

possible operator demand setpoint or “notch”. See 40 CFR 1065.1001 for the definition of operator demand. The maximum available power at each operator demand setpoint is based on your design and production specifications for that locomotive. The nominal power curve does not include any operator demand setpoints that are not achievable during in-use operation. For example, for a locomotive with only eight discrete operator demand setpoints, or notches, the nominal power curve would be a series of eight power points versus notch, rather than a continuous curve.

(c) The nominal power curve must be within the range of the actual power curves of production locomotives considering normal production variability. If after production begins it is determined that your nominal power curve does not represent production locomotives, we may require you to amend your application for certification under § 1033.225.

(d) For the purpose of determining useful life, you may need to use a rated power based on power other than brake power according to the provisions of this paragraph (d). The useful life must be based on the power measured by the locomotive’s megawatt-hour meter. For example, if your megawatt-hour meter reads and records the electrical work output of the alternator/generator rather than the brake power of the engine, and the power output of the alternator/generator at notch 8 is 4000 horsepower, calculate your useful life as 30,000MW-hrs ( $7.5 \times 4000$ ).

#### § 1033.150 Interim provisions.

The provisions of this section apply instead of other provisions of this part for a limited time. This section describes when these provisions apply.

(a) *Early availability of Tier 0, Tier 1, or Tier 2 systems.* Except as specified in paragraph (a)(2) of this section, for model years 2008 and 2009, you may remanufacture locomotives to meet the applicable standards in 40 CFR part 92 only if no remanufacture system has been certified to meet the standards of this part and is available at a reasonable cost at least 90 days prior to the completion of the remanufacture as specified in paragraph (a)(3) of this sec-

tion. This same provision continues to apply after 2009, but only for Tier 2 locomotives. Note that remanufacturers may certify remanufacturing systems that will not be available at a reasonable cost; however such certification does not trigger the requirements of this paragraph (a).

(1) For the purpose of this paragraph (a), “available at a reasonable cost” means available for use where all of the following are true:

(i) The total incremental cost to the owner and operators of the locomotive due to meeting the new standards (including initial hardware, increased fuel consumption, and increased maintenance costs) during the useful life of the locomotive is less than \$250,000, adjusted as specified in paragraph (a)(4)(i) of this section.

(ii) The initial incremental hardware costs are reasonably related to the technology included in the remanufacturing system and are less than \$125,000, adjusted as specified in paragraph (a)(4)(i) of this section.

(iii) The remanufactured locomotive will have reliability throughout its useful life that is similar to the reliability the locomotive would have had if it had been remanufactured without the certified remanufacture system.

(iv) The remanufacturer must demonstrate at the time of certification that the system meets the requirements of this paragraph (a)(1).

(v) The system does not generate or use emission credits.

(2) The number of locomotives that each railroad must remanufacture under this paragraph (a) is capped as follows:

(i) For the period October 3, 2008 to December 31, 2008, the maximum number of locomotives that a railroad must remanufacture under this paragraph (a) is 50 percent of the total number of the railroad’s locomotives that are remanufactured during this period under this part or 40 CFR part 92. Include in the calculation both locomotives you own and locomotives you lease.

(ii) For the period January 1, 2009 to December 31, 2009, the maximum number of locomotives that a railroad must remanufacture under this paragraph (a) is 70 percent of the total number of the

railroad's locomotives that are re-manufactured during this period under this part or 40 CFR part 92. Include in the calculation both locomotives you own and locomotives you lease.

(3) Remanufacturers applying for certificates under this paragraph (a) are responsible to notify owner/operators (and other customers as applicable) that they have requested such certificates. The notification should occur at the same time that the remanufacturer submits its application, and should include a description of the remanufacturing system, price, expected incremental operating costs, and draft copies of your installation and maintenance instructions. The system is considered to be available for a customer 120 days after this notification, or 90 days after the certificate is issued, whichever is later. Where we issue a certificate of conformity under this part based on carryover data from an engine family that we previously considered available for the configuration, the system is considered to be available when we issue the certificate.

(4) Estimate costs as described in this paragraph (a)(4).

