said that sometimes there are exemptions to rules that seem narrow and do not have big impacts. Many of you do not work in these issues, but these exemptions are not narrow. We are talking about the threat of creating a dirty fuel zone cutting deep into the heartland, from the St. Lawrence waterway all the way to the Great Lakes. The emissions would stretch from the Dakotas in the west and south for a long distance. Clearly this sulfur reduction is technologically feasible. Shippers are already using cleaner fuels. This is not a technology or cost effectiveness issue. We have already heard about the cost/benefit ratio. For the consumer, we calculated that this rule would change the price of a TV by only a couple of pennies. These are examples of what this rule would do.

Mr. McLerran said that this regulation has broad industry support, including from many shippers and port authorities, and from state and local air agencies. The key argument by the shipping community is that it needs to be comprehensive to the whole shipping community. These petitions are seen as a last-minute hit.

Bill Becker, National Association of Clean Air Agencies, said that this is not just about health. Ms. McCarthy said this morning that she wants EPA to be relevant and focused on health issues. This will save up to 33,000 lives per year. States are putting together plans to meet health based standards. To the extent that we do not do things to reduce air pollution that are perfectly feasible, such as reducing emissions from oceangoing vessels, those agencies will have to look to other places to cut emissions. Other industries will see their emissions cut.

Tim Johnson, Corning Incorporated, said that, as a representative for emissions control technology, the cornerstone of emissions control is clean fuel. They cannot get emissions reductions otherwise.

Mr. Becker read out loud the resolution passed by the Mobile Sources Technical Review Subcommittee: The Mobile Sources Technical Review Subcommittee is a diverse stakeholder-based advisory body to the United State Environmental Protection Agency, including representatives of states and localities, engine manufacturers, auto makers, refiners, public health experts, and environmental organizations. The subcommittee recommended, without dissent, that U.S. EPA carry out its proposal to address the emissions from large marine vessels on a nationwide basis and decline requests to exempt Great Lakes and other carriers shipping vessels.

Pat Childers, U.S. EPA, said that the committee needs to trust the subcommittee's decision on this resolution. All recommendations to the Agency need to go through the full committee. We will allow discussion on this topic.



John Campbell, Caterpillar, said that he supports Mr. Johnson's point about clean fuels and supports this resolution. Propulsion requirements need to be looked at as a complete system. It just does not work to have exemptions. He stated his support for the resolution as it was read.

Mr. Brenner said that they needed to be careful, as they have said in previous discussions. The Agency needs to be clear that they are not lobbying Congress. These are potential appropriations bills that would have riders. This language simply tells the Agency that we should implement this program without exemptions. That puts it within the realm of what the committee can do.

Janet McCabe, Improving Kids Environment, asked for an explanation of the basis of the request for exemptions.

Mr. McLerran said that the entities requesting the exemptions claim that they received late notice on this rulemaking effort. That is not legitimate, because this effort has been discussed for several years. Regulators have been working with interests around the country for a long time. So that argument does not have much weight. The other issue raised is cost. There is an additional treatment cost for the lower sulfur fuels, but that has been the case for all fuels. The Alaska cruise group said this would increase fares by \$7 per passenger per day.

Mr. Brenner said that the Agency also received a letter from the Alaskan governor asserting that because areas nearby are meeting air quality standards, the Alaskan ships should be exempted from the rule.

Michael Formica, National Pork Producers Council, asked if these groups were not involved in the ongoing discussions, and that was why they felt they did not have notice.

Mr. McLerran said that the EPA representatives can speak to their outreach efforts, but he said that he has been involved with port authorities for the past five years. There has been no shortage of opportunities for engagement. He expressed surprise that these groups could make this claim.

Mr. Brenner said that there were several options of how to proceed with this recommendation from the subcommittee. The group may want to look over this language at lunch. He asked whether the group felt they should proceed now, or review the language over lunch.

Eugene Trisko, United Mine Workers of America, asked Mr. Becker to read the prepared language again. Mr. Becker read the passage out loud.

Mr. Brenner said that the committee would need to recognize that this was received from the subcommittee and agree to send it forward to the Agency, not agree to the language per se.

Mr. Trisko said that his point is with respect to the observations on the request for riders to appropriations bills that might cut across this. Is there any loss to the sense of the resolution if you drop the names of those requesting exemptions?

Mr. Becker replied that the whole reason for the resolution was to prevent exemptions. Naming them makes it necessary and purposeful.

Mr. Trisko said that he was trying to get at the Agency's concern that this resolution is not about making a recommendation that is directed at Congress.

Mr. Kassel said that those entities have made requests to the Agency, which are now in the public record. This resolution addresses requests made to the Agency in the context of the ongoing rulemaking.

Mr. Trisko replied that his sense is that the resolution would be stronger if it did not refer specifically to the Great Lakes, but should just say that the rule should not have any exemptions. He was trying to make it broader.

Mr. Becker asked if he had a problem with mentioning the Great Lakes. The subcommittee felt it was important to be specific. They did stop short of saying they should not allow a rider on any legislative bill. The clean coal work group led the way for legislation to be formed later on. The subcommittee wanted to send a message without lobbying Congress that this was an important position. Saying that we oppose legislative riders is ok.

Mr. Trisko said that he was trying to make it broad, because there could be other riders.

Mr. Brenner said that Mr. Guy thought that within the proposed rule there may be some narrow exemptions, so they need to be careful about making it too broad. Mr. Guy suggested promulgating the rule "as proposed" to say that we do not want a rewrite. Maybe people want to think about this over lunch, because we all seem to be in agreement except for the details.

Tom Stricker, Toyota Motor Company, said that the committee is getting resolutions at every meeting that the members have not looked at. He asked if there is boiler plate language that they can use.

Mr. Childers said that it would have to say that the full CAAAC received and approved a resolution. But no, there is no standard format.

Mr. Stricker said that every time they say something different. Mr. Childers replied that there is some standard language on the Web site that describes the group.

Helen Silver, Clean Air Task Force, said that if they are trying to strike a balance with being broader, just add a comma after "without exemption."

Mr. Becker said that they would continue to work on the language.

Mr. Brenner said that he would need to talk to the rule's authors to make sure this resolution does not talk about exemptions that are part of the rule.

Mr. Becker said that he understood Mr. Stricker's point about the timeliness of the resolution. However, this issue came up only in the past few days and the subcommittee addressed it yesterday. Given the fact that this will be resolved soon, we did not feel it warranted additional time to look it over. Otherwise, it is preferable to work things out. But one way to be a committee that is relevant is to be nimble.

Mr. Stricker said that in order to be more nimble, they should have standard language.

Chris Hessler, AJW, Inc., said that it sounds like the subcommittee had consensus, but it is difficult to listen to a discussion about editing a paper we do not have. We need to consider a standard way to do this. There will always be issues we want to address and we need a system where people can think about them.

Lisa Gomez, Sempra Energy, said that she endorsed Mr. Hessler's comments. Also she had a level of discomfort given her lack of understanding of the issue. Does the stakeholder at issue here have a voice in this consensus? Was there anyone on the receiving end of this recommendation on the subcommittee?

Mr. Childers said that there are fuel and engine manufacturers, and Mr. Guy added that there are no shippers on the committee.

Mr. Kassel said that there is wide support from the shipping industry for a rule with no exceptions. This is a situation where a small subsection of a national industry does not want what the rest of the industry wants. One entity wants an exemption.

Ms. Gomez thanked Mr. Kassel for that clarification. She was concerned that this was a situation where an entire stakeholder group was opposed to this idea but was not at the table to voice that opinion.

Mr. Brenner said that the resolution was intended to forward the proceedings of the subcommittee to EPA. That is the way it has to work. This does not ask members of the committee to sign onto the substance of the recommendation other than to forward it to EPA. They will review the language once again after lunch.

