

**Connecticut Clean Diesel Plan
Transit Subcommittee Meeting 8/1/05
Minutes**

I. Introductions: See attached attendance sheet

II. Purpose of Meeting: to reach consensus on general approach to achieving clean transit fleet

III. Review of Hartford-New Haven Project: Tom Maziarz (CRCOG)

A. Project presented as Congestion Management and Air Quality (CMAQ) funding request.

1. Involved 275 CT Transit buses in Hartford and New Haven
2. Much of the data compiled for this proposal can be transferred to the Clean Diesel Transit Subcommittee report.

B. Similar data is needed from other public transit systems.

IV. Review of Environment Northeast proposal: Michael Stoddard (ENE)

A. Assumptions:

1. Data from last winter
2. Considered buses new enough to retrofit

B. Purpose: present a straw proposal to advise DEP on implementation issues:

1. Accountability
2. Schedule
3. Costs

V. Discussion and Identification of preferred approach

A. Costs:

1. Assumptions:

- a. 600 publicly owned transit buses will be subject to the retrofit requirements
- b. Recommendation that we calculate annualized costs, which include installation of one or two filters (see 3.b. below) and yearly maintenance.
- c. Buses <29 feet in length are not covered by SA 05-07, but could be included in report within the "spirit of the law."

2. Costs of retrofits:

- a. ENE estimate \$5,000 per DPF installed
- b. Tom Maziarz (CRCOG) thought that at least \$6,000 should be allotted for each retrofit, including filter, sensors and installation
- c. Dennis Jolly (ConnDOT) felt that \$7,500 was a better estimate including sensors.
- d. Issue: Detroit Diesel 50 exhaust gas recirculation (EGR) engines have problems with DPF filters. They plug up frequently and require 2-3 times the maintenance of DPFs on other engines. CRCOG assumed that the problem would be corrected before project is implemented.

3. Operating Costs: Steve Warren (CT Transit)

- a. Filter cleaning costs: power goes down when filters begin to clog. Sensors are included to prevent engine damage (see above).
 1. Cleaning is needed every 12-18 months, more frequently as systems age. Cleaning is straightforward (“cooking” in a high temperature oven) and effective. The same oven works for different configurations of DPFs.
 2. Some cost for down-time during cleaning
 3. Cleaning equipment is expensive and generates hazardous waste.
 4. Filter cleaning could provide new business opportunities, economic development. It could be an overnight service at truck stops.
 5. *How much should be set aside for cleaning and other yearly maintenance? \$471 from CRCOG proposal; round up to \$500?*
 - b. Filter replacement: filter lifetime 150,000 mi or 5 years
 1. Budget for one lifetime replacement for engines 2000 model year and later.
 2. No replacement (original filter only) for engines older than 2000.
4. What other funds can be leveraged?
- a. Report could list funding sources generally.
 - b. CMAQ requirements and funding availability schedules:
 1. CMAQ funds are allocated to the state through the FHWA and vary from year to year (\$44 million in 2005).
 2. Regional planning organizations set priorities in cooperation with DOT; allocations are consistent with ConnDOT’s annual plan.
 3. By convention, 80% of the funds spent by the state are spent on transit projects.
 4. The process takes 18 months to 2 years;
 - a. Funds appropriated by this year’s Congress will not be available until the fall of 2006.
 - b. It is better to work within the current program.
 - c. Is funding needed to begin retrofits before CMAQ funds become available in Oct. 2006?
 1. Issue of fuel availability: diesel particulate filters (DPFs) require ultra-low Diesel fuel (ULSD), which is available to meet Connecticut’s current needs and will be widely available in the fall of 2006.
 2. Retrofits should begin when fuel becomes more widely available at the retail level.
 3. (ULSD can be used without filters to give some emissions benefit.)

- d. Michael Stoddard (ENE) provided an overview of the Voinovich amendment (Diesel Emissions Reduction Act or DERA) to the '05 Transportation bill, another funding source.

B. Schedule:

1. ENE plan suggests schedule to retrofit of 1/3 of the fleet by the end of 2008 and ½ of the fleet by 2009, 100% of fleet by 2010.
2. Mike Sanders, ConnDOT, outlined the following for the CT Transit fleet:
 - a. One bus per week in a centralized shop beginning in 2006 leads to 100 retrofitted by the end of '08
 - b. With experience, 100 more could be done by end of '09.
 - c. Where will we be by the end of 2010? Check schedule.

C. Update inventory for report and make data consistent.

1. CRCOG's 275 buses included retrofits of buses to be purchased with 2006 engines and no filters.
2. 1993 or before, 2-cycle engines cannot support DPFs but can use ULSD. Do we mandate replacement funds?
3. Backup buses should be exempt. Provide definition of backup bus, e.g. <2000 mi/year VMT.
4. Check transit system data other than CRCOG.

D. With the statutory requirement of retrofitting all buses >29 ft in length by 2010, leave specifics of bus selection criteria and retrofit scheduling to transit systems

1. Cut-off years for retrofits (Hartford chose '96).
2. Issue for consideration: retrofit older engines first to increase AQ benefit vs. doing newer vehicles first to build experience with easier retrofits.

E. Accountability:

1. Set a target percentage to be retrofitted each year with some report/verification.
2. Dennis Jolly: Do we include hardship exemptions for small operators or those who experience filter problems (Detroit Diesel 50)?
3. Mike Sanders: Do we include a waiver if ridership increases due to gas prices, security, etc.?

VI. Assignments & date for next meeting

A. Assignments:

1. Madeleine Weil (ENE) will check with Tom for consistent numbers on emissions and potential reductions to add them to her tables for smaller transit districts
 - a. 600 buses, reductions in PM in consistent terms.
 - b. Use average reductions
2. Small group: Tom, Dennis, Steve: revise inventory spreadsheet
 - a. Show emissions reductions in consistent terms (tpy or g/mi fleet average)
 - b. Meet Thursday, August 4 10:30 AM at CT Transit
3. It is assumed that DEP will draft subcommittee's final report.

B. Next meeting: August 29, 1:30 PM at DOT room 1341

C. Further Outreach

Approved as amended, 8-29-05

1. A concern was expressed that smaller operators should be contacted as they may be left out of this process.
2. Dennis Jolly stated that he had made an announcement at a meeting of all transit operators, so anyone who might be interested would have known.

Connecticut Clean Diesel Plan, Special Act 05-7
Transit Subcommittee Meeting
Monday, August 1, 2005

Name	Organization	Present
Jon Cohen	CCEJ	yes
Danae Dwyer	ENE	yes
Paul Farrell	DEP	yes
Thomas Gorman	GBTA	yes
Ed Hall	Cummins	vacation
Margaret Japp	CCEJ	yes
Orrin Johnson	HO Penn	yes
Dennis Jolly	CTDOT	yes
Patrice Kelly	CTDEP	yes
Steven Levy	Sprague	yes
Peter Mariconda	GBTA	yes
Tom Maziarz: Co-Chairman	CRCOG	yes
Jeff Nyanteh	Caterpillar	yes
Mike Sanders: Co-Chairman	CTDOT	yes
Michael Smalec	CNG/SGC	no
Michael Stoddard	ENE	phone
Stephen Warren	CT Transit	yes
Madeleine Weil	ENE	unavailable
Samuel Wilson	GHTD	no

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