

Federal Advisory Committee Act
Clean Air Act Advisory Committee

Mobile Sources Technical Review Subcommittee

Co-Chairs: Michael Walsh and Merrylin Zaw-Mon

Designated Federal Official: John Guy

Minutes of the Subcommittee's Meeting on October 4, 2006
Arlington, VA

FINAL March 28, 2007

Introduction

Mike Walsh (consultant, co-chair) and Merrylin Zaw-Mon (EPA, co-chair) called the meeting to order at approximately 9:00 a.m. The co-chairs welcomed attendees, introduced the new members¹, and reviewed the day's agenda.

Presentations and meeting topics outlined in the agenda were as follows:

- An update on the Retrofit and Clean Diesel Workgroup Report including the Regional Administrators' meeting on Ports given by Tim Johnson, Corning and Gay MacGregor, EPA
- A presentation on the Response from EPA to CAAAC Recommendations on Diesel Retrofit given by Gay MacGregor, Jim Blubaugh, and Mitch Greenberg, all of EPA
- An innovative financing panel including presentations by Mitch Greenberg, EPA, Scott Dailey, Small Business Administration, and Mike Ermi, Superior Financial, and Mr. Roger Ballentine from Green Strategies.
- A Workgroup report on "Transitioning I/M" given by Gene Tierney, EPA
- A renewable fuels panel, including presentations by Paul Machiele, EPA, Sarah Dunham, EPA, Alan Weber, National Biodiesel Board (NBB), Phil Lampert, National Ethanol Vehicle Coalition (NEVC), and Rich Kassel, Natural Resources Defense Council (NRDC)

Presentations will be posted online at the MSTRS website:

http://www.epa.gov/air/caaac/mobile_sources.html.

Opening Remarks

Margo Oge made several comments related to current EPA activities as well as activities specifically related to EPA's work with ocean-going vessels. Ms. Oge also acknowledged the new members.

¹ Mr. Robert Brown of Ford Motor Company, Ms. Sally Vance Allen of Gary-Williams Energy, and Dr. John Wall of Cummins, Inc. became official members of the MSTRS on August 15, 2006 with terms running through August 15, 2009.

Current EPA Activities

Ms. Oge listed the current key priorities of the Office of Transportation and Air Quality (OTAQ). On October 15th, ultra-low sulfur diesel (ULSD) will be available nationwide. The goal was to have 80% of diesel fuel come out of refineries below the required 15 ppm sulfur level, and Ms. Oge reported that over 90% of fuel has met this goal. Ms. Oge stated that the public will see large health benefits from the introduction of ULSD. Mr. Johnson (Corning) added that some refineries are lowering the sulfur content of nonroad fuel to 15 ppm (i.e., they are only producing onroad fuel) to prevent cross-contamination of the fuel produced for onroad vehicles. That could be part of the 90% that EPA has seen. Sally Allen (Gary Williams Energy) added that her company has switched to 100% onroad production. Don Clay (Koch Industries) commented that his company produces fuel at 6-7 ppm sulfur to ensure the fuel meets the standard at the point of sale. Dennis McLerran (Puget Sound Clean Air Agency [PSCAA]) added that many refineries are going to ULSD production while still maintaining offroad diesel that will be lower than 500 ppm.

Ms. Oge stated that EPA, together with other agencies, has been working hard to develop a renewable fuels standard (RFS). EPA was put on a very short timeline to produce a proposed rule in response to the EPA's RFS requirements. A proposal has been developed to analyze the agricultural impacts, greenhouse gas benefits, environmental impact statements, etc. Currently, EPA has only information from the 1990s and is lacking more up-to-date information. It will be a tremendous effort to do these updates.

Also, Ms. Oge commented that locomotives and marine engines are the last remaining mobile source sector that needs to be addressed with aftertreatment-based standards on a national level. EPA completed a revised inventory from these sources and is aiming to publish a proposed rule dealing with locomotive and marine engines by the end of the year (fuel has already been addressed—by 2012, locomotive and marine diesel fuels must meet a sulfur standard of 15 ppm or less).

Ms. Oge added that the other big remaining issues relate to ocean-going vessels. Currently, these standards are under international purview. The United State Coast Guard (USCG) is working with the international community on these standards.

