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**Request for Applications
Railroad-Related Emission Reductions Grant Program
Switcher-Duty Locomotive Conversions that Operate in Bibb County Georgia**

**Released September 9, 2016
(within eight weeks after release)**

The Georgia Environmental Protection Division (EPD) requests proposals to reduce fine particulate matter emissions (PM_{2.5}) and related pollutants by converting traditional diesel powered locomotives currently performing switcher duties in Bibb County Georgia. Projects submitted for funding must identify the locomotives for conversion and the type of conversion equipment to be used.

Owners of traditional diesel switcher locomotives currently operating in Bibb, County are eligible for this funding assistance. Locomotives eligible for conversion include traditional switcher-duty locomotives expected to have at least five more years of useful service life remaining, and that currently operate using an unregulated (pre-1973) or Tier 0 (1973-2001) diesel engine. The final converted switcher-duty locomotives must include clean diesel engines meeting (as a minimum) U.S. EPA TIER 2 switcher duty standard and if applicable TIER 3 line haul standard. This project must result in emission reductions that would otherwise not occur in Bibb County for the remaining useful life of the converted equipment (e.g., the project cannot be applied to increase a fleet size).

Funding in the amount of one million seven hundred ninety thousand dollars (\$1,790,000) will be available through this Request for Applications. The Georgia Department of Transportation (GDOT) provides the funding to EPD from the U.S. Department of Transportation's Congestion Mitigation and Air Quality (CMAQ) Program. The funding may cover up to 70% of an applicant's cost of converting older more emissive locomotives, currently performing switcher duties, to lower-emitting locomotives if project is selected. A minimum 30% match is required. Switcher-duty locomotives located and operated in Bibb County are eligible for conversion.

Conversions must be completed by December 31, 2017.

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Project Goals

Funds are available under the Federal Congestion Mitigation and Air Quality (CMAQ) Program for converting diesel locomotives that are located or operated in Bibb County. The major goals of this project are (1) to protect human health by reducing exposure to diesel combustion emissions and subsequent secondary air pollutants, especially PM_{2.5} (particulate matter of 2.5 microns in diameter and smaller), and (2) to facilitate attainment and maintenance of the National Ambient Air Quality Standards (NAAQS) in Bibb County. The development of agreements associated with the projects will incorporate any guidance received from the US EPA regarding necessary actions to ensure the applicability of the emission reductions resulting from this project to the Macon PM_{2.5} State Implementation Plan (SIP). The SIP is submitted to the US EPA by the State of Georgia to demonstrate its air quality management plan to attain or maintain the NAAQS.

Project Overview Eligibility and Project Requirements

Owners of traditional diesel switcher-duty locomotives operating in Bibb County are eligible for this funding assistance. Locomotives eligible for conversion include unregulated (pre-1973) or Tier 0 (1973- 2001) diesel switchers that are currently in service and would have remained in service in the proposed railyard for at least five years from the application date. If EPD and the Grantee mutually agree that a switcher locomotive operating outside of the proposed railyard is a more beneficial candidate for conversion than any locomotive operating as a switcher in the railyard, the alternative locomotive may be converted and used to replace a switcher normally operating in Bibb County, provided that the locomotive conversion will result in the same or greater PM_{2.5} and NO_x emission reductions as if the switcher to be replaced were converted. In addition, if EPD and the Grantee mutually agree, the Grantee will be allowed to convert or replace a different locomotive from that identified in the application subject to, at a minimum, achieving the emission reductions presented in the application.

Emissions benefits must be calculated as the emission difference between the new converted locomotive(s) and the replaced or converted locomotive(s) previously operating in the designated railyard(s). This project must result in emission reductions that would otherwise not occur in the railyard for the remaining useful life of the converted or replaced locomotive (e.g., the project cannot be applied to increase a fleet size, and emission reductions must be greater than what would have occurred due to fleet turnover and phased in regulatory emission limits in the railyard.) The original locomotive engine (before conversion) must be permanently retired or retrofitted to at least the current emission standards that would be required for new engines. This subsequent retrofit cannot use funding from this project and is not eligible as part of the required match.

Proposals must commit the converted locomotive to at least 80% of their operating time within a designated distance of the proposed railyard(s) for a minimum of 10 years (or a similar commitment schedule) unless the locomotive becomes inoperable and is unable to be repaired or replaced with comparable equipment.

CMAQ grant funds will cover up to 70% of the total locomotive conversion cost. Funds will be distributed to the Grantee incrementally (not more than once per annual quarter) following completion of conversion task(s) provided the match has been satisfied for the incremental

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distribution. Payments shall be made after invoices are approved by EPD.

Selection Criteria

Projects will be selected based on the most cost-effective emission reductions calculated as dollars per ton of PM_{2.5} reduced and dollars per ton of NO_X reduced. The primary goal of this funding and the corresponding selection will emphasize the reduction of PM_{2.5} emissions. This value is based on (a) the emission levels of the engines to be converted/replaced (TIER level or direct measurements), (b) the operating cycle for switcher duty, (c) the estimated remaining service life of locomotive if not converted, (d) the EPA TIER Level and emissions of the converted locomotive, (e) the break-specific horse power (bshp) of old locomotive and converted locomotive, (f) annual fuel usage before and after conversion; and (g) the number of years (minimum 10) that the converted locomotive will remain in the proposed area. The cost effectiveness is calculated using the amount of funding the applicant is seeking.

EPD may fund individual projects for less than the requested amounts if the total amount of the proposals exceeds available funds. If the amount of funding provided to individual projects is less than that project's respective proposal, EPD may specify which switcher engines may be converted based on the cost effectiveness of the emissions reductions for each switcher converted as described above.