### **Overview of the EPA's LD GHG Proposed Rule**

Pat Childers, U.S. EPA, started the meeting by addressing some of the comments he received during the break about the presented resolution. The typed resolution was projected for the committee to see. He asked Brianna Wodiske, an intern for EPA, to read the resolution aloud.

Mr. Childers asked if there are any comments towards the language that does not support the language. The committee members begin discussing the specific language of the resolution.

Phillip Wakelyn, National Cotton Council, suggested that the resolution end with “on a nationwide basis” and leave out “but not limited to...and decline request” to avoid the appearance of lobbying. He said it should be made clear that the committee is supporting the resolution on a nationwide basis, and it is up to the EPA to decide specific issues.

Janice Nolen, American Lung Association, disagreed, and supported leaving it in. The reason to do so is to clarify the committee’s response to a specific issue, not lobbying. Otherwise she believes it weakens it. It is a strong recommendation and they should leave it as it is.

Mr. Wakelyn asked how this was not lobbying.

Rob Brenner, U.S. EPA, clarified by saying it is just a recommendation to the EPA, and not aimed at the Hill. It is a recommendation about how EPA should implement the rule, which is not lobbying.

Valerie Ughetta, Alliance of Automobile Manufacturers, suggested that it be changed to “no geographic exemptions for the Great Lakes.”

Stephen Hartsfield, National Tribal Air Association, said he had no problem with the language he was reading, but wondered why only the Great Lakes are mentioned when both Alaska and the Great Lakes are areas of contention.

Bill Becker, National Association of Clean Air Agencies (NACAA), responded by saying that the Great Lakes are at the front of the line, and they are using them for emphasis, not to ignore any other potential region.

Gene Trisko, United Mine Workers of America, asked if anything was really lost from the intent of the resolution, apart from its reference to a specific part, if they state that “US EPA carry out its proposal to address the emissions from large marine vessels on a nationwide basis and decline requests for any exemptions.”

Mr. Becker responded that content was lost. The members of the subcommittee who have been following this very closely feel strongly about singling out the Great Lakes.

Mr. Brenner asked the committee if they wanted to have a vote to see if people agreed to the language.

Dennis McLerran, Puget Sound Clean Air Agency, objected to the vote on the basis that it had been previously proposed for after lunch, and he was afraid some members were not in the room.

Mr. Brenner agreed with this, and they set a specific time for the vote to occur after lunch. He then introduced Bill Charmley from the Office of Transportation and Air Quality (OTAQ) who is working on the Light Duty Vehicle Rule.

Mr. Charmley works for OTAQ in Ann Arbor, MI, and presented an overview on the joint proposal between the EPA and Department of Transportation (DOT). He told the committee that his presentation would include a high level overview, a discussion of EPA proposed and corporate average fuel economy (CAFÉ) proposed standards, a discussion of key elements of the proposal, and estimated cost and environmental impacts, then finally the next steps.

On September 15, EPA Administrator Jackson and Secretary LaHood signed a joint Notice of Proposed Rulemaking (NPRM), including Light Duty Vehicle Greenhouse Gas (GHG) standards from EPA and CAFE standards under DOT. The proposal follows closely an announcement from the president this past spring for a national program for bringing together CAFE and EPA standards, and also discussion with the Air Resources Board in California to come up with a coordinated federal approach that would be satisfactory to California and other states that allow for auto manufacturers to build a single fleet of vehicles in the timeframe of this program. He said that the national program will achieve reductions in greenhouse gas emissions and fuel consumption.

Mr. Charmley then moved into a discussion of the analysis that went into the program. First, EPA GHG standards, specifically CO<sub>2</sub> standards, are being proposed for the 2012-2016 model year vehicles for light duty cars and trucks that would phase down to a level of 250 g/mile for CO<sub>2</sub> in model year 2016. They provide flexibility for the CO<sub>2</sub> standard to be met with credits that are not currently available under CAFE through improved air conditioning operation, for both CO<sub>2</sub> and reduced hydrofluorocarbons (HFCs) from air conditioning. The 250 g/mile CO<sub>2</sub> standard is a projection for the fleet, and corresponds to a 35.5 mpg level if all reductions resulted from fuel economy improvements. Finally, the National Highway Transportation Safety Administration (NHTSA) also proposed new CAFE standards which would lead to an estimated fleet average of 34.1 mpg in 2016. He explained that the primary difference between the two numbers is that under the Clean Air Act they believe they can encourage improvement of air conditioning systems that equates to the 1.4 mpg difference between the two agencies.

Mr. Charmley said that in spring of 2007, when the Supreme Court made its decision regarding mobile sources, they initiated an enormous amount of technical work that is outlined in this proposal. This includes cost estimation, new model development, and new estimation of technology effectiveness. That is one of the key technical areas of strengthening this proposal that EPA contributed towards. He pointed to another important part, which was the issue of transparency. In the past there has been a strong dependence on confidential information from the auto industries, but EPA and DOT for this new proposal jointly decided to rely substantially less on those types of sources, and to rely much more so on public and available data. This is a huge improvement because it will allow for the public and automakers and suppliers to have more detail in understanding background.

He went on to say that the standards themselves, for each individual company, are a corporate wide average for each model year. Several years ago, NHTSA and DOT came up with a methodology where they look at an attribute-based standard, called a footprint attribute-based standard. This is a physical shadow of the vehicle. This means that based on makeup of company's fleet, they will have a different standard compared to other companies. Companies with small vehicles will have numerically more stringent standards than companies selling larger vehicles. Actual standards are curves which equate a vehicle size to its specific CO<sub>2</sub> or MPG target. While the numbers are different, the technologies that can be applied to vehicles are the same, so the physics of it mean that a smaller vehicle will achieve lower CO<sub>2</sub> and higher fuel economy.

Standards are formulas that are a function of the size of the vehicle. On the x-axis is the footprint and on the y-axis is the gram/mile CO<sub>2</sub> level. Companies have to, based on their actual sales, add up their sales and measure them against footprint targets and calculate their standard for that year. Then based on their performance we'll know if they are compliant.

Mr. Charmley showed a slide with two tables whose curves are the standards for cars and trucks. In order to do feasibility and cost assessment, since its based on sales and cost of the fleet, the two agencies needed to make projections about what the 2012 and 2016 fleets will look like. This set of tables shows, for EPA and DOT, a projection of what they believe will be the targets for the industry as a whole based on the company projected standards. He explained that the difference between projected target and achieved is that there are a number of flexibilities that result in less CO<sub>2</sub> reduction in the standard in the early miles of the program that can help address costs and feasibilities issues but do not always translate into CO<sub>2</sub> reductions in the early model year program. For EPA we have a couple flexibilities, called flexible fueled vehicle credit, like the E85 credit, and temporary LEED time allowance program. This means that projection of achieved values, the difference between targets and achieved, lessens as flexibilities fade out. On the CAFE side, they have separate standards, but basically if you meet EPA standard you will by default meet the CAFE standard. You can see targets for CAFE are 34.1 mpg by 2016 for all light-duty vehicles. CAFÉ has two flexibilities: the first being a flexible fueled vehicle and the other is the ability to pay CAFE fines, which is a dollar per 1/10 of an MPG. NHTSA's projections are based on the fact that some companies have historically taken advantage of the CAFE fines or the flexible fueled vehicle credit, and so the actual achieved values have fallen short of the actual targets. On the DOT side, their projection is that against their target of 34.1, the industry would actually be at 32.7. As he touched upon earlier, EPA falls short in some of the years, but not when flexibilities go away in 2016. The way the two agencies analyzed programs was independently so that they can justify standards under each agency's authorities. The reality is CAFE numbers will actually be much better than 32.7 since same vehicles will have to meet the EPA program, so the fleet wide standards can still achieve this 250 g/mile target.