(i) The cost limits described in paragraph (a)(1) of this section are specified in terms of 2007 dollars. Adjust these values for future years according to the following equation:

$$\text{Actual Limit} = \left( \frac{\text{2007 Limit}}{0.6000} \times (\text{Commodity Index}) + \frac{\text{2007 Limit}}{0.4000} \times (\text{Earnings Index}) \right)$$

Where:

2007 Limit = The value specified in paragraph (a)(1) of this section (\$250,000 or \$125,000).

Commodity Index = The U.S. Bureau of Labor Statistics Producer Price Index for Industrial Commodities Less Fuel (Series WPU03T15M05) for the month prior to the date you submit your application divided by 173.1.

Earnings Index = The U.S. Bureau of Labor Statistics Estimated Average Hourly Earnings of Production Workers for Durable Manufacturing (Series CES3100000008) for the month prior to the date you submit your application divided by 18.26.

(ii) Calculate all costs in current dollars (for the month prior to the date you submit your application). Calculate fuel costs based on a fuel price adjusted by the Association of American Railroads' monthly railroad fuel

price index (P), which is available at [https://www.aar.org/PubCommon/Documents/AboutTheIndustry/Index\\_MonthlyFuelPrices.pdf](https://www.aar.org/PubCommon/Documents/AboutTheIndustry/Index_MonthlyFuelPrices.pdf). (Use the value for the column in which P equals 539.8 for November 2007.) Calculate a new fuel price using the following equation:

$$\text{Fuel Price} = (\$2.76 \text{ per gallon}) \times (P/539.8)$$

(b) *Idle controls.* A locomotive equipped with an automatic engine stop/start system that was originally installed before January 1, 2008 and that conforms to the requirements of § 1033.115(g) is deemed to be covered by a certificate of conformity with respect to the requirements of § 1033.115(g). Note that the provisions of subpart C of this part also allow you to apply for a conventional certificate of conformity for such systems.

(c) *Locomotive labels for transition to new standards.* This paragraph (c) applies when you remanufacture a locomotive that was previously certified under 40 CFR part 92. You must remove the old locomotive label and replace it with the locomotive label specified in § 1033.135.

(d) *Small manufacturer/remanufacturer provisions.* The production-line testing requirements and in-use testing requirements of this part do not apply until January 1, 2013 for manufacturers/remanufacturers that qualify as small manufacturers under § 1033.901.

(e) *Producing switch locomotives using certified nonroad engines.* You may use the provisions of this paragraph (e) to produce any number of freshly manufactured or refurbished switch locomotives in model years 2008 through 2017. Locomotives produced under this paragraph (e) are exempt from the standards and requirements of this part and 40 CFR part 92 subject to the following provisions:

(1) All of the engines on the switch locomotive must be covered by a certificate of conformity issued under 40 CFR part 89 or 1039 for model year 2008 or later. Engines over 750 hp certified to the Tier 4 standards for non-generator set engines are not eligible for this allowance after 2014.

(2) You must reasonably project that more of the engines will be sold and used for non-locomotive use than for use in locomotives.

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(3) You may not generate or use locomotive credits under this part for these locomotives.

(4) Include the following statement on a permanent locomotive label: “THIS LOCOMOTIVE WAS CERTIFIED UNDER 40 CFR 1033.150(e). THE ENGINES USED IN THIS LOCOMOTIVE ARE SUBJECT TO REQUIREMENTS OF 40 CFR PARTS 1039 (or 89) AND 1068.”

(5) The rebuilding requirements of 40 CFR part 1068 apply when remanufacturing engines used in these locomotives.

(f) *In-use compliance limits.* For purposes of determining compliance other than for certification or production-

line testing, calculate the applicable in-use compliance limits by adjusting the applicable standards/FELs. The PM adjustment applies only for model year 2017 and earlier locomotives and does not apply for locomotives with a PM FEL higher than 0.03 g/bhp-hr. The NO<sub>x</sub> adjustment applies only for model year 2017 and earlier locomotives and does not apply for locomotives with a NO<sub>x</sub> FEL higher than 2.0 g/bhp-hr. Add the applicable adjustments in Tables 1 or 2 of this section (which follow) to the otherwise applicable standards (or FELs) and notch caps. You must specify during certification which add-ons, if any, will apply for your locomotives.