Ms. Oge introduced Mr. Bryan Wood-Thomas (EPA) as her new Associate Office Director. Mr. Wood-Thomas's focus in the past has been to work on the air quality issues related to ocean-going vessels. Mr. Wood-Thomas stated that currently, negotiations are underway to improve the standards that are already listed in the MARPOL Annex VI treaty. EPA is looking at both new and existing engines as well as ways to lower sulfur content for fuels for these engines. Under Annex VI, the United States can set aside areas of the country that are sensitive areas that will need to have fuel with sulfur content lower than 30,000 ppm (i.e., Sulfur Emission Control Areas [SECAs]). The EPA will need to put together a package proposing this lower fuel standard and will need to work with State and local agencies during the process.

Ms. Oge also stated that a Congressional mandate is currently in place to address air emissions from small spark ignition engines. EPA has documented that catalysts can safely be installed on these small engines.

Retrofit and Clean Diesel Workgroup (RWG) Report Including Regional Administrator's Meetings on Ports

Tim Johnson (Corning) and Gay MacGregor (EPA) gave a report on the work of the RWG as well as the meeting held for Regional Administrators related to Ports.

RWG Report

At the behest of the EPA, the RWG formed and consisted of a wide group of stakeholders. The group worked for over two years to develop a report that was presented to the committee last fall and then to the Clean Air Act Advisory Committee (CAAAC) in January of 2006. The report then went to EPA for review in April 2006. The report reviewed four sectors: School Buses, Ports, Freight, and Construction. Jim Blubaugh gave the Work Group an update on progress EPA has made on the recommendations that came out of the report. Mr. Johnson commented that he has been very impressed with the speed and effort EPA has put into implementing these recommendations.

Further work has been done outside of the RWG on port emission reduction activities. Trish Koman updated the group on these activities at the October 3rd workgroup meeting. In general, initiatives within the ports industry have really taken off, including environmental management systems (EMSs), which are similar to security management systems (SMSs) but with a focus on the environment. High-level meetings have also been held that have generated several action items for EPA Regional Administrators.

Also at the October 3rd meeting, the RWG discussed a possible second phase of service to address continuing retrofit needs. The group asked EPA to list items that they would like the RWG to advise them on. The group has come to a consensus that creative financing as well as voluntary measures are efforts worth pursuing. The group will be looking for expertise in corporate financing, etc. The RWG is looking for individuals with financial expertise in each of the four sectors.

Report on the Regional Administrators' (RA) Port Meeting

Ms. MacGregor discussed the meeting of the RAs on the ports sector held September 6-7, 2006. Along with all RAs from the Regions, the attendees included the Assistant Administrators (AAs) from the Office of Enforcement and Compliance Assurance (OECA) as well as from the Office of Policy, Economics, and Innovation (OPEI), and members of the Office of Water and Office of Solid Waste. The participants heard issues from port stakeholders and toured the Ports of LA and Long Beach as well as the MAERSK terminal at the Port of Long Beach—the 5th largest container port in the country. Since the meeting, four of the RAs have visited ports within their Regions. The RAs will also be getting papers on MARPOL Annex VI from OTAQ. Overall, the RAs were very enthused about the developments within the ports sector.

As a result of the meeting, a list of Action Items were generated which ranged from the port visits by the RAs to participating in cross-agency efforts to reduce air emissions from ports. The U.S. Department of Transportation has several initiatives that affect port operation and congestion, such as the Committee on the Marine Transportation System and National Congestion Initiative. EPA will participate in these efforts and a cross office team will be formed to support the lead representatives to these groups.

Discussion

Mike Walsh remarked that the ports also have a tremendous growth forecast on the horizon. Ms. MacGregor agreed that with the expansion of the ports in Asia, the infrastructure in the United States is strained now and the capacity to handle the projected growth is limited.

Presentation on the Response from EPA to CAAAC Recommendations on Diesel Retrofit

Jim Blubaugh (EPA) gave a presentation on the EPA response to CAAAC recommendations for diesel retrofit. Overall, the report covered four sectors (school buses, ports, freight, and construction) and provided a series of both cross-sector recommendations and recommendations that are sector-specific. Overall, over 40 recommendations were made by the RCDWG. Some of the major recommendations included additional verification measures, and an expansion of the education and outreach efforts.