Mr. Charmley began discussing the range of EPA program flexibilities. There are many different types of flexibilities like emission banking and trading elements, which involves trading tons of CO<sub>2</sub> equivalent between car and truck fleets, or between two different car companies, and there is unlimited banking and trading involved in this. The flex-fuel vehicle credit has been available for a number of years, and for the greenhouse gas program they are planning to allow this up through MY 2015. For MY 2016 and later, they only allow greenhouse gas credits based on actual performance and a projection of the actual used fuel they are consuming. There are flexibilities for air conditioning HFC and CO<sub>2</sub> reduction credits, and additional early credit opportunities for doing better than California or CAFE. There are incentives for advanced technology credits, and finally incentives for innovative technology credits, with ideas like a solar roofing panel.

The last flexibility that Mr. Charmley discussed is the temporary lead-time allowance program. They are broken down between two types of companies. One is for historical CAFE fine-paying firms (subsets of automakers who pay instead of comply, so their fleet performance is lower than the CAFE standard). Since the first year of the new proposal is not very far away, it has been estimated that it was unlikely these companies could apply new technology quickly enough to meet new standards, so they provided flexibility to transition. This program is also for small volume companies that only sell one or two product lines in the U.S. where their redesigning schedules make it hard for them to come into compliance right away (volumes less than 400,000). These companies can take up to 100,000 units over the four years, but the fleet still has to meet primary standard. This program is temporary, and will cease to exist in 2016, but this program will allow companies to sell products in the U.S. and give them enough time to bring on technology.

Mr. Charmley provided a high level summary of the costs and benefits for the 2012-2016 model year. There will be about 1.8 billion barrels of oil saved, over the lifetime of those five model years, and 950 million metric tons of CO<sub>2</sub> equivalent. The estimate for the last year, when the regulations are more stringent, will be a 2016 per-vehicle costs of less than \$1,100, and for the industry as a whole they estimate compliance costs of less than \$60 billion. The total benefits will be \$250 billion and net benefits of \$190 billion (using \$20/ton CO<sub>2</sub> valuation and 3 percent discount rate). In the calendar year 2030, as the fleet starts to roll over but vehicle miles traveled (VMT) increases, they estimate there would be a 21 percent reduction in light-duty vehicle GHGs, as well as net present value of net benefits through 2050 with a 3 percent discount rate of \$1.9 trillion. In addition to the greenhouse gas reductions and fuel savings, there are estimates of reductions of criteria pollutants, pre-cursors and air toxics primarily from upstream impacts.

Mr. Charmley reported that proposed standards do not require “next generation” technologies. Estimates are based on existing technologies such as advanced gasoline technologies, air conditioning systems, and other technologies that are in production today. That is the primary basis for the proposal. Mr. Charmley said that they did look at hybrid electric vehicles, battery electric vehicles, etc, but ultimately did not predict that these would be dominant in the market in the next five years and the standards can be met with little or no penetration of them. This indicates enormous opportunity for future greenhouse gas reductions through their introduction.

In terms of consumer impacts, there is a predicted payback period for model year 2016 vehicle. Mr. Charmley reported that it will take less than three years for buyers who pay cash, and that fuel savings greater than loan payment increase by \$130 to \$160 each year for a typical five-year loan with a 7.5 percent interest rate. The calculated lifetime savings will equate to more than \$3,000 for an individual who pays cash.

Lastly, Mr. Charmley moves into a discussion of the next steps. This is a joint proposal that the EPA put out, and it was announced in September and was put in the Federal Register on the 28<sup>th</sup>. The public comment period ends November 27. They are going to conduct three NHTSA joint public hearings: one in Detroit, one in New York City and one in Los Angeles. Also, under NEPA the Department of Transportation is required to go through an environmental impact statement, and NHTSA has also created a draft EIS at the same time the proposal came out for the CAFE standards which has its own comment period and will have a separate public hearing. The goal is to have the final rule issued before the end of March in 2010.

Chris Hessler, AJW Incorporated, acknowledged Mr. Charmley for his great overview, and then asked how it will be possible to monitor actual use of E85.

Mr. Charmley said that they do not have the proposal for that. They have a couple different concepts put out there. One would be where you would look at the sales of vehicles that are E85 capable, and make a forward projection of the volumes and divvy it up between companies. The other concept is monitoring E85 use with an ON-Star system or O<sub>2</sub> sensor, and based on that give credits to companies whose vehicles use more E85.

Gary Jones, Printing Industries of America Graphic Arts Technical Foundation, said he had three questions, none of which were related. First, the significance of this seems to be on the 250 g/mile, so what is the science behind that number? His second question was about the costs. CAFE has been around for a while, but the Agency gone back and done a cost analysis of what it was originally estimated to cost and what the actual costs were? And third, with reductions in greenhouse gases, what impact will that have on the temperature?

Mr. Charmley responded that the 250 g/mile estimate is from 400 pages of analyses in documentation and modeling. In order to estimate the greenhouse gas reduction capability of various technologies, and whether those technologies can come on board quickly in a fleet, they have reviewed the literature from the past five years and used that for technology estimates. They have a \$100 million laboratory in Ann Arbor where they can measure the effectiveness of advanced technologies through methods like isolating technologies and measuring actual CO<sub>2</sub> improvement. They can also estimate the effectiveness of individual technologies and combinations of technologies millisecond by millisecond. They have looked at less stringent standards but rejected them. He answered the second question about historical CAFE estimates by saying that their office has not looked historically at the CAFE costs of technologies, but it is something they have done with criteria pollutant standards; maybe it is something they can do. For the third



question, he said they do have in the proposal actual projections up through 2050 and 2100 using some climate based models to see if there is an impact, and they see a very small but measurable impact of this proposal on global measurements.

Tony DeLucia, East Tennessee State University, asked if this is at all linked to the macroeconomic level and payback and with domestic green jobs to do all this.

Mr. Charmley said that for this proposal EPA has used a well known peer reviewed economic model to evaluate a number of these climate change bills at the request of Congress. For the first time ever for mobile sources they used this to determine whether this rulemaking is big enough to have an impact on the economy. They saw a small but meaningful increase in GDP, and the same in consumer disposable money. However, they did not put too much weight on it because they were mostly doing this analysis to ask for comments.

Mr. Trisko then asked how the proposed standards compared to those adopted by the European Union (EU).

Mr. Charmley responded that in the EU they have a number they have adopted and an aspirational one for 2020. He believes that in 2015 they have a target of 130 g/km, of which 10 g/km can be met from non-vehicle technologies like smarter driving systems. He said that if you do the conversion on the mpg, it is more stringent than what EPA has, falling somewhere in the realm of 45 or 50 mpg. For 2020 their target is 95 g/km, and he thinks that is 60 or 70 mpg. The technologies that they will be using to meet their 2015 target are same that U.S. companies are using. He said that the most significant difference is the difference in fleet size, and in the size of their cars. They also have an advantage in that their fleet is more dieselized already.

Mr. Trisko asked if the 2020 target is aspirational.

Mr. Charmley said that his understanding is they have it as a regulatory goal, meaning it is not an actual standard, but it was put into their legislation. For this goal they will have to come back to and affirm whether it is actually possible or not.

Michael Formica, National Pork Producers Council, asked what can be done to create incentives for further dieselization of the domestic fleet. Is there a similar footprint chart showing how a Volkswagen Jetta would compare to these diesel vehicles, or how different cars compare?

Mr. Charmley said that they put the examples of midsize/fullsize/compact cars because they are trying to show that the standards are not for every car, but for the fleetwide average. The example models of cars are saying that the average car fuel efficiency has to meet standards. As far as incentives for diesels, they definitely could be used to meet standards, but it is their prediction that they do not need diesel technology, and the only way to create incentives would be to make standards more stringent.

