

West Coast Diesel Emissions Reductions Collaborative
June 15, 2004 in San Francisco, CA
West Coast
DRAFT Summary Notes

Overview

Over 120 attendees representing dozens of interested industries, non-profit organizations, and local, state and federal governments participated in the initial public workshop of the West Coast Diesel Emissions Reductions Collaborative (Collaborative) on June 15, 2004, in San Francisco, CA. This full day meeting hosted by EPA Regions 9 and 10 focused on reducing emissions from on-road, non-road and stationary diesel sources along the Pacific Coast of the United States, Canada, and Mexico.

Diesel emissions, especially particulate matter (PM) and nitrogen oxides (NO_x), are a significant contributor to asthma and other public health concerns. High concentrations of diesel exhaust can exacerbate, and possibly cause, respiratory and cardiovascular illness and contribute to premature death.

Building on the aggressive diesel emission reduction targets in EPA's on-road and non-road rules, and the success of EPA's Clean School Bus USA Initiative, California's Carl Moyer Clean Engine Incentive Program, and other federal and state voluntary emissions reductions programs, the Collaborative aims to reduce diesel emissions from existing sources along the West Coast to improve public health and the environment.

Opening Remarks

Welcome

EPA Regional Administrators Wayne Nastri (Region 9) and John Iani (Region 10) opened the workshop and welcomed participants to San Francisco. EPA's hope is that the Collaborative will deliver much needed diesel emissions reductions for the West Coast through voluntary, incentive-based projects, as part of EPA's larger national diesel strategy. Mr. Nastri and Mr. Iani explained that by organizing the Collaborative, EPA seeks to apply additional federal money to reduce emissions from diesel sources along the West Coast that are difficult for states or local air districts to regulate individually. The focus of the Collaborative is federal dollars and regional projects.

Mr. Nastri and Mr. Iani thanked the participants for their interest and help, and encouraged participants to use this workshop as an opportunity to identify short-term projects that might be quickly and effectively implemented to show that Collaborative's potential to produce results. Near term success is critical to achieving large-scale, sustainable federal funding.

Overview of Collaborative Goals, Timeline, and Interim Structure

Rick Albright, Director of Air, Waste, and Toxics for EPA Region 10, and Debbie Jordan, Director of the Air Division for EPA Region 9, introduced the Collaborative's mission, goals, timeline and interim structure.

Mr. Albright and Ms. Jordan explained that diesel emissions contribute a significant amount of PM and NO_x. The mission of the Collaborative is to reduce these diesel emissions in the West by building upon the successes of past and current activities. From EPA's perspective, the Collaborative is a response to the public's request for more federal action related to reducing emissions from diesel sources. EPA hopes the Collaborative will:

- Create additional incentives for early application of federal and state on-road and non-road diesel engine and fuel standards and greater participation in voluntary diesel mitigation programs,
- Apply market-based incentives, innovative technologies and collaborative approaches to reduce air pollution from diesel sources, and
- Support on the ground mobile and stationary diesel engine retrofits, repowers and replacements, anti-idling measures, cleaner fueling infrastructure projects and other activities that reduce emissions from diesel sources.

Mr. Albright and Ms. Jordan explained that the Collaborative can start by utilizing existing designated federal funds from fiscal years 2004 and 2005, and leveraging other discretionary monies where possible. If the Collaborative can demonstrate early success in diesel emissions reductions with currently available funds, there is a greater potential that it will be able to leverage additional participation and additional funding from public and private sources, working towards the long-term goal of establishing a West Coast Diesel Emissions Reductions Fund, invested with over \$100 million a year in federal funds starting as soon as FY 2006. To further demonstrate progress, and to show that it is ready to spend additional funds wisely, EPA hopes the Collaborative will identify and implement a few high profile regional projects starting in the fall of 2004 and in early 2005. From this base of success, the Collaborative could go on to do larger-scale, or more long-term, regional projects in late 2005 and beyond. Because existing technologies often can result in significant, and relatively affordable, emissions reductions, predicted benefits from the Collaborative are estimated to outweigh the costs by a ratio of 13-to-1.

Because different diesel emission sources have different needs and present different opportunities, EPA has proposed to organize the Collaborative into five interim sector areas – Locomotives and Rail, Marine Vessels and Ports, Agriculture, Construction and Distributed Generation, and Interstate Trucking. Each sector area met as a Sector Workgroup during 3-hour breakout sessions on June 15. These Workgroups have and will continue to be comprised of federal, state and local government agencies, industries and industry associations, non-profit and environmental organizations and other

interested stakeholders. Over the course of the next three months, EPA will support the Sector Workgroups as they come together in public workshops and/or conference calls to approve and help implement short-term diesel emissions reduction projects, recruit additional Workgroup members, identify, develop and create technical papers that describe potential long-term projects, and seek funding opportunities. The Sector Workgroups may continue to meet and expand, and additional Workgroups may be created.