Penalties and/or contingencies for not meeting the terms of the contract will be specified in the funding contract in accordance with applicable requirements.

In the event that the applicant is offered funding for less than the applicant proposed, and the applicant determines in its sole discretion that such allocation of funding is inadequate for its budgeting and finance purposes, the applicant may withdraw the application in whole and reject any offer of funds without recourse from EPD. In addition, the applicant may withdraw its application in whole and reject any offered funds without recourse from EPD in the event that funding contract offered to the applicant includes provisions or incorporates documents that contain provisions with which the Grantee does not agree.

Reporting Requirements

Reporting requirements for each converted locomotive will include:

1. An initial report before the locomotive is converted
2. A report within one month after completion of the conversion(s)
3. Post-conversion reports each six months for the first two years of operation of the converted locomotive(s)
4. Post-conversion reports once per year for the remaining period of commitment

The reports will include the following components (details are given below):

- Initial report:
 - If the proposed time for completing the conversion may be exceeded, provide a description and explanation of the delay

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- Activity, emissions, and fuel use information for the locomotive to be converted and for the locomotive to be replaced
 - The initial report may use data from the application if it meets all reporting criteria and if the replaced locomotive is the one converted.
 - If a different locomotive will be converted than the locomotive specified in the application, a comparison of the two locomotives must be submitted for approval by the EPD at least 30 days prior to initiation of the conversion. The comparison must include information sufficient to determine that resulting emission reductions will be at least equivalent to what was included in the application.
- Post conversion report:
 - If the proposed time for completing the conversion is exceeded, provide a description and explanation of the delay
 - A description of expected post conversion emission levels based on the equipment actually installed. Explain any deviations from original emission estimates provided in the application
 - Certification that the equipment was properly installed and is in working condition and confirmation of proper maintenance of locomotives and conversion equipment
 - A description of the provisions that ensure enforcement of warranty claims against vendors if problems arise
- Six months descriptive operation reports (four reports; one each six months for the first two years of operation):
 - Activity, emissions, and fuel use information for the converted/replaced locomotive
 - Description or confirmation of operating patterns
 - Note any changes in operating patterns that would cause significant differences in activity data since the previous year, deviance from the contractual agreements, or need for unexpected maintenance or repair beyond normal operation expectations that would cause the locomotive to be removed from service for extended periods of time (excluding travel time to and from repair shops).
 - Certification/assurance of proper operation and maintenance of the locomotive and emissions control equipment
- Annual normal operation reports:
 - Activity, emissions, and fuel use information
 - Description or confirmation of operating patterns
 - Certification/assurance of proper operation and maintenance of the locomotive and emissions control equipment

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Activity, Emissions, and Fuel Use Information

Activity and emissions data must be collected and reported. An event recorder or similar technology is preferred to accurately account for idle time and operational time for each notch. However, it is understood that there is a wide range of variability in switching activity, and that some information is very difficult to measure. Expert opinion (e.g. from the lead railyard engineers and switcher locomotive operators or maintenance engineers) may need to be utilized for some estimates. The locomotive activity data and fuel use information is important for determining if and how the main goals of this air quality improvement program are met. Hence, the applicant must collect sufficient data to demonstrate that each converted locomotive has continued to operate as expected with proper maintenance to achieve the desired emission benefits.

Description or Confirmation of Operating Patterns

All reports beginning with the first six-month report of the first year of operating the converted locomotives must confirm the use of the converted locomotives in the designated areas during the reporting period unless the locomotive became inoperable and was unable to be repaired, which must be reported within 60 business days after the final determination by the locomotive owner (Grantee). The report must explain if there have been significant performance or unanticipated maintenance difficulties.

“Designated areas” can include both the 80% operating time within a designated distance of assigned railyard(s) and up to 20% time that can include pre-determined standard maintenance or support locations outside the designated distance as well as outside operations.

The reports must detail any changes in operating patterns that would cause significant differences in activity data since any previous reports.

Certification/Assurance of Proper Equipment Operation and Maintenance

All reports must include verification/assurance that the locomotives are being properly maintained in accordance with the manufacturer’s specifications and are being operated in accordance with the terms of the funding contract. This verification/assurance may be in the form of a representation by Grantee. The report must detail if unexpected maintenance or repair beyond normal operation expectations was required that caused the locomotive to be removed from service beyond normal maintenance requirements (excluding travel time to and from repair shops).

All reports will be subject to review by the EPD, and any questions, reasonable requests for data, or concerns must be addressed before the project progresses. Any deviation from contractual agreements must be reported.

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Verification and Enforcement

Verification and enforcement clauses will be included in any contracts as required for compliance with State and Federal procurement and subgrant procedures and for the Macon PM_{2.5} SIP. The Grantee shall not be obligated to provide such verification/assurance during the years it provides the annual reports containing the same verification/assurance. If necessary, the Grantee will take reasonable measures to protect its rights under any applicable vendor warranties in accordance with contractual rights and federal regulations. Any funding contract will ensure that funds will be returned for failure to complete the conversion of the locomotive(s).

Application Components: See Excel Sheet Application

Please submit the application electronically using the provided Excel Worksheet and/or as an Adobe .pdf file, and send a signed hard copy through certified or tracked mail. Any expense incurred to prepare the application is not reimbursable and is the responsibility of the applicant. In addition, operating expenses, fuel costs, projects required by any law or other agreements, administrative costs, or work done or purchases prior to execution of a contract between EPD and the applicant are not reimbursable and are the responsibility of the applicant.

For more information and/or to submit the application for the proposed project:

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Air Protection Branch
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