Kelley Green, Texas Cotton Ginners Association, asked if the EU's CO<sub>2</sub> emission target for fuel economy is normalized to take into account their greater fuel economy, how does their CO<sub>2</sub> emission target compare to the U.S. target?

Mr. Charmley said he did not know the answer to this.

Tim Johnson, Corning Incorporated, fielded this question and said that the Honda Fit is a more average European car. The 120 g/km standard in Europe is based on their average vehicle size. Instead of using a footprint, the EU uses mass as a way of sliding that emission factor. While in the United States we have 214 g/mile standard, that is roughly 120 g/km, which is the average in Europe, meaning that we are pretty close. In terms of similar vehicles, we are pretty close.

Mr. Charmley added that this was one of the points he was trying to get across, that if it requires the same conceptual technology, then they are pretty close, but as far as numeric numbers, the European number is much more stringent because their fleet is smaller.

Mr. Brenner thanked Mr. Charmley, and then addressed the committee before dismissing them for lunch. He said that for those involved in the discussion of vehicle standards over the years, there was a tremendous amount of work that went on before the proposal took place to see the extent of consensus among the auto industry, environmental community, and state governments.

### **Section 185 Work Group Close Out**

Rob Brenner, U.S. Environmental Protection Agency (U.S. EPA), explained that much work has been put into turning Section 185 into implementation and guidance. They are getting to the final stages, and wanted to provide the Clean Air Act Advisory Committee (CAAAC) with an update of where things stand.

Kimber Scavo, U.S. EPA, thanked Bob Wyman and Eddie Terrell for leading the work group, which met from January to May and was characterized by extensive, excellent discussions. There was not consensus, as Gina McCarthy emphasized earlier, but there were numerous good ideas put forward. Because of these deliberations, a better guidance document will be produced. When consensus cannot be reached, it is still helpful for the Agency to address the questions raised by the work group that may not have previously been thought of in developing a policy. The task force identified 10 areas of potential state discretion, and asked if they were legally permissible under either Section 185 or Section 172(e) of the Clean Air Act. The task force urged EPA to issue prompt guidance on alternative options to Section 185.

Ms. Scavo continued in reviewing the Clean Air Act Section 185, which applies as an obligation for severe and extreme ozone nonattainment areas that fail to attain by their attainment date. She explained that major stationary sources of VOC and NO<sub>x</sub> in such an area are subject to fees (\$5,000 per ton adjusted for inflation) for emissions that are above 80 percent of the attainment year emissions baseline. EPA is required to collect the fees if

a state's State Implementation Plan (SIP) does not meet the requirements of Section 185, or if a state is not administering and enforcing a Section 185 SIP. The D.C. Circuit Court opinion (*South Coast v. EPA*, December 23, 2006) identified Section 185 fees as a control requirement that must be implemented by former 1-hour ozone severe and extreme areas to prevent backsliding per CAA Section 172(e).

To conclude the review of Section 185, Ms. Scavo cited the EPA's release of "Guidance on Establishing Emissions Baselines under Section 185 of the CAA for Severe and Extreme Ozone Nonattainment Areas that Fail to Attain the 1-hour Ozone NAAQS by their Attainment Date" on March 21, 2008. This document addresses alternative baseline calculation for when a source's emissions are cyclical, irregular, or otherwise vary from year to year.

Ms. Scavo presented a list of the areas failing to attain the 1-hour NAAQS standard that are required to implement a Section 185 fee program. Sacramento and Coachella Valley have adopted full or partial programs. They proposed a limited disapproval of San Joaquin Valley's 185 program because it failed to meet all the requirements. She cited Baltimore, whose attainment date was 2005: if the city failed in 2006, they would have to be re-designated to attainment.

There were 10 areas of potential state discretion, or flexibility, proposed by the task force for comment by the Agency. These areas range from aggregation of emissions, pre-attainment year on type controls, market-based programs, post-attainment year credit sources, post-attainment year new sources and air quality investments, state use of program revenues, equivalent programs, and finally, program sunset. Equivalent programs and program sunset are items that have been discussed in detail.

Ms. Scavo explained that in response to the task force, the Agency believes that some of the proposed ideas will not be approvable under Section 185. Formal letters will be sent to the CAAAC with their response at the time that EPA releases the guidance memo. She stated that they are close to releasing the guidance memo, which will address the following: the applicability of Section 185 to the former 1-hour attainment areas; a summary of Section 185 requirements; an explanation of when fees apply and end; an interpretation of 172(e) provision; the inflation adjustment for Section 185 fees; and a response to CAAAC task force options.

She concluded, asking that all questions be sent to Denise Gerth at [gerth.denise@epa.gov](mailto:gerth.denise@epa.gov).

Mark MacLeod, Environmental Defense Fund (EDF), asked Ms. Scavo for a more accurate estimate of when the guidance document would be released. Ms Scavo replied that it might be this month (October).

Mr. Brenner thanked Ms. Scavo and the members of the committee that have worked long and hard on trying to put together recommendations.

Pat Childers, U.S. EPA, said that they would vote on the resolution from the Mobile Sources Technical Review Subcommittee.

Rob Brenner, U.S. EPA, asked everyone in favor of moving ahead with the language as presented, with the vote for the committee passing this resolution along to the Agency, to raise their hands. Nobody opposed the resolution.

Chris Hessler, AJW, Inc, asked Mr. Childers to comment on the issue they had discussed during the lunch break.

Mr. Childers said that he would think through a process for how to move resolutions from subcommittee to the committee and Agency that are not on the agenda. He will send out a process and discuss it at the start of the next meeting. They will now try to leave a 15-30 minute period after every lunch break to vote, at least to approve the minutes from the previous meeting. He then introduced Kevin Coyle from the National Wildlife Federation.

Mr. Coyle said there is a phenomenon referred to at the National Wildlife Federation (NWF) as the new indoor child. He asked the committee members how many of them played outdoors as children. Most members raised their hands. He asked how many of them let their kids walk to school. Fewer raised their hands. There is a phenomenon in the United States of kids staying indoors too much. There are implications for children's health and indoor air quality issues.

The basic assertion is that kids no longer play outdoors. Children spend 6.3 hours per day looking at electronic screens. This statistic is not saying anything bad about television or video games, but just says that in an average week, a child at home spends 44 hours per week staring at electronic screens. This is only recreational use and does not include homework. There is little difference between urban and rural children, so the statistic is fairly universal. What does it mean? The idea of coming home and spending time outdoors is gone. Kids spend about 10 times more time staring at electronic screens as they play outdoors. There is a variety of implications to this, including both physical health and other costs. Kids do not interact with one another. Back when many of us were children, we got together with friends outdoors, and started to negotiate about what to play, what the rules were, etc. That was how you learned how to work as a team. That is not being strongly cultivated except in organized sports. On a casual basis, this is not well organized.

On an average week, members of the committee spent about 40 to 60 hours playing outdoors. Now, children spend about 30-50 minutes per week in unstructured outdoor play. Organized time outdoors, such as soccer practice, brings the total to about four hours per week.

Health professionals talk about the obesity epidemic. Kids are missing about 60 minutes per day of light to moderate activity. The American Academy of Pediatrics says that kids should have unstructured play, but many kids are over programmed. Also, children's

attention spans in school are not as good, and they are losing creativity because they are not inventing their own games.

Today's children are missing a foundation of fitness. He told a story about walking through the airport with his 17-year-old granddaughter, who is very thin and appears to be in good shape. His granddaughter was out of breath by the time they reached the security checkpoint, and she was not even carrying her suitcase. There is a foundation of fitness that adults grew up depending upon. What does this mean for the health of upcoming generations? It can mean the early onset of diabetes, cardiopulmonary problems, and a poorer overall state of health. We all hope to stay healthy for most of our lives and have our decrease in health occur very late in life. The next generation will see problems at an earlier age. The medical community says that the next generation of children will have a lifespan three to five years shorter than if they had a base of fitness. While the nation is debating healthcare, this issue is overlooked. There is also a disproportionate impact on children in lower income homes, because they have less access to organized activities, their parents have a different sense of safety, increased reliance on public programs, and more exposure to pollutants.

