

West Coast Diesel Emissions Reductions Collaborative
Locomotive and Rail Workgroup Meeting
August 17, 2004

The West Coast Diesel Emissions Reduction Collaborative Locomotive and Rail Workgroup met by conference call on August 17, 2004.

The purpose of the meeting was threefold:

1. Build a common understanding of near and mid-term Collaborative efforts
2. Provide an update and get input on the September 30th roll-out
3. Share information on emerging projects, and identify next step responsibilities

Collaborative Update

Matt Haber, EPA Region 9, began the call by reiterating the Collaborative goals and strategies, and provided an update on Collaborative progress to date.

The overall goal of the Collaborative is *to reduce diesel emissions along the West Coast from the dirtiest engines in the most impacted communities.*

1. There are four primary strategies targeted to achieve this goal.
2. Build the Collaborative as an information base for diesel reductions strategies and resources
3. Identify, help fund, and implement projects to reduce diesel emissions
4. Publicize projects locally and nationally
5. Develop technical papers and marketing pieces

As a reminder of progress to date, June 15th was a successful kick-off and included over 120 participants. The first series of Collaborative Workgroup conference calls occurred in July, 2004; these calls were focused on identifying and clarifying potential short-term and mid-term projects. Since those calls, there has been significant discussion and off-line organization among smaller groups focused around particular projects or project areas.

On July 29, 2004 the Interim Steering Committee met to discuss project opportunities across the Workgroups and to plan a major Collaborative press event for September, 2004. The next Interim Steering Committee meeting is on August 19th.

Funding Update

Peter Murchie, EPA Region 10, followed with an update on the state of funding and initial expectations for a Collaborative press event, currently planned for September 30, 2004.

The Federal agency budget process is a bit confusing. Right now the Federal government is approaching the end of the FY04 budget season (9/30/04), Congress is debating the FY05 budget, and federal agencies will be submitting their FY06 budget requests to the Office of Management and Budget (OMB) this fall.

Therefore, for both FY04 and FY05, EPA, DOE, USDA, and DOT (as well as the states and local air districts in CA, OR, WA and AK) have all spent/will spend millions of dollars to reduce diesel emissions using existing funds. Because the Collaborative did not exist when these budgets were being developed, these are for the most part expenditures under existing programs, and not necessarily under the auspices of the Collaborative.

That said, some federal agencies (like EPA), have small amounts of discretionary funds, of which EPA was able to garner about \$500K to put towards the Collaborative. It is EPA's hope to garner even more funds in FY05 from discretionary federal funds, and possibly create the beginning of a "West Coast Diesel Emissions Reductions Fund" with the support of private resources and foundations.

In addition, as part of its FY06 budget preparations, EPA is working with its federal partners to frame new funding requests for FY06 to create dedicated federal funds specifically for the Collaborative.

Summary:

- FY04: about \$500K discretionary EPA funds redirected to high-priority Collaborative projects.
- FY05: goal is to identify \$1 million in discretionary EPA funds to direct to high-priority Collaborative projects, and to complete negotiations with a foundation to create a multimillion dollar fund for Collaborative projects.
- FY06/07: goal of identifying \$100 million in dedicated Collaborative funding, and identifying a clear path to better utilize DOT CMAQ funds (\$1.5 billion nation-wide per year) for high-priority Collaborative projects.

September 30th Collaborative Press Event

At the June 15th Workshop, EPA outlined the criteria for near-term Collaborative projects:

- Announceable in 0-6 months; implementable in 0-1 yr; completed in 1-5 yrs
- Regional in scope (i.e. multi-state impacts/benefits)
- Potential to leverage other funds (fed/state/local/private/non-profit)
- Potential for real/measurable reductions
- Potential high profile announcement

As such, the Collaborative is currently planning a September 30th press event to bring attention to the impacts of diesel emissions, the efforts already underway at the state and local levels to reduce these impacts, the formation of the Collaborative to build upon these successes and leverage additional funds and efforts collectively, and to announce a few small near-term Collaborative projects.