Discussion

Mr. McLerran remarked that 4,000 to 5,000 school buses have been retrofitted in the Northwest. The Puget Sound Clean Air Authority has also found that the pre-1988 school buses are too dirty to retrofit. Instead, they are trying to put together a bill to have buses with 2007 engines available to replace these old buses in order to provide districts with more incentives to replace these old buses. Mr. Blubaugh agreed that the funding required to conduct such replacements can be rather extensive. Mr. Walsh asked about the schedule for the bill. Mr. McLerran stated that the legislative session in Washington State ends in April 2007, which is when they will know about funding support for the project.

Ms. Patricia Monahan (Union of Concerned Scientists) added that California contains most of the pre-1977 school buses. Currently, there is a \$200,000,000 bond issue slated for bus cleanup with the emphasis being on removing these old buses from service. Mr. Walsh suggested that both Mr. McLerran and Ms. Monahan keep the MSTRS updated on the progress in each of their areas.

Mr. Rich Kassel, NRDC, stated that both New York State and New York City will be implementing new laws that will require publicly owned and privately owned vehicles used on public projects to use ultra-low sulfur diesel fuel and best-available retrofit technologies. He will also keep the MSTRS posted on the progress of this legislative action. Ms. Coralie Cooper (NESCAUM) added that approximately 60 percent of all construction spending in the Northeast

is on road building. The regulations in the legislatures of New York and New Jersey could have a huge impact.

Related to ports, Mr. Walsh asked if the emissions inventory work underway will encompass all sources. Mr. Blubaugh confirmed that it would. EPA considers ports to be mini-cities that have different features. Because of the unique nature of ports, there will be no one-size-fits-all strategy.

Mr. McLerran stated that the ports area cuts across sectors. The United States is looking at a tripling of the number of containers that are arriving in the ports. The increase may be more in some areas. Finding ways to finance construction and renovation of the ports will be one of the bigger challenges. Looking at collaborations with Canada is also a must. Overall, it will take a lot of effort to be successful.

Mr. Walsh asked if the West Coast collaboratives were cooperating with one another. Mr. McLerran stated that it's been an interesting process. The Ports of Long Beach and Los Angeles are very aggressive in reducing emissions. There has been a lot of collaboration between not only the California ports but also with the Ports of Tacoma and Seattle and Canada's West Coast ports. However, the issues are even bigger. In December, there will be a Pacific Rim conference on ports that will involve additional countries such as Japan, Korea, and China.

Related to verification of retrofit technologies, Ms. Cooper asked if the goal was to have complete reciprocity between EPA and California Air Resources Board (CARB) verified equipment. Mr. Blubaugh replied that complete reciprocity is definitely the goal. EPA recognizes CARB-verified equipment. The sticking point is getting CARB to recognize EPA-verified equipment. EPA is currently in the middle of discussions with CARB on that issue. Mr. Walsh added that in addition to NO_x, California has to focus on nitrogen dioxide issues. Mr. Kassel added that in New York, the effort to make the use of CARB-verified equipment law required a lot of education on why the CARB-verified equipment would work effectively in New York. Mr. Blubaugh added that when looking at the list, a lot of equipment can be found on both the CARB lists and the EPA lists.

Mr. Kassel stated that another problem with verification is that the verifications are tailored for a very narrow set of engines and uses. It would be useful to EPA and CARB to look at whether there could be a fuller range of engines that could benefit from the use of specific retrofit kits.

Panel Discussion on Innovative Financing for SmartWay/Retrofits

Mr. Mitch Greenberg (EPA) gave a presentation on Innovative Financing for SmartWay. He discussed the goals of the financial strategies. In general, retrofit kits that include fuel saving technologies are easier to sell than just the retrofit technology alone. EPA has also started the National Environmental Loan Program. He recommended developing a new name for the program.

Mr. Scott Dailey (Small Business Administration [SBA]) presented information on the activities that the SBA has undertaken to help small businesses such as small trucking firms obtain loans for diesel retrofit technology. In general, the SBA has loans for small to big trucking firms that range from \$10,000 to \$25,000. Also, the SBA does not make the loans directly; instead, loans are offered through banks under the auspices of the SBA. Three main loan types are available: Section 7(a) loans, SBA Express loans, and Community Express loans. The Section 7(a) loans are part of a guaranty program that has a loan limit of \$2,000,000. SBA express has a loan limit of \$350,000, has no loan application, and has an expedited loan process. It can also be an unsecured loan with no collateral required. With SBA Express, SBA has managed to cut out the red tape and reduce the loan processing time. Community Express loans have a \$250,000 loan limit. This type of loan makes technical assistance, free counseling, and training available. Overall, SBA processed a total of 110,000 loans this past year.