The NWF began worrying about this because if you do not play outdoors when you are young you do not care about nature. The NWF developed a public education program that will position nature as something important for kids and encourage kids to get a green hour per day. Research shows that kids are not as prepared for school as if they were exercising. NWF identified opportunities for kids to get outdoors, and are developing a policy agenda. There are opportunities for non-governmental organization (NGO) partnerships.

EPA has a commitment to children's health. The question is what this means for air quality. Part of this committee's charge is to look down the road and see what issues are coming up. There is a need to focus more on indoor air quality. The warning system about air quality currently in place points out when air quality is bad, but not when it is good. We need to re-message the alerts. Other barriers include not having someone to kick the kids outside, the supply of outdoor spaces for kids to play, competition for children's attention, and because parents fear for their children's safety. A child has a one in a million chance of being abducted by a stranger while outdoors, but a one in five chance of talking to a sexual predator online. So the safety issue has changed. The image of children walking across a fallen log to cross a stream is scary for parents. We need to look for opportunities where parents feel it is safe for kids to go outdoors, such as camps, schools, and backyards. There also needs to be a barriers assessment to look at the impact of dog bites, ticks, germs, etc.

NWF has been looking at this as a policy issue. It is relevant to the forecasting work EPA does on air quality. When Gina McCarthy was working in Connecticut, the No Child Left Inside policy meant a focus on parks and recreation. There is a big public health dimension to this. The education community needs to pay attention because states are developing plans to have statewide comprehensive No Child Left Inside plans. Schools have wellness plans that focus less on getting kids to play outdoors, but do focus on

environmental quality. Nature play spaces need to be created, like playgrounds. NWF also wants support on the Hill for legislation for funding for states to fund No Child Left Inside plans. They recognize that the delivery vehicle for various programs will be the public sector and state-managed resources such as schools and daycare centers. To get the message out about good air quality, programs like walking to school and anti-idling become more important. Then you also ask what the connections are between the indoor child epidemic and air quality policy.

Rich Kassel, Natural Resources Defense Council (NRDC), said that his kids do spend a lot of time outside and walk to school. NRDC is thinking about the planning of communities. There is the LEED approach for how to build communities with sidewalks and outdoor spaces for kids and adults to make areas more walkable. These communities have both air quality and wellness benefits. He suggested speaking to smart growth experts.

Mr. Coyle said they have focused a lot on community designs. Ironically, suburban communities were built to allow residents to get out to nature more, but kids in cities spend more time outdoors unless the neighborhood is really bad or the parents are afraid that it is a bad neighborhood. There is a big connection between community design and children's health.

Tony DeLucia, East Tennessee State University, spoke about walkability and mixed-use developments. Initiatives like completing the street, which means designing for all users, not just automobiles, must be supported. Stakeholders are not working well enough together. For example, there is the Safe Routes to School program, but it is not being tied to people who work on obesity, depression, and poor learning outcomes. The utilitarian walking can be put to good use. In most families, the automobile is the second largest piece paid out of their paychecks after housing, but if the community is not auto-oriented but follows a smart growth model, you get things like neighborhood schools and the desire for local food. Anything that can be done to get kids to think about health should be done; we need to live both longer and healthier and we are not taking advantage of the environmental and cultural links. He applauded Mr. Coyle for bringing this topic to the committee. There needs to be change, because it will decrease the cost of healthcare. Without change, the country has unhealthy employees. This is not a subtle problem: life expectancy is already going down in Tennessee in certain areas.

Mr. Coyle said that 20 years ago, half of all kids walked to school, but now only 10 percent do. Outside of any elementary school there is a line of cars.

Kelley Green, Texas Cotton Ginners Association, said that there is a big education job ahead on this topic. Most people understand the obesity problem with kids, and they want to see kids safe, but then the linkage breaks. It is actually more dangerous to be inside than outside based on air quality. All of his kids walk to school, but other kids do not. It does not make a huge change to walk to school, but it makes a big difference. If the parents of the other children pushed them, there would be double the number of kids

walking to school. There is no reason they cannot, other than worrying too much about their kids walking.

Mr. Childers said that there are also a lot of emissions from those cars lined up at elementary schools.

Michael Formica, National Pork Producers Council, said that he is a member of the Safari Club and has been in discussions with them over the last week and a half. As more of the population is in urban areas, people have lost their sense of rural areas and how food production works. It is important to get folks into the environment. They should work with the Boy Scouts and Girl Scouts, and at the state and local government levels for game and fishing to make sure there are natural areas located closer to urban populations. For him to get to public lands hunting lands from McLean, Virginia, it is a two hour drive. He stressed spreading the message about the diversity of natural resources in the DC area.

Mr. Coyle said that this was an important point, passing on a love of nature from one generation to the next. He said he was certain that if Mr. Formica goes hunting, it is because he used to go with his dad. The NWF is a mixture of people, including bird watchers and hunters and are teamed with many conservation groups. Journalist Richard Louv wrote *Last Child Left in the Woods* about how kids are not being pushed outside to play, causing an extinction of experience in America. He formed an organization called Children in Nature that is based on this idea. There is a lot at stake here for air quality groups, though the connection is very subtle. This issue does have a way of bringing political groups and varying viewpoints together in a way that global warming can not.

Lisa Gomez, Sempra Energy, said that as a parent of three children, she is a big fan of the NWF for their education programs, many of which are geared at this issue. They even have a tool where it will show you outdoor adventures in your own neighborhood. There are opportunities to take advantage of the fact that kids are in the house playing with computers. She said that PBS has programming about wild animal babies. There is an opportunity to develop online games to teach kids about conservation and greenhouse gases. There could be a game showing how kids can go through their house and reduce energy consumption by doing things like turning off lights. This would benefit both current and future environmental goals.

Mr. Coyle said there are many games from the virtual world that get kids to go outside. The NWF does have a program called Climate Classroom, which is geared toward teaching kids about climate change, and it is important with that issue to be age appropriate. Al Gore does not mix with a third grader. They are also starting Ecoschools, which is an international program with 33,000 schools participating. This will launch in a few weeks.

Mr. Childers agreed that it is important that kids not learn only on the computer.

Stephen Hartsfield, National Tribal Air Association, said that in tribal communities, spending time outside is very important. Elders say that kids spend too much inside, which also creates a disconnect between generations and the loss of a historical connection with the culture. Tribes are combating both issues by getting kids outside with elders. One example of another way to get kids outdoors is the Americorps program for older youth. High school age kids should be doing that.

Mr. Coyle said that they have a program with about 400 schools working on the schoolyard habitat, and there is a focus on the Navajo reservation and tribal schools. Kids can create habitats with native plants and tribal elders can teach about the origins of the plants.

Helen Silver, Clean Air Task Force, said that in her neighborhood there are urban gardens. Focusing on that could be productive in terms of reducing greenhouse gases and getting kids outside, and it is good for community development.

Mr. Coyle said that in urban areas, there is a greenhouse gas benefit to any urban greening.

Janice Nolen, American Lung Association, said that they have been working with EPA on indoor air and have developed tools for school programs that help schools with a systematic approach for how to take care of a school building. Having a lot of exposure to indoor air has historically been a problem. However, she would not assume that not being outdoors means that kids do not care about the outdoors. People assume that indoor air quality is safe and do not realize the significant risks associated with it.

Mr. Coyle said that casual outdoor experiences are about health, not conservation mindedness. Studies show that people who are conservationists often have a common experience. Before the age of 11, they had an immersion experience outdoors. Getting kids outside improves health, but can also lead to conservation mindedness.