The goals for the September press event are to:

- Show near-term regional successes from working together under the auspices of the Collaborative
- Build relationships/set the foundation for future projects

- Garner the attention of the press
- Keep the focus on IMPLEMENTING regional diesel mitigation projects

Based on the June 15th Collaborative meeting, and the sector Workgroup meetings in July, the Interim Steering Committee has identified three projects with outstanding momentum, promising outcomes, and appropriate funding needs, that may be appropriate to feature in the September press event. Although no final decisions have been made, the Committee is considering:

- I-5 anti-idling at truck stops, announcement in Portland, OR
- Locomotive equipment retrofits, announcement in Bakersfield, CA
- Port emissions reductions projects, announcement in Seattle, WA

In addition, other projects may be highlighted in related announcements at the local level, or may be included in the main Collaborative announcements, as appropriate.

It is important to remember that the September press event is just a kick-off event to begin to bring attention to -and highlight the need for funding for – diesel emission reduction projects on the west coast.

July 28th Meeting Recap

There were four primary areas of discussion:

- Idle reduction
- Short and long haul engine and head end power retrofits
- Non-road equipment at shipyards – primarily discussed the potential use of alternative fuels.
- Fuels – improving the supply of ULSD and using cleaner fuels sooner was considered a lower priority for rail than the other areas.

Projects Focus

The Workgroup discussed two project-area priorities: idle reduction and head end power retrofits (although it was on the agenda, the group did not discuss non-road equipment), and project evaluation criteria.

Idle Reduction

Idle reduction technologies are available and are being tested in various parts of the county. Railroads are interested in SmartWay and agencies confirmed their interest in idle reduction, particularly in areas with high community impacts.

The summary notes from the previous meeting suggest savings of 20,000 – 25,000 gallons per year, but it seems that those assumptions are too optimistic. Participants cautioned against assuming significant idling (such as overnight) because operators are not likely to leave expensive machinery unused for such long periods of time. Furthermore, a challenge is that many railroads can't turn locomotives off in cold climates to avoid freezing over because they don't use anti-freeze in the engines because water is much better for heat transfer. In some moderate climates it may be possible to turn the engines off, but it's not possible in cooler areas.

Idling burns 4-5 gallons/hour; Sacramento estimates savings up to 2,000 hours/year/locomotive reduced and Richmond Pacific figures around 1,000 hours/year/locomotive. So reduction estimates in the range of 5,000 – 8,000 gallons/year/locomotive seem more accurate. BNSF in Chicago has recording capability on their locomotives and they have daily, weekly, and monthly numbers that could better support the cost effectiveness questions. Some participants suggested that these savings are not great enough to compete internally for the capital costs upfront.

On the resources side of things, Oregon has a Business Energy Tax credit that could be applicable for idle reduction technologies. This tax credit could cover up to 35% of idle reduction cost. There are three switchers in the Portland yard for Burlington Northern currently underway to receive the credit. The notes from the previous meeting have tax credit information that is more geared for pollution control; in that case, the device has to show pollution reduction. The Business Energy Tax is more appropriate for anti-idling (see <http://www.energy.state.or.us/bus/tax/taxcdt.htm>).

Qualifiers for the credit include the use of alternative fuels (natural gas, or ULSD could qualify in 2006) for infrastructure as well as vehicle projects; or things that save more than 10% against other fuel use.

Aside from tax incentives, there are three options to add value to projects: 1) Grants, 2) Loans, and 3) Voluntary Commitments. Some railroads have already used their own capital, and have plans for more, and several grants have already been made toward idling control retrofits. The remaining tool, a loan mechanism, is the agencies' preferred option at this point, however this was not well received on the last call.

As for the September announcement, the Interim Steering Committee has focused on idling control retrofits. The roll out is looking to announce idle reduction projects, such as a commitment to retrofit 100 locomotives per year. This type of project was chosen based on momentum from June 15th and sector workgroup calls, which identified the best opportunities and anti-idling is one area that can be done in a timely manner with Collaborative help.

Several Workgroup partners offered to lead a sub-group focused on idle reduction efforts. They will tackle questions like: What technologies or products are available for idle reduction? What is the best way to determine the value of these technologies or products? What resources or support mechanisms are available? What are the next steps?