Mike Ermi (Superior Financial) gave a presentation on the way that his company provides loans to small businesses under the SmartWay program. The company provides small loans from \$5,000 to \$25,000, which is an underserved area of the market. Superior Financial has become one of the top five lenders in terms of small loans and especially can cater to the smaller trucking firms. The process is simple and quick. The person needing the loan completes some information on Superior Financial's Web site. Superior Financial then processes their application. Three Web pages can appear as a result: Approved, Borderline, or Disapproved. People who are approved will then be able to print pages, sign them, and send them in before the money is electronically deposited in their account. People who are borderline for approval will be required to provide more information. People who are declined will have technical assistance offered to them. Mr. Ermi provided contact information for those who wish to find out more information about Superior Financial: 1-800-324-3486 (company), 702-528-6236 (cell), and www.superiorfg.com.

Mr. Roger Ballentine (Green Strategies) presented information on Ecomedia, which is a marketing and advertising firm with an environmental focus. Ecomedia works with cities and corporations to promote environmental awareness in various cities. Ecomedia approaches cities with an interest in improving their environment and offers "free" money based on several conditions (e.g., separate bank accounts for auditing purposes, the specification that the money must be used for environmental work only). Ecomedia then approaches large corporations who want to place their logos and signage on certain corridors. Since signage locations can be difficult to obtain, the companies usually agree to pay Ecomedia. Half of what they pay goes to the city for their environmental projects, and half of the money is used for multi-media outreach related to improving the environment. The companies don't necessarily have to be "green" companies, but most of them are. Also, several of the sponsors are government agencies. No matter who sponsors the signage, they work with the cities to determine for what projects the city will use the funds it receives. Cities with current or near-future Ecomedia programs include the District of Columbia, San Francisco, Long Beach, Miami, Atlanta, and Chicago. Ecomedia also plans to move into smaller cities in the future.

Discussion

Mr. Johnson asked Mr. Greenberg about which states are on track for retrofits and what the projections were. Mr. Greenberg replied that 470 companies have joined SmartWay. Eighty to ninety percent of those who have joined are trucking firms, which represent about 350,000 trucks. EPA is working to obtain the exact numbers. So far, the ranking of priorities for trucking firms has been as follows: (1) idling control on 25% of trucks, (2) fuel efficiency, (3) aerodynamic packages, and (4) particulate matter controls. Ms. Oge added that EPA is working hard to reach the small- to medium-sized trucking companies because the large trucking companies can better afford the retrofits on their own. EPA hopes to involve the rest of the states.

Mr. Johnson then asked about the leveraging of public funds for private financing. Mr. Greenberg indicated that EPA needs to research that more and figure out exactly how much public funding it would take. In general, EPA would get the monies back. EPA is currently in the process of putting together deals that would serve as a demonstration. Mr. McLerran asked if the programs would allow State and local agencies to require emission control devices as a requirement for getting the loans, as many agencies are pushing for that ability. Mr. Greenberg replied that the State and local agencies could work that in as part of the loan requirements.

Report on the April CAAAC Meeting

Ms. Zaw-Mon reported on the recent CAAAC meeting (held September 14, 2006 in Crystal City, Virginia). There is interest in renewable fuels, including discovering the real environmental impacts of their increased use. There is also interest in the activities of the RWG and National Clean Diesel Campaign (NCDC). There are opportunities for the Economic Incentives Subcommittee to work with the MSTRS on incentives for voluntary retrofit and clean diesel programs.

Ms. Zaw-Mon commented that there is a need to build up other State funding programs other than State Infrastructure Banks (SIBs). EPA has considered approaching key states that could participate in developing funding programs (e.g., Texas, California, Oregon, and Washington already have programs in place). It would be helpful for the MSTRS to think of ways to get State legislation in place and also increase the effort to pull in resources for retrofit programs.