Janet McCabe, Improving Kids Environment, said that some of the barriers to kids walking to school are formidable. In some urban areas there are no sidewalks, and it can be dark when they leave in the morning or come home in the evening. The school her kids attend could not let kids walk because a kid got hit by a car. It is possible to let kids ride the school bus one way when it is dark out, and walk the other way in the daylight. With the pressures on schools, it is important to connect outdoor time to test scores.

Mr. Coyle said that the schoolyard habitat has been taken on system-wide in Houston and Chicago. If kids are engaged in learning about nature, they do better on standardized tests. Making that connection is scientifically important.

Susana Hildebrand, Texas Commission on Environmental Quality, said that there is a notion of outdoor air quality and risk. People have a perception that the outdoor air quality is getting worse because areas are failing to attain, but that is because the standards are getting more stringent. This is occurring in Texas. The reality is that air



quality is much better than it was, but parents are still worried about children being exposed to bad air quality. Just because it is unhealthy for certain sensitive populations does not mean kids cannot play outside. An hour outside is also not the same as an 8-hour exposure to a certain concentration. People do not understand the context of the information provided to them.

Bill Becker, National Association of Clean Air Agencies, said that in response to Ms. Gomez's question about online games, there is a program called Smog City that was developed by the Sacramento Air Quality Management District. This is like Sim city for air pollution, and it teaches about the impacts of air pollution. He showed it to his children's middle school science class and they were very engaged with it.

Mr. Childers thanked Mr. Coyle for his presentation. The CAAAC is interested in keeping the connection between children and nature alive.

Mr. Coyle thanked the committee for the opportunity.

### **BACT for Greenhouse Gases**

Peter Tsirigotis, U.S. EPA, said he would be describing what the greenhouse gas (GHG) work group is, and what they are discussing. There are three co-chairs of the group: Eric Svenson from PSEG Services Corporation, Mark MacLeod from the Environmental Defense Fund (EDF), and Mr. Tsirigotis from the EPA.

He discussed the numerous things that will be happening over the next months. They had proposed a prevention of significant deterioration (PSD) tailoring rule, which proposes a threshold of 25,000 tons of CO<sub>2</sub> equivalent beyond which sources that will be considered major sources. He explained the importance of this saying that once they go out with EPA's mobile source rule in spring 2010, GHGs are going to be regulated, and PSD will be applied to major industrial sources. This means that the states will have a pretty immediate and major role to play to permit a number of stationary sources that pass that threshold, and the challenge for EPA will be to best support the states in that endeavor. He said the Agency needs to figure out what type of technical information and guidance they can provide. As a part of this, Gina McCarthy was very interested in reaching out to Clean Air Act Advisory Committee (CAAAC) and getting a sense from this body of what kind of help EPA can provide, and what kind of help the committee can give to EPA. So as a part of that they formed a work group under the Permits, New Source Review and Toxics subcommittee to start that process going. He acknowledged that they are talking about a tight timeline for this body to come up with any recommendations to EPA. They had their kickoff meeting last week, which was teleconference with both CAAAC and non-CAAAC members. There was a three hour meeting the day before this meeting, and there were a whole lot of things that emerged that people wanted to look at as a group. To give a sense of the current charge, Mr. Tsirigotis said that PSD involves a number of things, one of which is the Best Available Control Technology (BACT). The work group will focus on BACT and will provide information to the states about approaches that will aid the permitting authorities, and also look at new innovations. He said that eventually

they will want to develop an initial working draft at the end of the year which will go to the committee, and then by March they would have something final.

He described the topic areas that were discussed. There is the gathering of technical information and data regarding emissions and what controls exist out there. He said EPA wants to see what insights the group could provide that would allow the permitting authorities to get a better handle on energy, environmental, and economic impacts that would be associated with this pollutant and greenhouse gas controls. It would be about cost effectiveness criteria, like collateral effects. The third area is evaluating and encouraging new control technologies. The work members really thought about having a construct in there that encouraged innovation.

Next Mr. Tsirigotis described the traditional five steps of the top-down BACT process. First you identify what control technologies, and next you eliminate options that are not deemed technically feasible for the task at hand. Third, you rank the controls that are not technically infeasible on how well they perform. Then you rank the controls based on collateral impacts like energy, environmental, and economic impacts. Then finally you select your technology. As a general rule the BACT can never be less stringent than a nationwide use or performance standard.

Then, he moved into what the general group discussion had been. First, many people felt the need to stay as focused as they could on the fact that state permit writers need sufficient technical information and guidance to conduct timely BACT determinations beginning potentially this spring. There were also members interested in exploring innovative approaches for determining BACT. He sees the challenge is going to be how to balance the need for a quick product with the opportunity to promote innovation. They also discussed potential interim work products to focus the work group and lead to a final product, specifically the idea of looking at case studies where folks have gone through a BACT process, and compiling available information from the web.

Mr. Tsirigotis ended by talking about the next steps involved for the work group. Their goal is to have a product for review by the end of the year. First they will focus on the primary needs of the states, in the sense of technical information and guidance on likely and relatively straight-forward issues. Also, he made it clear that he does not want to lose touch with any innovative concepts that may emerge, so they will make sure they are exploring them along the way. The group will hold meetings bi-weekly, and will update the full subcommittee regularly. As information starts coming in they will make it available by putting post interim products and information on the website.

He asked if Mr. MacLeod or Mr. Svenson had anything to add to the presentation.

Mr. MacLeod thought that Mr. Tsirigotis had presented an excellent summary, and he just wanted to add two things. The first thing he was struck by was that normally when someone mentions a six month schedule with a three month interim people are taken aback. But it seems that there is a lot of commitment because of the regulatory driver that is behind them, and it was encouraging to see how dedicated people are. The second

thing he mentioned was that one of the tasks is compiling all the information that they already know, and so if any of the present organizations have information about the control technologies in existence, please send it in.

Mr. Svenson said that the session had been energized yesterday and Mr. Tsirigotis' summary had been on the mark. He thinks it is clear that the energy at the table yesterday will really produce a well thought out work product. He said that the group agreed that they will probably need a face to face meeting to go through the case studies and pull out ideas and thoughts. He believes that if they can bring that same energy from yesterday to the table they can draw out a lot of things from case studies, and that will be extremely valuable to all of them.

Mr. Tsirigotis said that they did all voluntarily commit to having more structure imposed on them than what they normally would feel comfortable with, in an effort to try to move forward as quickly as possible.

Valerie Ughetta, Alliance of Automobile Manufacturers, also wanted to thank Mr. Tsirigotis for capturing the meeting so well. She asked that the slides they had for the subcommittee get posted on the CAAAC website since they would be useful for outreach. She also wanted to say that they need to make sure they get input from a variety of industries. While they do have utilities represented on the work group, when you get into various kinds of manufacturing you need to get lots of different kinds of businesses involved, so they should try to do early outreach so it is not coming serially. This would be helpful for the states to see industry examples in these case studies. The third concern she had was that they do not all assume that you can benchmark very easily even within an industry just by looking at one or two examples because you can have so many subpar technologies, so inviting various people into the talk could be good. If everyone would do outreach in order to get other industries to the table to present their experiences that would be good.

Mr. Tsirigotis thought this was a great point. One of first challenges is deciding which industries to focus on.

Kelley Green, Texas Cotton Ginners Association, spoke about a discussion that occurred during the meeting the day before, regarding the fact that there were a lot of people interested in the issue but were not on the work group. He thinks it is important to put together a list serve and shoot out an email telling everyone what is posted on the website so they can keep up to speed on what the group is doing. Also, because they are trying to help states implement this, and in general when they talk about regulating greenhouse gases under a set of rules, they must keep in mind that the state programs will be faced with permitting for an additional pollutant that was not regulated before.

