

**Summary of Revisions to
Texas Emissions Reduction Plan:
Guidelines for Emissions Reduction Incentive Grants (RG-388)
April 2014**

The Texas Commission on Environmental Quality (TCEQ) proposes revisions to *Texas Emissions Reduction Plan: Guidelines for Emissions Reduction Incentive Grants (RG-388)*. The Texas Emissions Reduction Plan (TERP) is established in Texas Health and Safety Code (THSC), Chapter 386, to provide grant funding for projects to reduce the emissions of nitrogen oxides (NO_x) and other pollutants. The revisions to the guidelines implement statutory changes to the TERP Diesel Emissions Reduction Incentive Program under Senate Bill 1727, 83rd Texas Legislature, 2013, Regular Session.

Additional revisions are proposed to clarify language and to align the criteria with implementation decisions.

The proposed revisions are explained below.

A. IMPLEMENTATION OF STATUTORY CHANGES

1. Senate Bill 1727 amended THSC, §386.106, to remove the requirement that the cost-effectiveness of a project, other than an infrastructure project, may not exceed \$15,000 per ton of NO_x reduced in the nonattainment area or affected county.

Revisions are proposed to the sections of the guidelines outlined below to remove the limit on maximum cost-effectiveness of a project.

- Appendix 1: On-Road Heavy-Duty Vehicles
 - Purchase or lease of On-Road Heavy-Duty Vehicles (page 38)
 - Replacement of On-Road Heavy-Duty Vehicles (page 40)
 - Repower of On-Road Heavy-Duty Vehicles (page 41)
 - Retrofit or Add-On of Emissions-Reduction Technology (page 42)
 - Project Criteria (page 44)
- Appendix 2: Non-Road Equipment
 - Purchase or lease of Non-Road Equipment (page 56)
 - Replacement of Non-Road Equipment (page 58)
 - Repower of Non-Road Equipment (page 59)

- Retrofit or Add-On of Emissions-Reduction Technology
(page 59)
Project Criteria
(page 61)
- Appendix 3: Marine Vessels
 - Purchase or lease of Marine Vessels
(page 72)
 - Replacement of Marine Vessels
(page 74)
 - Repower of Marine Vessels
(page 75)
 - Retrofit or Add-On of Emissions-Reduction Technology
(page 76)
 - Project Criteria
(page 77)
- Appendix 4: Locomotives
 - Purchase or lease of Locomotives
(page 88)
 - Replacement of Locomotives
(page 90)
 - Repower of Locomotives
(page 90)
 - Retrofit or Add-On of Emissions-Reduction Technology
(page 91)
 - Project Criteria
(page 93)
- Appendix 5: Stationary Equipment
 - Purchase or lease of Stationary Equipment
(page 104)
 - Replacement of Stationary Equipment
(page 106)
 - Repower of Stationary Equipment
(page 106)
 - Retrofit or Add-On of Emissions-Reduction Technology
(page 107)
 - Project Criteria
(page 109)
- Appendix 6: Refueling Infrastructure
 - Project Criteria
(page 121)
- Appendix 7: On-Site Electrification and Idle-Reduction Infrastructure
 - Project Criteria
(page 130)

Proposed Changes

References to a cost-effectiveness limit of \$15,000 per ton of NO_x reduced are removed. Language is added where appropriate to state that the project criteria and the reimbursement of costs are subject to the cost-effectiveness limits that may be established by the TCEQ. Under the statutory change and the proposed revisions to the guidelines, the TCEQ will consider cost-effectiveness limits on a grant-round basis, as needed to best address the goals of the program. This may include establishing different limits for the different types of projects.

2. Senate Bill 1727 added a new THSC, §386.104(f-1), that reads:

(f-1) The commission may establish minimum percentage reduction standards alternative to the standards established under Subsection (f) as an incentive for the conversion of heavy-duty diesel on-road vehicle engines or non-road engines to operate under a dual-fuel configuration that uses natural gas and diesel fuels through an alternative fuel conversion system certified by the United States Environmental Protection Agency or the California Air Resources Board. In determining the emission rate of the converted vehicle and engine to compute the emissions reductions that can be attributed to the conversion system, the commission may take into account whether the emissions certification requirements for the conversion system prevent fully accounting for the emissions reductions. If the commission determines it to be necessary and appropriate, the commission may consider under this subsection certified engine test information that demonstrates reductions of emissions of nitrogen oxides and other pollutants and other information to verify the emissions reductions.

Revisions are also proposed to the sections of the guidelines outlined below to incorporate the changes.

