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MEMORANDUM

To: **Direct Emissions Reduction Focus Group**

From: CMAP Staff

Date: July 5, 2012, revised August 21, 2012

Re: Direct Emissions Reduction CMAQ Proposals – Guidance for FFY 2017–2018 Applicants

Background

As part of the development of the FFY 2012-2016 CMAQ program, four program focus groups were established, charged with conducting an initial review of CMAQ proposals and identifying proposals that help implement GO TO 2040, the comprehensive regional plan.

In its final report to the CMAQ Project Selection Committee, the Direct Emissions Reduction Focus Group identified Action Areas and recommendations from GO TO 2040 that could be supported by direct emissions reduction projects. Based on these, the Focus Group adopted specific goals and strategies:

Goals

Increase the livability of the region by improving the air quality.

- Reduce diesel particulate matter emissions
- Reduce VOC and NOx emissions
- Reduce greenhouse gas emissions
- Reduce petroleum consumption

Strategies

- Retrofit, repower, and replace motorized vehicles with emissions reduction or idling reduction equipment and technology.
    - Focus on public works, transit (both revenue and non-revenue) and school bus fleets.
    - Include fleets from construction, marine and freight industries.
    - Emphasize innovation and improving fleets to state of the art, rather than life-cycle replacement with state of the practice vehicles. (This does not preclude replacing vehicle prior to 2015, if the sponsor is ready to proceed.)

- Increase the availability of alternative fueling stations and electric vehicle charging stations.
- Support freight industries to increase more fuel efficient vehicles and reduce idling.
- Demonstrate emerging technologies for both fuels and vehicles.
- Increase the general public's awareness of emissions reduction programs.

Evaluation measures were also identified. Since the primary criteria were directly used by the CMAQ Project Selection Committee, measures addressing the secondary and complementary criteria were used:

- Proximity to sensitive populations (seniors & children).
- Number of reported asthma cases within proximity to the projects.
- Is the project innovative or does it demonstrate a state of the art technology that directly reduces vehicle emissions?
- Does the project help improve the overall condition of the region's public fleets?
- Level of carbon dioxide emissions and fuel consumption.

Among these criteria the first two, proximity to sensitive populations and number of reported asthma cases within proximity to the projects, are weighted more heavily than the others.

In addition to evaluating projects for their ability to implement GO TO 2040, the Focus Group also identified opportunities for future programming:

- Develop criteria to evaluate electric vehicle charging station proposals. Develop a region-wide implementation plan.
- Be flexible with respect to programming projects that use innovative technologies.
- Seek ways to program private railroad locomotive repower projects in advance of the next programming cycle.
- Explore the potential for a systematic plan for improving the emissions of regional fleets.

Over the past two meetings, the Focus Group has discussed the potential for electric vehicle funding, issues with respect to private railroad locomotive repowers, options for financing retrofits for small trucking operations, and the potential for innovative technology. This memorandum recommends language for the *CMAQ Project Application Information Booklet* based on those discussions. It also recommends continuation of the evaluation measures developed in the last programming cycle.

Evaluation measures

The evaluation measures developed in the last programming cycle were used successfully to rank proposals with respect to implementing the action areas of GO TO 2040. The final report contains a summary of the rankings, which was a compilation of rankings made by individual Focus Group members on a 0 – 3 scale. It is recommended that the same evaluation measures be used in the upcoming programming cycle.

Electric vehicles

During the Focus Group discussions, it has become apparent that electric vehicle infrastructure is advancing without the use of CMAQ funds. Examples include the City of Chicago's deployment effort, deployments undertaken by retailers such as Walgreen's, municipal deployments, and incentives provided by the automotive manufacturers. With all these efforts, there seems little need for CMAQ funding at this point. The following language is recommended for the Information Booklet:

Alternate public and private funding sources are readily available for electric vehicle ~~infrastructure~~charging stations. Sponsors contemplating EV infrastructure projects should check with those sources before applying for CMAQ funds. Contact ~~_____~~Samantha Bingham for more information. Applicants should have a deployment plan or be part of a regional deployment plan, and should show the basis for utilization estimates.

Electric vehicle purchases will also be considered. An electric vehicle should be suitable for the use proposed. Replacement of vehicles at or near the end of their useful life is discouraged; much of the benefits of such a replacement will come from replacing the older engine with a newer engine, rather than from improving the engine technology.

Idle reduction efforts will also be considered. Technology solutions need to be US EPA or CARB verified; outreach efforts should demonstrate their ability to be implemented in a timely fashion.

Private railroad repowers

Following the adoption of the FFY 2012 – 2016 program, the Union Pacific railroad requested that its 2010 project be modified to increase the number of units for repower by 14, to be placed in the Dolton Yard. This was consistent with the recommendations of the Focus Group, and was approved by the CMAQ Project Selection Committee.

In addition to the additional units for the Union Pacific, a number of railroads have requested permission to purchase single-engine prime movers rather than GenSet engines. The requests have been based on the greater reliability of the single-engine prime movers, compatibility with existing fleet inventories, and the availability of Tier III engines, which are significantly cleaner than Tier II engines. The Focus Group discussed the issue of whether or not to consider only GenSet applications. Although opinion was divided, the majority opinion was that both GenSet and single-engine applications should be considered. The following language is recommended for the Information Booklet:

Either GenSet or single-engine prime movers will be considered. Applicants are expected to install certified technologies. Since ~~the anticipated year of implementation is 2017, Tier IV locomotives are expected to be purchased~~project approval will occur in the late fall of 2013, applicants should consider what technologies are likely to be certified at that time. The preference will be to concentrate repowers at a smaller number of locations rather than a few locomotives at a larger number of locations. Potential applicants should come to the Direct Emissions Reduction Focus Group to discuss their plans.

Bus and municipal fleet projects

The recommendation from the Focus Group in the last programming cycle was to "be flexible in the future to program projects that use technology that may not exist, or be feasible, today." Focus Group members made a similar point at the May 24 meeting.

Staff experience, however, indicates that a measure of caution is warranted. One FFY 2012 project using innovative technology has already been rescoped because the manufacturer went out of business; this is not the first time that an innovative technology has been proposed but ultimately not used. For this reason, staff recommends the following language in the Information Booklet:

US EPA- or CARB-certified engines or verified technologies will be required for retrofit, repower or vehicle replacement projects. Sponsors should be aware that vehicle replacements will be funded only to cover the difference between the cost of the lower-emitting vehicle and the standard replacement vehicle. Replacement of a vehicle with the current standard engine technology will not be considered. In addition, replacement of vehicles at or near the end of their useful life is discouraged; much of the benefits of such a replacement will come from replacing the older engine with a newer engine, rather than from improving the engine technology.

Proven, pPreferably, US EPA-certified or CARB-verified technologies will be required for projects other than engine or vehicle replacements. For technologies not subject to verification, established technologies should be used.

If an innovative technologyies areis still deemed desirable, some method for insuring commitment to the technology should be required, such as a higher local match.

Other projects

Guidance is still to be developed for idle reduction, fleet financing, or other types of innovative projects. Focus Group discussion of these types of projects is requestedFrom the presentation and discussion, fleet financing proposals appear to have problems with project oversight and estimation of actual benefits. Since the region lacks a single entity with strong motivation and the ability to readily monitor fleet use, such as a port authority, these projects do not seem a good match for the region. Staff recommends the following language:

While fleet financing projects have worked well in other regions, the oversight structure in the northeastern Illinois region does not lend itself to such projects. Proposals for them will not be considered at this time.