Gene Trisko, United Mine Workers of America, followed up on the suggestions he made yesterday at the work group meeting, on the issue of access to information within the work group process. There is an appreciation on the part of many of us that in order to be productive the work group needs to be limited in number and draw on resources outside

of the full committee such as the manufacturing community. He said that in terms of communication, he has had subsequent discussion with EPA folks about how this might be managed. The first suggestion is that at a minimum, interested members of the committee should receive emails at the same time that the work group does about the conference call schedule, agendas, any information to be discussed, etc, and that those interested members of the committee should be shown on a separate CC line of the email. Second, based on experience they have had in the recent work group process with the Midwest Governors Association for a similar situation, a large group of stakeholders were permitted to participate on conference calls on mute. This meant that they could call in and listen in on the discussion but on mute, so they could not contribute, and this was successful. He said that technology has come to provide them an even better option than PowerPoint presentations. PowerPoint presentations tend to dominate discussions at meetings such as this, and it may be that the best format for this group moving forward to accommodate the work of the committee and interests of other parties is a webinar format. Everyone would be able to see presentations as the work group is discussing them, and the list of members would be shown on screen and the controller of webinar program can mute individuals not within the process. Further, it had been suggested that they could avoid any quorum problems by having a notice in the Federal Register that there will be a meeting of this working group every other week.

Bill Becker, National Association of Clean Air Agencies (NACAA), agreed with everything Mr. Trisko said, except he wants to take it a step further. Rather than having this publicized in the Federal Register, he believes that if EPA felt that everybody on this committee were important enough to serve in this committee, they should be important enough to serve on any work group. He said that members of CAAAC who volunteer for a work group should be included. He feels that as it stands states are outnumbered on this committee and when votes occur things will begin to be decided based on party lines. Mr. Becker expressed his desire that this should be a seamless process, but with attrition the group calling in will not be as large as imagined after the third or fourth call. So even though EPA is concerned about numbers and too many people, he thinks any CAAAC member who wants to be on this work group should be on it. That might obviate the need to have to go through webinars and other stuff, and will be a more direct way of keeping people happy. The worst that comes out of it is we have too many people show up on a caller meeting. He reiterated that there is interest and if people are important enough to be on CAAAC, then they should be allowed to be on the work group.

Michael Formica, National Pork Producers Council, said he was going to ask what the process was for deciding who would be on the work group, but after hearing Mr. Becker's comment he wants to know if it was a motion. He said that if it were a motion he would second it, and if it is not then he would make the motion.

Pat Childers, U.S. EPA, stepped in at this point to say that the forming of work groups, subcommittees, and full committees, and who sits on them is something that EPA decides upon. If someone wanted to make a suggestion or ask to be on them, then they will take it into consideration. He said it is never easy to choose who serves on them. Another point he made was that they did think when they created this work group about bringing people

in from the outside, and they were aware of who was interested from the full committee. This will not be the only body of work that they will be working on for this time period. He said that for the same reason they put the people in the room on this committee, is why they would trust them to form a work group to move forward a process to the subcommittee and to the full committee. He insisted that trust goes both ways. If EPA trusts those around the room by putting them on the committee, they should trust EPA in putting work groups together.

Mr. Tsirigotis said that there are things they want to augment the committee with, most notably, vendors of technology and manufacturers. As for the process, they looked through the list of CAAAC members and looked through other parties that they generally interacted with, that have either been part of the CAAAC or associated with CAAAC, and put together a strong list. They revised it a few times over the last couple weeks, and are open to revising it still. They are not aiming to be exclusionary. Whether email works, or webinar works, he wanted to gauge if this something that members generally felt ok with. He said they are willing to adjust, and ask that people reach out to them.

Stephen Hartsfield, National Tribal Air Association, added that his organization utilizes virtual meetings and webinars. Things such as GoTo Meeting and Skype are accessible daily for very cheap, and even beyond that, there is Google documents and free documents where documents can be loaded up password protected. These are necessities for non profits with zero travel budget. Travel meetings do not let unfunded people attend, but virtual meetings allow us all to attend. He urged the committee to take a step back here and utilize technologies.

Mr. Childers said than anyone who uses these free or pay for systems will remember that when you go to the bottom of the page there is a box that must be checked that states "I agree." He says that the details of this agreement are seldom read, but EPA attorneys at the Office of General Council (OGC) and FACA do, and that they cannot agree to all of the terms included. What the committee needs to find is a tool that they can agree to that does not put EPA or the federal government at liability or in a situation that they have to pay millions of dollars for software.

Mr. Hartsfield reiterated the importance of solving the financial burden that travel puts on people.

Rick Bolton, CTEH, said that EPA is doing webinars right now. There are multiple scheduled sessions coming up that people can sign onto free of charge.

Mr. Childers responded that it changes as soon as you get into the world of Federal Advisory Committees.

Mr. Trisko brought the discussion back to the simple technological default, which is the open conference call method in which the non committee members are told of the date and time for the call and can call in, identify themselves, and remain on mute. Is this option understood?

Mr. Tsirigotis said he had no problem with that.

David Foerter, Institute of Clean Air Companies (ICAC), said that since the offer was put on the table that the work group was looking for manufacturers of air pollution control equipment, they represent them, and would be happy to sit on the work group.

Barbara Bankoff, Eli Lilly, raised the question, especially given the time, of having some legal input from OGC and the Office of Enforcement and Compliance Assurance (OECA). She does not know whether they checked with those two offices, but it was indicated that the work group wants regulations coming out to satisfy the parameters of the law. With that in mind, she wondered if the issue of having OGC folks involved in this work group early on had been raised.

Mr. Tsirigotis replied that there was some question back and forth about OECA involvement, not about whether it should be a part of the discussion, but when it would be a good time. He has no issue in reaching out to both organizations, and while said OGC will definitely be a part of this and has been contacted, he worries about OECA and what their availability might be. He did not think of involving them prior to this, and therefore has not contacted them yet.

Mr. Brenner closed by saying it is worth mentioning Ms. Bankoff's comments from the previous day. He referred to the definition of BACT and said it is very broad, and is aware that everyone has concerns about the legal definition. He explained that since it is so broad he feels this more enables them rather than put them in a straight jacket, but they will have to wait and see. He said that Judge Tatel's speech from the day before is still important to consider, he spoke at the Environmental Law Institutes seminar, and it was focused on the challenges facing the EPA. He spoke about a tutorial on administrative law, using a series of EPA cases as examples, and made the strong point that even if the policy reasons are compelling and strong, you must look carefully at what the statute calls for, and make sure that what you are doing is consistent with it. If not, the courts will be forced to send it back to the Agency, and this is something that the new administration will have to look at and consider. They must look at the policy substance of the rule, as well as the legal framework of it.

Mr. Brenner thanked Mr. Tsirigotis for his presentation.

### **Clean Air Excellence Awards – 10<sup>th</sup> Anniversary Update**

Brianna Wodiske, U.S. Environmental Protection Agency (U.S. EPA), introduced herself as a student from San Diego State who has been working with Pat Childers on the Clean Air Excellence Awards over the past few months. She explained that it is the 10th year of the awards, after its establishment in the year 2000 at the recommendation of the CAAAC. There are six different categories, which thus far have been awarded to 137 different efforts. This year they have received around 100 applications, and are currently in the selection process—final decisions will be made in late January, and the ceremony

will occur in May. Ms. Wodiske proposed making this year of the Awards a highlighted year, celebrating the 10<sup>th</sup> anniversary of the Clean Air Excellence Awards, the 20<sup>th</sup> anniversary of the formation of the CAAAC, and the 40<sup>th</sup> anniversary of the Clean Air Act.

Ms. Wodiske went on to brief the Committee on potential ideas for how to differentiate this year's awards from past years. She proposed an anniversary theme, and asked for input on whether this would detract from previous years. Other ideas include a video compilation, the chance for previous winners to speak of his or her experience, or some way to celebrate past projects such as a database of prior winners. She asked the members their thoughts on the subject, whether they had any ideas for the future, and if there is anything they suggest doing differently.