Work Group Report on “Transitioning I/M”

Mr. Tierney presented a status report on transitioning Inspection and Maintenance (I/M). In order to further examine this issue, EPA established a “Transitioning I/M Workgroup.” The goal of the workgroup is to discuss issues associated with transitioning from the 1990s I/M program to a program that better suits today’s fleet. Some questions that needed study were whether emissions testing should continue. Other ideas discussed included remote onboard control devices (OBDs), kiosk OBDs, etc. The workgroup was especially looking at Oregon’s innovative approaches. The workgroup’s goal is to produce a report by mid-2007. Until then, the workgroup will be meeting on a regular basis, mainly by conference calls.

Ms. Nancy Seidman (Commonwealth of Massachusetts) stated that one of the issues in Massachusetts is the ongoing issue with State and local OBD programs associated with knowing which cars are exempt and whether Appendix D² would be updated. State and local agencies want to ensure that they can solve problems so that they can effectively communicate the issues. Mr. Tierney confirmed that EPA is updating Appendix D and will complete the update by the end of 2006. The appendix is available for comment. Ms. Zaw-Mon confirmed that the appendix is on track to be completed by the end of the year and that EPA is mining the data to determine which vehicles are still causing problems. Overall, the population of makes and model years that have problems are decreasing.

Ms. Monahan stated that EPA should focus on diesel OBD instead of I&M to harmonize with what State and local agencies are doing. Ms. Cooper added that State and local agencies are looking for a mechanism to be put in place by EPA to address any technical problems as they happen. Ms. Zaw-Mon assured her that EPA will do its best to work with State and local agencies and to address their needs. EPA will continue to fund contractors to allow them to provide assistance. Mr. Tierney suggested raising these types of issues in the bimonthly calls EPA has with the State and local agencies.

Mr. Brock Nicholson (NCDENR-DAQ) also wanted an update on OBD, as NCDENR is committed to developing a diesel I/M program. Mr. Mike Rodgers (Georgia Institute of Technology) stated that I/M is based on evidence of vehicle lifetimes in the past; however, he wasn't sure how that changed with the advent of early 1990s technologies. Since then, the number of vehicles owned has increased while the annual miles each individual vehicle is driven has decreased, which impacts emissions estimations. EPA needs to look at when and where the transition would make sense. Mr. Nicholson added that in the late 1990s, NCDENR had to look at registration data and age distribution to answer some questions posed by the State legislature. Over the past 12 model years, total aggregate emissions from the early 1990s cars were so small that it was reasonable not to worry about them and to look at only model year 1996 or newer. Mr. Tierney agreed that it would be a good idea to explore the issue and how North Carolina dealt with it.

Panel Discussion on Renewable Fuels

Mr. Paul Machiele (EPA) made a presentation related to the Renewable Fuels Standard (RFS). He presented a timeline for the implementation of the RFS program, which requires the volume of renewable fuels produced to increase over time, though the types of renewable fuels are not specified. He demonstrated how producers of renewable fuels would show compliance through Renewable Identification Numbers (RINS).

Ms. Sarah Dunham (EPA) discussed EPA's biofuels efforts and the production of Ethanol 85 (E-85). Currently, EPA has three different activities related to these efforts: regulatory, analytical/public information, and voluntary partnerships. Regulatory efforts include activities related to the RFS, fuel quality of biofuels, and resolving regulatory issues like Stage II

² Appendix D is an Appendix to EPA I/M guidance that provides a list of cars and light trucks that have demonstrated sensor "readiness" problems in I/M testing programs.

Vapor Recovery. For analytical and public information efforts, Ms. Dunham highlighted that although 5 million vehicles sold in the US are flex-fuel vehicles (FFV), less than 1 percent are using alternative fuels. This is due in part because of the scarcity of the fuel, but also because many consumers do not know they have an FFV. Recent marketing schemes by vehicle manufacturers have sought to increase consumer awareness in this area. Ms. Dunham went on to present information about E-85 emissions and fuel economy as compared to gasoline. In describing voluntary partnership activities, she highlighted the NCDC and the SmartWay Transport program.

Mr. Alan Weber (National Biodiesel Board [NBB]) presented information on the work that NBB has done to promote the use of biodiesel. The NBB hopes that biodiesel sales will have a percentage increase across the country, as production across the country is growing. The NBB is also working on efforts to promote biodiesel retrofits. NBB also views the need to have high quality fuel as an issue of utmost concern and importance. As a way to increase consumer confidence, NBB is developing a seal of approval to show that the fuel sold meets certain standards.

Mr. Phil Lampert (National Ethanol Vehicle Coalition), presented information related to flex fuel vehicles (FFVs) and the need to have the government further examine the use of E-85. He highlighted recent accomplishments of E-85 distribution, and discussed the need for E-85 prices to reflect the fact that E-85 has lower fuel economy than gasoline due to its lower energy content. He concluded by listing various issues still remaining with E-85 production and distribution.

Mr. Kassel presented information on the environmental perspective of EPA's RFS proposal. He agreed that the proposal certainly meets the legislative requirements. However, he added that eliminating gasoline demand by 2050 was feasible, but would require a mix of improved vehicle efficiency, smart growth and other mode shifts, and a major commitment to sustainable biofuels production and use. He explained that the final RFS rule should (1) be designed for future biofuels production (rather than EPA Act mandates), (2) include performance standards for RFS credits that are based on a lifecycle GHG and oil displacement analyses (rather than BTU), and (3) designed to encourage the development of advanced cellulosic and other sustainable biofuels through the use of RIN-based incentives.

Discussion

Related to the RFS presentation, Mr. McLerran stated that PSCAA has examined the issue of renewable fuels and that permeation is a big issue. Mr. Machiele agreed that while the permeation issue is factored in as much as possible to the program, it still needs further examination. Also, petroleum usage is projected to decrease by 1 to 1.6 percent with 95 percent of those reductions being from imports. Greenhouse gases are projected to increase by 0.4 to 0.6 percent.

Ms. Monahan asked if EPA could respond to questions about the research into low-blend ethanol emissions (such as E10). Ms. Oge replied that EPA expects to have an analysis done on low-blend ethanol. Currently, the data are based on work in the early 1990s, which is out of

date. Very little current data on low-blend ethanol blends is available. Updating the data will require extensive data collection and analysis, which will need to be done to propose a post-2012 RFS. Ms. Monahan asked if EPA had funding dedicated to this research. Ms. Oge stated that she can't speak for the 2008 budget. In the 2007 budget, EPA asked for \$9,000,000 for the RFS. Congress appropriated \$1,400,000.

Regarding biodiesel, Mr. McLerran stated that the Northwest has been a biodiesel success story, and now the region is looking at using biodiesel fuel in other areas, including using the glycerin byproduct of biodiesel production as an industrial fuel. Also, while there is a willing group of users, fuel quality continues to be an issue. The BQ9000, the certification issued by NBB, won't cut it, as participation is not broad enough and the sticking point seems to be an unwillingness to take responsibility for fuel quality problems at each level of the production and distribution chain. Such an attitude makes it difficult to ascertain where the fuel quality issues occur. Mr. Walsh asked if a regulatory approach toward fuel quality would be better. Mr. McLerran replied that if the industry does not start taking responsibility for fuel quality, then the fleet operators will demand regulation. Mr. Weber agreed that BQ9000 is not an enforcement mechanism. NBB has already engaged agencies from an enforcement perspective.

Ms. Cooper stated that the Northeast is seeing an interest in using biofuels for boilers. However, NESCAUM does have a concern that the increased use of biofuels will result in increased emissions of NO_x. She asked if the research into B20 would be posted and whether there were plans for additional testing. Mr. Machiele agreed that more testing is needed because the testing was limited to one engine type because of reproducibility. Impacts are a function of speed and load. Ms. Oge added that a reduction in particulate matter would definitely be obtained.

Ms. Cooper stated that the Northeast is interested in expanding the use of biodiesel. As the types of engines used changes, what issues would arise from them? Mr. Weber stated that currently, the results are inconclusive. Testing is underway, and the results will be presented. Mr. John Wall (Cummins) added that tailpipe testing should be avoided because it is the worst way to analyze such data. Numerous engine design issues and responses affect the outcome. Instead, analysis should occur in combustion studies in a laboratory. Overall, the technical work on fuels analysis must be tightened up.

Wrap-Up

Mr. Walsh asked that members email any new topic ideas for the MSTRS. The meeting was adjourned at approximately 4:00 p.m.

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