TABLE 1 TO § 1033.150.—IN-USE ADJUSTMENTS FOR TIER 4 LOCOMOTIVES

Fraction of useful life already used	In-use adjustments (g/bhp-hr)	
	For model year 2017 and earlier Tier 4 NO <sub>x</sub> standards	For model year 2017 and earlier Tier 4 PM standards
0 < MW-hrs ≤ 50% of UL .....	0.7	0.01
50 < MW-hrs > 75% of UL .....	1.0	0.01
MW-hrs > 75% of UL .....	1.3	0.01

TABLE 2 TO § 1033.150.—OPTIONAL IN-USE ADJUSTMENTS FOR TIER 4 LOCOMOTIVES

Fraction of useful life already used	In-use adjustments (g/bhp-hr)	
	For model year 2017 and earlier Tier 4 NO <sub>x</sub> standards	For model year 2017 and earlier Tier 4 PM standards
0 < MW-hrs ≤ 50% of UL .....	0.2	0.03
50 < MW-hrs ≤ 75% of UL .....	0.3	0.03
MW-hrs > 75% of UL .....	0.4	0.03

(g) Optional interim Tier 4 compliance provisions for NO<sub>x</sub> emissions. For model years 2015 through 2022, manufacturers may choose to certify some or all of their Tier 4 line-haul engine families according to the optional compliance provisions of this paragraph (g). The following provisions apply to all locomotives in those families:

(1) The provisions of this paragraph (g) apply instead of the deterioration factor requirements of §§ 1033.240 and 1033.245 for NO<sub>x</sub> emissions. You must certify that the locomotives in the engine family will conform to the requirements of this paragraph (g) for their full useful lives.

(2) The applicable NO<sub>x</sub> emission standard for locomotives certified under this paragraph (g) is:

(i) 1.3 g/bhp-hr for locomotives that have accumulated less than 50 hours of operation.

(ii) 1.3 plus 0.6 g/bhp-hr for locomotives that have accumulated 50 hours or more of operation.

(3) The engine family may not generate NO<sub>x</sub> emission credits.

(4) The design certification provisions of § 1033.240(c) do not apply for these locomotives for the next remanufacture.

(5) Manufacturers must comply with the production-line testing program in subpart D of this part for these engine

families or the following optional program:

(i) You are not required to test locomotives in the family under subpart D of this part if you comply with the requirements of this paragraph (g)(5).

(ii) Test the locomotives as specified in subpart E of this part, with the following exceptions:

(A) The minimum test sample size is one percent of the number of locomotives in the family or five, whichever is less.

(B) The locomotives must be tested after they have accumulated 50 hours or more of operation but before they have reached 50 percent of their useful life.

(iii) The standards in this part for pollutants other than NO<sub>x</sub> apply as specified for testing conducted under this optional program.

(6) The engine family may use NO<sub>x</sub> emission credits to comply with this paragraph (g). However, a 1.5 g/bhp-hr NO<sub>x</sub> FEL cap applies for engine families certified under this paragraph (g). The applicable standard for locomotives that have accumulated 50 hours or more of operation is the FEL plus 0.6 g/bhp-hr.

(7) The in-use NO<sub>x</sub> add-ons specified in paragraph (f) of this section do not apply for these locomotives.

(8) All other provisions of this part apply to such locomotives, except as specified otherwise in this paragraph (g).

(h) *Test procedures.* You are generally required to use the test procedures specified in subpart F of this part (including the applicable test procedures in 40 CFR part 1065). As specified in this paragraph (h), you may use a combination of the test procedures specified in this part and the test procedures specified in 40 CFR part 92 prior to January 1, 2015. After this date, you must use only the test procedures specified in this part.

(1) Prior to January 1, 2015, you may ask to use some or all of the procedures specified in 40 CFR part 92 for locomotives certified under this part 1033.

(2) If you ask to rely on a combination of procedures under this paragraph (h), we will approve your request only if you show us that it does not affect your ability to demonstrate compli-

ance with the applicable emission standards. Generally this requires that the combined procedures would result in emission measurements at least as high as those that would be measured using the procedures specified in this part. Alternatively, you may demonstrate that the combined effects of the different procedures is small relative to your compliance margin (the degree to which your emissions are below the applicable standards).