Mark MacLeod, Environmental Defense Fund (EDF), said it would be interesting to look back at past winners and ask them whether winning the award has changed anything for them, in terms of helping entice customers, gaining community acceptance, etc. This type of feedback could be helpful for marketing the award in following years.

Ms. Wodiske responded that they had thought of tossed around this idea, but were somewhat concerned that it might take away from the winners of this year.

Mr. MacLeod said that he assumed the winners all have wonderful stories, which could be well-documented in a short video compilation.

Jeff Muffat, 3M, agreed with Mr. MacLeod's idea, and also brought up that it would be important to consider which category of awards are being addressed: for instance, the technology winners might have seen large improvements and changes as a result of their product after receiving the award, which might not occur so frequently in the policy winners. Mr. Muffat advised that in interviewing past winners, they should focus on technology product winners.

Tim Johnson, Corning Incorporated, supported all the ideas put forth, but said he looked at the issue raised by Ms. Wodiske differently in terms of detracting from current winners. He thought that a celebration of the success of the program through highlights of stars of the past and their contributions to air quality would not take away from current winners. Mr. Johnson said he agrees in highlighting technological award winners who have made a big difference.

Dennis McLerran, Puget Sound Clean Air Agency, agreed with the comments thus far, but put in a cautionary note that after 10 years, some winners from the past may have moved on or may be gone from their companies. It would be important to carefully choose winners who will still be around and who are still relevant today. Bringing in past award winners to the ceremony may also be difficult for non-profits, since they will not have the ability to travel; therefore, a video may be a better option.

Pat Childers, U.S. EPA, added that they are currently looking at the schedule for the EPA video crew to determine whether they will be traveling to areas where any of the past winners are located.

Bill Becker, National Association of Clean Air Agencies (NACAA), added that they should also put together a brochure chronicling all of the successes of the CAAAC in order to remind the Committee how relevant they have been for the past 20 years. He suggested that they invite back to the 10<sup>th</sup> Awards Ceremony those winners who were “all stars,” and choose a recipient who is the “winner of the decade.” They should also invite back the Zosel and Cooke award winners as courtesy.

Mr. Childers voiced his agreement with Mr. Becker on bringing back the Zosel award recipients. He said that they considered having decade winners, but they were not sure how to create such a selection process, since innovations that seemed neat 10 years ago may be standard today. He also said that such an award might downgrade the rest of the winners from those 10 years.

Tony DeLucia, East Tennessee State University, commended the great ideas raised, and went on to suggest sending out an invitation list to agencies, past recipients, and the CAAAC using a social networking approach like Facebook. This could allow everyone to stay more abreast with the annual awards event and with what other members are doing. They could set up dialogues for the time in between CAAAC meetings, and leverage some positive ideas about how the Clean Air Excellence Awards have progressed.

David Foerter, Institute of Clean Air Companies (ICAC), stated that it might be fun to go into schools and involve children, asking them what they think will come in the future and how they will help clean up the air.

Mr. Childers commented that they have school-related winners, since kids tend to be good selling points.

Michael Formica, National Pork Producers Council, said that if a product is the norm today, but was outstanding and innovative 10 years ago, it is definitely something that they would want to highlight in the Awards. He suggested reaching out to the Hill and other facets of the federal government that could form a partnership with the Agency.

Kelley Green, Texas Cotton Ginners’ Association, spoke to the selection process of choosing the “all-star” award winners from the past 10 years. He stated that if time was taken to go through the past recipients as Mr. McLerran mentioned, attrition will occur and the number may become manageable.

Susana Hildebrand, Texas Commission on Environmental Quality, expressed her concern that all these great ideas may cause the ceremony to go on for too long, causing the audience to lose interest. Instead, she suggested having displays of past winners that showcase a “now and then” exhibit, allowing people to mingle around the displays.



Mr. Childers replied that they are looking into creating a CD ROM that is organized by year, area, and award, that attendees can to the Awards ceremony can bring home with them.

Mr. Becker put forth an idea based on CAAAC sponsorship of a poster contest in schools. NACAA did something similar to this on Earth Day, and was able to use states and localities to work with the schools. The endeavor could be structured in a way that organizes schools around this contest, perhaps asking that contestants write an essay on “what clean air means to me,” and have regions send their applications to judging committees. All the winners could have their posters compiled into a calendar or some other sort of brochure. This involvement with communities gives the CAAAC more exposure, and provides a pictorial presentation on what CAAAC stands for.

Mr. Childers mentioned a past effort to create a calendar which was shut down by GPO. The poster contest Mr. Becker proposed could instead have the winners’ posters be shrunk to fit onto the pages of the Awards booklet. However, they would need to coordinate with the EPA’s Children’s Health Office. Mr. Childers asked that any further ideas on the Awards be emailed to him.

Mr. Childers changed subjects and asked for input on the review committee. He questioned whether they are recognizing the right categories. He stated that they would need to find linkages to increase audience and profiles.

Mr. Muffat went back to Mr. Becker’s idea, stating that he thought it was a good one.

Stephen Hartsfield, National Tribal Air Association, said that he liked calendar idea, and asked whether it could be organized by entities within the CAAAC.

Mr. Childers said that the prior objection from the Agency was that it was competing with its commercial calendars. However, he thought that they could make an effort in keeping the products alive.

Ben Henneke put forth an early public comment, providing his past experience with the “Cookbook for Clean Air.” In order to put this together, they organized funding from member companies, and published it as a CAAAC publication. This allowed the Agency to be comfortable with what was being said editorially.

**Clean Air Act Advisory Committee  
 October 7, 2009  
 Crowne Plaza Hotel  
 Arlington, VA**

**List of Attendees**

Barbara Bankoff	Consultant, Eli Lilly and Company
William Becker	National Association of Clean Air Agencies (NACAA)
Rick Bolton	Center for Toxicology and Environmental Health (CTEH)
Frank Blake	American Electric Power
Robert Brenner	United States Environmental Protection Agency (U.S. EPA)
John Campbell	Caterpillar Inc
Bill Charmley	U.S. EPA
Pat Childers	U.S. EPA
Chuck Collett	National Association of Home Builders (NAHB)
Kevin Coyle	National Wildlife Federation
Anthony DeLucia	East Tennessee State University
David C. Foerter	Institute of Clean Air Companies (ICAC)
Michael Formica	National Pork Producers Council
Anna Garcia	Ozone Transport Commission
Jack Goldman	Hearth, Patio, and Barbeque Association
Kelley Green	Texas Cotton Ginners' Association
John Guy	U.S. EPA
Bill Harnett	U.S. EPA
Stephen Hartsfield	National Tribal Air Association
Steven Lee Hensley	USA Rice Federation
Christopher Hessler	AJW, Inc
Lisa Gomez	Sempre Energy
Daniel Greenbaum	The Health Effects Institute
Susana Hildebrand	Texas Commission on Environmental Quality
Dan Johnson	Westar
Timothy Johnson	Corning Incorporated
Gary Jones	Graphic Arts Technical Foundation
Rich Kassel	Natural Resources Defense Council (NRDC)
Mark MacLeod	Environmental Defense Fund (EDF)
Janet McCabe	Improving Kids Environment

Gina McCarthy	U.S. EPA
Dennis McLerran	Puget Sound Clean Air
Jeff Muffat	3M
Janice Nolen	American Lung Association
Kimber Scavo	U.S. EPA
Helen Silver	Clean Air Task Force
Tom Stricker	Toyota
Eugene Trisko	Attorney
Peter Tsirigotis	U.S. EPA
Valerie J. Ughetta	Alliance of Automobile Manufacturers
Phillip Wakelyn	National Cotton Council
Matthew Watkins	National Association of Home Builders
Brianna Wodiske	U.S. EPA