- Appendix 1: On-Road Heavy Duty Vehicles
Repower of On-Road Heavy Duty Vehicles
(page 40)
- Appendix 2: Non-Road Equipment
Repower of Non-Road Equipment
(page 58)

Proposed Changes

Language is added to these sections to state that the conversion of an on-road or non-road engine to operate under a dual-fuel configuration that uses natural gas and diesel fuel through an alternative fuel conversion system certified by the United States Environmental Protection Agency or California Air Resources Board may be considered under the repower category. Language is also added to state that the TCEQ may consider alternative minimum standards on a grant-round basis for the percentage reduction in NO_x that must be achieved by a dual-fuel conversion project. Other clarification language is added to refer to conversion systems in addition to the installation of a new engine under a repower project.

- Appendix 1: On-Road Heavy Duty Vehicles
Project Criteria
(page 43)
- Appendix 2: Non-Road Equipment
Project Criteria
(page 61)

Proposed Changes

Under the discussion of repowers, language is added to state that the TCEQ may establish an alternate percentage reduction standard for dual-fuel conversion projects.

- Appendix 1: On-Road Heavy Duty Vehicles
NO_x Emissions Factors
(page 47)
- Appendix 2: Non-Road Equipment
NO_x Emissions Factors
(page 64)

Proposed Changes

Language is added to these sections to state that the TCEQ may consider alternate information from just the NO_x emissions standard or Family Emissions Limit to which an engine is certified when determining the emission factors to use for a dual-fuel conversion system. The alternative approach may include consideration of engine test information and other information. This language also states that the TCEQ may require manufacturers or dealers to apply to the TCEQ for a determination of the appropriate emissions factors and emissions reductions that will be accepted for a dual-fuel conversion system and that the TCEQ is not required to accept a dual-fuel conversion system under this alternative approach.

The language states that the TCEQ may determine an appropriate percentage emissions reduction factor to apply to a baseline emissions factor or may determine a specific NO_x emissions rate for the converted engine to compare with a baseline engine. Under these provisions, the TCEQ may also take into account if the engine can operate solely on diesel fuel in addition to dual-fuel operation, as well as adjustments to account for the level of confidence that can be given to the test information used.

B. OTHER NON-SUBSTANTIVE CHANGES

Several non-substantive changes are proposed to clarify the language in the guidelines. In addition, several non-substantive editorial changes may have been made that are not listed below.

1. Definition of on-road heavy-duty vehicle

- Chapter 2: Glossary
on-road heavy-duty vehicle
(page 6)

Proposed Changes

An additional sentence is added to state that the definition of an on-road heavy-duty vehicle does not include a vehicle over 8,500 pounds that is classified by the EPA as a medium-duty passenger vehicle subject to the federal light-duty on-road vehicle emission standards. This clarifying language is added to make it clear that the programs covered under these guidelines are only for heavy-duty vehicles.

2. Definition of on-road heavy-duty vehicle

- Chapter 3: Eligible Areas
List of designated highways and roadways
(page 8)
- Chapter 3: Eligible Areas
Figure 3.2, TERP Designated Highways and Roadways
(page 10)

Proposed Changes

Language is added to these pages to explain that a number of United States Highway segments that are included in the list of designated highways and roadways and shown on the map on Figure 3.2, TERP Designated Highways and Roadways, are being re-designated as part of the new Interstate Highway (IH) 69. It is explained that those highway segments will remain on the list after conversion to IH 69. Because the segments of the highways are being designated incrementally and only a few portions of the highways have been designated so far, it was decided to not show the currently designated segments in the guidelines. The number of designated segments will continue to grow over the next few years, and the TCEQ will update the list and maps made available to potential applicants as needed.

3. Qualifying fuel for refueling infrastructure

- Chapter 4: Emissions Reduction Incentive Grants Program
Refueling Infrastructure Discussion
(page 14)

Proposed Changes

Language is added to clarify that a qualifying fuel under the Refueling Infrastructure project category includes fuels, other than gasoline or diesel fuel, where the provision of the fuel results in NO_x emissions, either directly from the use of the fuel or as a

result of the replacement, repower, or retrofit of vehicles or equipment using gasoline or diesel fuel to vehicles or equipment using the qualifying fuel.

4. Location of rail relocation and improvement projects

- Chapter 4: Emissions Reduction Incentive Grants Program
Rail Relocation and Improvements
(page 15)

Proposed Changes

Language is added to clarify that a rail relocation and improvement project may include projects at both rail intersections and grade crossings to reduce idling by locomotives at rail intersections or on-road vehicle idling at those grade crossings.