In addition to supporting the Sector Workgroups, EPA will work with its federal, state and local government partners develop a Steering Group to coordinate and, as necessary, guide the Collaborative's initial efforts. The Steering Group will act as a bridge between funding sources and the Sector Workgroups, collaborating to identify and implement successful projects. In the next few months, the Steering Group will be formed and populated by representatives from EPA, USDA, USDOT, USDOE, Environment Canada, Mexico's SEMARNAT, and two representatives of state and/or local government from each Sector Workgroup (preferably one representative from the Northwest and one from the Southwest).

While some more permanent structure for the Collaborative may be necessary, EPA's philosophy is that form should follow function. EPA is interested in creating and providing just enough support and structure to help focus the Collaborative's efforts on identifying, funding and implementing effective regional diesel emissions reduction projects. For now, the Sector Workgroups and the Steering Group will help launch the Collaborative, with the understanding that the Collaborative's structure may grow and change as needed as it continues to define its work.

Local Perspective

Dennis McLerran, Executive Director of the Puget Sound Clean Air Agency, shared his perspective as a local government official. Mr. McLerran highlighted the opportunities that a Collaborative creates to build relationships and momentum to pursue funding for regional diesel emissions reduction projects and stressed that in his experience collaborative groups have potential to achieve more than is possible individually. Mr. McLerran described a number of collaborative diesel emissions reduction projects in the Puget Sound area, including the successful Diesel Solutions program. He expressed his support for the Collaborative and encouraged all participants to be creative and ambitious as they work in smaller groups to identify short- and long-term regional diesel emissions reduction projects. Mr. McLerran also recognized that federal employees operate in the context of the federal budget process and have restrictions on lobbying; however, other non-federal employee members of the Collaborative are not limited in this way. He emphasized that "ideas will bring money."

Sector Workgroup Break-Out Sessions

After the opening discussion, the Collaborative broke out into the five Sector Workgroups. The Sector Workgroups were asked to focus largely on identification and

definition of projects for near-term announcement. Additional longer-term opportunities for potential collaboration could also be identified for ongoing attention in Sector Workgroups.

The initial basic project criteria for the Sector Workgroups were as follows:

- Regional in scope,
- Potential to leverage other funds,
- Real measurable reductions/results,
- Potential to create momentum, and
- For short-term projects, can be announced in six months, finished in one year.

The sector Workgroup meeting notes below provide a high level overview of the breakout sessions. More detailed notes about these Workgroups and the specific projects discussed are attached as separate files.

Sector 1: Locomotives and Rail

The Locomotives and Rail Workgroup focused on emission reduction techniques such as cleaner fuel, retrofit technology, anti-idling, infrastructure and switcher yards, and an emission reduction credit program. The Workgroup identified emissions from older engines as their main concern, and agreed to focus on reducing emissions from older locomotives used in switching yards, short-line services, and off-track equipment (such as hasslers).

Existing technologies, combining engine rebuilds, retrofits, and cleaner fuels, are available and can achieve 90% reduction in emissions. Cleaner fuel possibilities include biodiesel, emulsified diesel, low-sulfur diesel, and ultra-low sulfur diesel (ULSD). Retrofit options primarily focus on converting engines to hybrids to reduce fuel use (i.e. Green Goat). Idling constitutes about 58% of the switcher locomotive cycle, but electrification and automated anti-idling technology may be two options to address this issue (i.e. Smart Start and Hot Start). Switchers yards are often located close to residential communities and therefore have greater impacts on human health. Emission Reduction Credit Programs have some merits and some concerns, especially with regards to environmental justice.

Sector 2: Marine Vessels and Ports

The Marine Vessels and Ports Sector Workgroup entered the Collaborative with a short history of previous coordinated efforts to identify regional projects to reduce diesel emissions. The Marine and Ports Workgroup discussed emissions from both vessels and the waterfront, focusing on retrofits/repower/replacements, on-shore power and cleaner fueling infrastructure.

The Workgroup supported the Collaborative's goal of a coast wide Carl Moyer type program to fund cleaner than required engines and equipment. Such a program could support retrofits and equipment replacements, not just for marine vessels, but also for

other aspects of the working waterfront, such as cargo-handling equipment, non-road vehicles, trucks and trains. The Workgroup also discussed cold-ironing (on-shore power) for cruise ships, container vessels and tankers. Cold-ironing provides electric power to ships while they are hotelling in port to replace the need to run their diesel engines. Additionally, the Workgroup talked about creating a full West Coast ULSD fuel supply system that could facilitate more widespread use of cleaner fuels. Captive fleets, such as ferries, tour boats, and tugs are the most likely candidates to switch fuels.

Sector 3: Agriculture

The Agricultural Sector Workgroup discussed engine retrofits/replacements/repowers, cleaner fuel and bio-fuel use and production.

The Workgroup identified retrofits/replacements/repowers as key to reducing diesel emissions in the agricultural sector. Because the agriculture sector has many types of diesel sources, the group focused on the need to target any funding or incentives in a way that obtained the most cost-effective reductions. The group suggested expanding agriculture-focused engine retrofit and replacement programs where they are already in place and bringing these programs to areas outside of California. The group also discussed cleaner fuel use and production, which presents as a compelling option to reduce diesel emissions. Expanding the use of emulsified fuels, exploring liquefied natural gas (LNG) retrofits, and early conversion to ULSD in the Western states are three clean fuel options. Finally, the group discussed the Western production of biodiesel. Such a project would need a significant amount of planning and would require adequate facilities, crops, and infrastructure; however it has particular significance for the agricultural sector because of its ability to create a new market for cover crops and for other agricultural salvage. There is a growing interest in biodiesel from agricultural products, especially among farming communities in Washington and Oregon.

Sector 4: Construction and Distributed Generation

The Construction and Distributed Generation Workgroup discussed cleaner fueling infrastructure, retrofits and incentives for cleaner equipment.

The Workgroup recognized that the sulfur content in California fuel is much lower (500 ppm or less) relative to OR, WA and AK due to California's regulations. Therefore, projects that upgrade to ULSD would have a higher emissions benefit in other states versus California. The biggest challenge with alternatives to diesel is additional cost (\$0.15/gal vs. \$0.40/gal). Nevertheless, the Workgroup discussed tax incentives for ULSD availability and use in the Northwest, a contract bid pilot project to encourage the use of cleaner equipment, creating an EPA recognition program and initiating a pilot with a rental company, among other ideas.

Distributed power is a large focus in Alaska because there's very little grid power and many small, rural communities rely on diesel generators for electricity (\$0.35/kw) and

heating. The largest generators are about 5 MW (70,000 hp). Unlike the rest of the U.S., mobile represents only 5% of demand for diesel. The Workgroup discussed retrofits and cleaner fuel supply.

Sector 5: Trucking

The Trucking Workgroup focused on cleaner fueling infrastructure and alternative fuels, retrofits/repowers/replacements, and anti-idling/energy efficiency.

The Workgroup's overarching recommendation was to provide incentives for retrofits and early retirement, replacements. New trucks bring a 0.5-0.8 tons per year emission reduction. If funding is available, these reductions would be cost effective. The group also talked about and supported the use of cleaner fuels, but also recognized that lack of infrastructure and the capital needed to switch over to cleaner fuels constrains their use. Some short-term options may include electrifying truck stops (to prevent fuel use during idling), using biodiesel, fuel additives, and blending fuels. The group was particularly interested in anti-idling approaches. The current trucking service standard is 14 hours on duty followed by 10 hours off duty during which the trucks could be plugged in. Studies suggest trucks are at rest stops for about 20% of the off duty hours and prefer to stop at "travel centers" 80% of the time. Several strategies to reduce idling during off-duty hours are currently being explored around the country, including truck stop electrification.

Closing Remarks

The inaugural workshop of the West Coast Diesel Emissions Reductions Collaborative marks the first regional effort to address diesel emissions and the associated public health risks with a voluntary coordinated effort across multiple sectors. The first workshop of the Collaborative saw many creative and promising projects proposed, with the key stakeholders along the West Coast weighing in on the most pressing diesel emissions issues. Perhaps most importantly, the meeting strengthened existing bonds and fostered the formation of altogether new relationships among participating organizations. These relationships will help guide the West Coast toward significant improvement in air quality in the years to come.

A few projects that appear to be top candidates for near term projects include (but are not limited to):

- Truck stop electrification and early introduction of cleaner fuels along I-5,
- On-shore power for cruise ships at major ports along the West Coast,
- Locomotive anti-idling throughout the West,
- Diesel mitigation efforts through major construction contracts, and
- The expansion of subsidies for retrofits and early introduction of ultra-low/low sulfur diesel in the off-road category, particularly for construction and agriculture equipment, as well as switchyard and port equipment.

Wayne Nastri and John Iani closed the meeting by again thanking participants for their time, attention and good ideas. Mr. Nastri and Mr. Iani reiterated EPA's enthusiasm for the Collaborative to improve air quality on the West Coast. They emphasized EPA's ongoing commitment to support the Collaborative's efforts to create a permanent fund to reduce diesel emissions reductions on the West Coast, and also emphasized the importance of short-term projects to generate real emission reductions as a way to create additional momentum for participation in and funding for the Collaborative. Mr. Nastri and Mr. Iani encouraged all participants to work within the Sector Workgroups to bring continued creativity and focus to the Collaborative's efforts.

Next Steps

As follow-up to the Collaborative's first meeting, EPA Regions 9 and 10 will support a number of next steps in the near-term:

- Draft and circulate an overall meeting summary (this document),
- Draft and circulate Sector Workgroup break-out session summaries and mailing lists (attached)
- Support recruitment of additional Collaborative members (on-going),
- Support and facilitate Sector Group communication via email, conference calls and meetings (email will be sent by the end of the week announcing dates, times and locations of Sector Workgroup meetings),
- Form the Steering Committee (by end of July),
- Develop a West Coast Diesel Emissions Reductions Collaborative website (by end of July),
- Help select and announce short-term projects (by early fall), and
- Assist with production of and/or produce project descriptions and technical white papers, as appropriate (on-going).

Peter Murchie (EPA Region 10) and Michelle Roos (EPA Region 9) will remain as the primary EPA contacts for the Collaborative. Comments or questions should be directed to Mr. Murchie (peter.murchie@epa.gov, 503-326-6664) and Ms. Roos (michelle.roos@epa.gov, 415-947-4187).