(i) *Certification testing.* Prior to model year 2014, you may use the simplified steady-state engine test procedure specified in this paragraph (i) for certification testing. The normal certification procedures and engine testing procedures apply, except as specified in this paragraph (i).

(1) Use good engineering judgment to operate the engine consistent with its expected operation in the locomotive, to the extent practical. You are not required to exactly replicate the transient behavior of the engine.

(2) You may delay sampling during notch transition for up to 20 seconds after you begin the notch change.

(3) We may require you provide additional information in your application for certification to support the expectation that production locomotives will meet all applicable emission standards when tested as locomotives.

(4) You may not use this simplified procedure for production-line or in-use testing.

(j) *Administrative requirements.* For model years 2008 and 2009, you may use a combination of the administrative procedures specified in this part and the test procedures specified in 40 CFR part 92. For example, this would allow you to use the certification procedures of 40 CFR part 92 to apply for certificates under this part 1033.

(k) *Test fuels.* Testing performed during calendar years 2008 and 2009 may be performed using test fuels that meet the specifications of 40 CFR 92.113. If you do, adjust PM emissions downward by 0.04 g/bhp-hr to account for the difference in sulfur content of the fuel.

(1) *Refurbished switch locomotives.* In 2008 and 2009 remanufactured Tier 0 switch locomotives that are deemed to

be refurbished may be certified as remanufactured switch locomotives under 40 CFR part 92.

### Subpart C—Certifying Engine Families

#### § 1033.201 General requirements for obtaining a certificate of conformity.

Certification is the process by which you demonstrate to us that your freshly manufactured or remanufactured locomotives will meet the applicable emission standards throughout their useful lives (explaining to us how you plan to manufacture or remanufacture locomotives, and providing test data showing that such locomotives will comply with all applicable emission standards). Anyone meeting the definition of manufacturer in § 1033.901 may apply for a certificate of conformity for freshly manufactured locomotives. Anyone meeting the definition of remanufacturer in § 1033.901 may apply for a certificate of conformity for remanufactured locomotives.

(a) You must send us a separate application for a certificate of conformity for each engine family. A certificate of conformity is valid starting with the indicated effective date, but it is not valid for any production after December 31 of the model year for which it is issued. No certificate will be issued after December 31 of the model year.

(b) The application must contain all the information required by this part and must not include false or incomplete statements or information (see § 1033.255).

(c) We may ask you to include less information than we specify in this subpart, as long as you maintain all the information required by § 1033.250.

(d) You must use good engineering judgment for all decisions related to your application (see 40 CFR 1068.5).

(e) An authorized representative of your company must approve and sign the application.

(f) See § 1033.255 for provisions describing how we will process your application.

(g) We may require you to deliver your test locomotives to a facility we

designate for our testing (see § 1033.235(c)).

(h) By applying for a certificate of conformity, you are accepting responsibility for the in-use emission performance of all properly maintained and used locomotives covered by your certificate. This responsibility applies without regard to whether you physically manufacture or remanufacture the entire locomotive. If you do not physically manufacture or remanufacture the entire locomotive, you must take reasonable steps (including those specified by this part) to ensure that the locomotives produced under your certificate conform to the specifications of your application for certification. Note that this paragraph does not limit any liability under this part or the Clean Air Act for entities that do not obtain certificates. This paragraph also does not prohibit you from making contractual arrangements with noncertifiers related to recovering damages for noncompliance.

(i) The provisions of this subpart describe how to obtain a certificate that covers all standards and requirements. Manufacturer/remanufacturers may ask to obtain a certificate of conformity that does not cover the idle control requirements of § 1033.115 or one that only covers the idle control requirements of § 1033.115. Remanufacturers obtaining such partial certificates must include a statement in their installation instructions that two certificates and labels are required for a locomotive to be in a fully certified configuration. We may modify the certification requirements for certificates that will only cover idle control systems.

#### § 1033.205 Applying for a certificate of conformity.

(a) Send the Designated Compliance Officer a complete application for each engine family for which you are requesting a certificate of conformity.

(b) The application must be approved and signed by the authorized representative of your company.

(c) You must update and correct your application to accurately reflect your production, as described in § 1033.225.

(d) Include the following information in your application: