Attachment C

EPA Best Achievable Technology Analysis

Best Achievable Technology: All new nonroad and locomotive engines are now manufactured to meet the EPA Tier 4 standards. All new Category 1 and 2, 804 horsepower and above marine engines are now manufactured to meet the EPA Tier 4 standards. Applicants must commit to using the best achievable technology for the project. Applicants replacing these nonroad, marine, and locomotive engines are expected to use Tier 4 engines if Tier 4 engines with the appropriate physical and performance characteristics are available. If selected for funding, applicants will be required to submit a best achievable technology analysis to EPA for approval before Tier 3 or Tier 4i engines can be purchased.

1. **Application Requirements**: Applicants must commit to using Tier 4 engines if Tier 4 engines with the appropriate physical and performance characteristics are available. Applicants anticipating the use of Tier 3 or Tier 4i engines should discuss their rationale for proposing Tier 3 or Tier 4i engine replacements in Section 1 of their project narrative.
2. **Best Achievable Technology Analysis Requirements:** If selected for funding, applicants will be required to submit a best achievable technology analysis to EPA for approval before Tier 3 or Tier 4i engines can be purchased, as defined below. This analysis is not required at the time of grant application submittal to EPA but is required before Tier 3 or Tier 4i engines can be purchased with grant funds. Costs for engineering analysis may be included in the project budget.
    a. The analysis must be prepared by the engine manufacturer or installer.
    b. Using good engineering judgment, the engine manufacturer or installer must determine that no engine certified to Tier 4 is produced by any manufacturer with the appropriate physical or performance characteristics to repower the equipment.
    c. If the engine manufacturer or installer determines that no engine certified to Tier 4 is available with the appropriate performance characteristics, explain why certified Tier 4 engines produced by them and other manufacturers cannot be used as a replacement because they are not similar to the engine being replaced in terms of power or speed.
    d. If there are available engines with the appropriate performance characteristics but the engine manufacturer or installer determines that no engine certified to Tier 4 is available with the appropriate physical characteristics, explain why certified engines produced by them and other manufacturers cannot be used as a replacement because their weight or dimensions are substantially different than those of the engine being replaced, or because they will not fit within the equipment's engine compartment.
    e. In evaluating appropriate physical or performance characteristics, the engine manufacture or installer may account for compatibility with equipment components that would not otherwise be replaced when installing a new engine, including but not limited to transmissions or reduction gears, drive shafts, cooling systems, operator controls, or electrical systems. If the engine manufacturer or installer makes their determination on this basis, they must identify the equipment components that are incompatible with engines certified to Tier 4 and explain how they are incompatible and why it would be unreasonable to replace them.
    f. Identify the proposed Tier 3 or Tier 4i engines to be used and discuss the physical and performance characteristics of the engines that will ensure compatibility with the existing equipment. Quantify proposed emission reductions, PM cost effectiveness and NOx cost effectiveness for the proposed options.
    g. DERA project eligibility or approval does not supersede any regulatory requirements for equipment owners, operators, manufactures, installers and others, including but not limited to 40 CFR §1068.240, §1042.615, and §1033.601.