The volunteering (or volunteered) partners were:

John Cockle, Richmond Pacific

Peter Trance, ZTR

Lanny Schmid (or substitute), Union Pacific

Mike Stanfield (or substitute), BNSF

Brian Jennison (potentially), Lane Regional Air Pollution Agency

Head end power and long-short haul engines

A head end power retrofit project, such as one or two locomotives in a capital (Sacramento) corridor project may be an attractive project. Head end power and/or NOx catalyst for passenger locomotives are another option. EPA rules have a delay for passenger rail, but many of the quasi-

government passenger rail agencies have a willingness to do the right thing in advance of the rules, such as supplemental Tier 0 standards for upgrades of the engines.

Every time an engine is overhauled, the head end power gets replaced, too – it's considered a "throw away engine". Overhauls happen every 750,000 miles and cost approximately \$150k to overhaul engine at Tier 1 standards and a \$50-\$60k premium to ratchet up to Tier 2 standards (applicable to both long and short haul). Currently passenger rail agencies are not required to use non-road standard engines for head end power. The overhaul process is an opportune time to influence head end power engine replacements (and also PM traps and oxidizers). For instance, GE and Ocean Air have a project on a Tier 0 overhaul for the main propulsion engine to be replaced to Tier 2 standards. This project demonstrates the technology and could influence voluntary changes without regulation.

For example, in L.A., there are about 150 permanent locomotives 50% Class 1, 50% small line users and industrial. Industrials and short line fall under Tier 0 overhauls, but usually do repairs to keep it going rather than overhauls. Tier 0 rules are based on threshold revenue numbers, so those under a threshold aren't subject to overhaul rules. But perhaps these small line users and industrial locomotives could be candidates for upgraded overhauls.

Similar to the anti-idling focus, a sub-set of partners will push forward the next steps.

The volunteering (or volunteered) partners were:

Mike Hart, Sierra Railroad

Tom Jordan, San Joaquin Valley Air Pollution Control District

Tim Taylor, Cleaire

Criteria

Some partners were concerned that project evaluation criteria are not transparent and voiced a hope for "more substance from the Collaborative rather than piggy-backing". Partners were reminded that the Collaborative doesn't control any resources, yet. While the intent is for the Collaborative to influence and attract funding that would not otherwise make it to the projects, all resource allocation decisions are currently made by the funding agencies using criteria set out for the particular funding mechanism. When the Collaborative has its own fund, then there will be a need to help define criteria for funding.

In further discussion about potential criteria, participants suggest a process where each category of project has uniform criteria and evaluation. One suggestion was to use Carl Moyer, or other existing program, cost effectiveness guidelines. One consideration is that Carl Moyer was originally designed for NO_x (\$/ton) and PM potency is actually an important criteria and should be considered separately. One solution might be to consider PM in \$/lb.

With respect to the matrix developed before, two other categories were suggested. First, demonstration of technologies, in a lab or in another context, can be a valuable criterion. Second, identification of interests is important because commitment from the source and a user's willingness to participate can be an important factor.

Other

At times the conversation veered toward unrelated topics; these comments are captured below.

There was brief discussion on the potential for hybrid-electric (a competitor is rumored to be entering the hybrid-electric locomotive business), and alternative fuel use (a 25 cent per gallon subsidy from CARB for emulsified fuel may be available at some district offices).

EPA Regions 2 (NY, NJ) and 5 (Great Lakes) have launched a similar efforts to the Collaborative. One significant difference is that other efforts have set-up around cities more than regions (like the West Coast Collaborative). The Collaborative is well connected nationally in the context of voluntary diesel emissions reductions, with attention in both Ann Arbor and D.C. The Collaborative is supportive of all efforts elsewhere and is eager to share information. Efforts elsewhere add credibility to the issue and can attract additional resources.

Next Steps:

- Planning for the September 30th roll out will continue concentrated on projects that amplify ongoing successes.
- In addition to projects, the Collaborative and Workgroups are also about inspiring other information so others can learn and help one another.
 - EPA is working on developing a website and hopes to create something of an information clearinghouse for the west coast to share information.
- Idle reduction has a number of volunteers; they will prepare something for the next call (maybe a 1 page summary or matrix for people to add anti-idling details).
- Head end power retrofit also has volunteers; they will prepare something for the next call (maybe a 1 page summary or matrix for people to add anti-idling details).
- EPA will work to incorporate comments into the matrix; South Coast already has a passenger locomotive matrix; not yet peer reviewed, but provides draft numbers.

Attendees:

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