5. Vehicle, Equipment, and Engine Disposition Requirements

- Chapter 4: Emissions Reduction Incentive Grants Program
Vehicle, Equipment, and Engine Disposition Verification
(page 17)
- Chapter 5: Rebate Grants Program
Vehicle, Equipment, and Engine Disposition Verification
(page 23)
- Chapter 6: Small-Business Grants Program
Vehicle, Equipment, and Engine Disposition Verification
(page 28)
- Chapter 7: Third-Party Grants Program
Vehicle, Equipment, and Engine Disposition Verification
(page 35)

Proposed Changes

The disposition requirements for vehicles, equipment, and engines under the grant programs included in the guidelines are revised to allow "other complete destruction" as a viable destruction approach. Language is also added to require that the destruction of the engine include drilling holes "on both sides" of the engine block instead of just one hole. These changes are made to be consistent with updates already made to how these provisions have been implemented.

6. Emissions-Reduction Commitments

- Chapter 4: Emissions Reduction Incentive Grants Program
Emissions-Reduction Commitment
(page 18)
- Chapter 5: Rebate Grants Program
Emissions-Reduction Commitment
(page 25)

Proposed Changes

The paragraph starting with the phrase "The emissions reduction calculations are based on....." is moved to earlier in this section and language is added to clarify the requirements placed on a grant recipient if a specific usage commitment is established and the requirements if default usage amounts are established by the TCEQ.

7. Vehicle, Equipment, and Engine Disposition Requirements

- Chapter 7: Third-Party Grants Program
Vehicle, Equipment, and Engine Disposition Verification
(page 35)

Proposed Changes

A correction is made to the first paragraph of this section to change the phrase "reimbursement by the TCEQ" to read "reimbursement by the third-party grant recipient." This change is made because the reimbursement for a subgrant is made by the third-party grant recipient and not the TCEQ.

8. Replacements

- Appendix 1: On-Road Heavy-Duty Vehicles
Replacement of On-Road Heavy-Duty Vehicles
(page 39)
- Appendix 2: Non-Road Equipment
Replacement of Non-Road Equipment
(page 57)
- Appendix 3: Marine Vessels
Replacement of Marine Vessels
(page 73)
- Appendix 4: Locomotives
Replacement of Locomotives
(page 89)
- Appendix 5: Stationary Equipment
Replacement of Stationary Equipment
(page 105)

Proposed Changes

In order for the emissions reductions calculations for a replacement project to be valid, there must be a reasonable expectation that, absent the grant, the vehicle or equipment being replaced would have continued to be used at the usage rate and for the period of time used to calculate the emissions reductions and the usage commitments. Language is added to these sections to make it clear that the emissions reductions for a replacement project are based on the replacement of the future use of the original vehicle or equipment with the use of the reduced-emission vehicle or equipment. The added language states that unless a default usage amount is used, the activity level and corresponding usage commitment for a replacement project may not exceed the average annual use of the vehicle or equipment being replaced for the two years preceding the application. This language does not change how the projects are evaluated but is intended to clarify the requirements.

9. Repowers

- Appendix 1: On-Road Heavy-Duty Vehicles
Repower of On-Road Heavy-Duty Vehicles
(page 40)
- Appendix 2: Non-Road Equipment
Repower of Non-Road Equipment
(page 58)
- Appendix 3: Marine Vessels
Repower of Marine Vessels
(page 75)
- Appendix 4: Locomotives
Repower of Locomotives
(page 90)
- Appendix 5: Stationary Equipment
Repower of Stationary Equipment
(page 106)

Proposed Changes

Language is added to these sections to state that the upgrade of an engine with a certified engine emissions upgrade kit may also be considered under the repower category. In addition, language is added to state the incremental cost of certified engine conversions and upgrades may include the cost to purchase and install the conversion system or kit, including the new fuel system, if applicable. This language is intended to be consistent with current practice. The TCEQ has considered certified engine upgrade kits as repowers under the program, rather than under the retrofit category.

10. Emission factors and conversion factors

- Appendix 1: On-Road Heavy-Duty Vehicles
Calculating NO_x Emissions Reductions
(page 48)
- Appendix 2: Non-Road Equipment
Calculating NO_x Emissions Reductions
(page 66)
- Appendix 3: Marine Vessels
Calculating NO_x Emissions Reductions
(page 81)
- Appendix 4: Locomotives
Calculating NO_x Emissions Reductions
(page 97)
- Appendix 5: Stationary Equipment
Calculating NO_x Emissions Reductions
(page 112)

Proposed Changes

Language is added to clarify the units of measure for emission factors and conversion factors used to calculate NO_x emissions reductions.