

1501:10-2-20      **Establishing baseline exhaust emissions values for monitoring and control.**

- (A) Exhaust emissions for diesel-powered equipment ~~shall~~is to be monitored and controlled using the control and conditioning systems of rule 1501:10-2-05 of the Administrative Code, the threshold limits and other ~~requirements~~provisions of rule 1501:10-2-07 of the Administrative Code, the baseline exhaust emissions values established in this rule, and the diagnostic testing of rule 1501:10-2-21 of the Administrative Code.
- (B) Establishing baseline exhaust emissions values. For purposes of diagnostic testing under rule 1501:10-2-21 of the Administrative Code, baseline exhaust emissions values ~~shall~~are to be established in accordance with this rule for each piece of diesel-powered equipment to be used in a specific underground coal mine.
- (1) The chief ~~shall~~will approve baseline carbon monoxide (CO) values that are representative of the MSHA lug curve for that specific engine model. If the baseline CO values are greater than the MSHA lug curve values, the chief ~~shall~~will investigate and approve, disapprove, or provide an alternate operating procedure for meeting ~~the requirements~~ of this rule under the condition that CO baseline exhaust emissions remain representative of MSHA's approval data.
  - (2) The chief ~~shall~~will establish the loaded condition for the baseline exhaust emissions testing under paragraphs (C)(12) to (C)(13) of this rule by determining carbon dioxide (CO<sub>2</sub>) values that are representative of the MSHA lug curve readings for that engine model and horsepower.
  - (3) When any diesel-powered machine first enters service at a mine, or when an engine in any diesel-powered machine has been replaced or modified, a mechanic qualified in accordance with rule 1501:10-2-24 of the Administrative Code ~~shall~~is to establish the baseline exhaust emissions values, other than the CO and CO<sub>2</sub> emissions values approved or established by the chief under paragraphs (B)(1) and (B)(2) of this rule, by following the procedure of paragraph (C) of this rule or an approved alternative procedure of paragraph (D) of this rule.
- (C) When establishing baseline exhaust emissions values, equipment may be located either on the surface or underground. Unless the chief approves an alternative procedure for establishing baseline exhaust emissions values pursuant to paragraph (D) of this rule, a mechanic qualified in accordance with rule 1501:10-2-24 of the Administrative Code ~~shall~~is to establish baseline exhaust emissions values in accordance with the following:
- (1) Verify that the seal on the engine fuel injector pump is in place and that the proper fuel pump is on the equipment;

- (2) Install a new, clean intake air cleaner, then measure and record the intake restriction pressure, and ensure the pressure meets the manufacturer's specifications;
  - (3) Check the level of engine oil and add oil, if necessary;
  - (4) Change the engine lubrication oil (if not fresh);
  - (5) Check the level of the transmission fluid and add fluid if necessary;
  - (6) Measure and record the exhaust gas backpressure and, if exhaust gas backpressure is above that specified by the manufacturer, take steps to bring the exhaust gas backpressure back within the manufacturer's recommended limit prior to again beginning the procedure to establish the baseline exhaust emissions values pursuant to paragraph (C) of this rule;
  - (7) Test the brakes and ensure the brakes are in good working order as specified by the manufacturer;
  - (8) If the baseline exhaust emissions values are being established on equipment that is underground, place the equipment into an intake entry;
  - (9) Set the brakes and chock the wheels;
  - (10) Install an exhaust gas analyzer in proper working condition into the untreated exhaust gas port;
  - (11) Start the engine and allow it to warm up to operating temperature;
  - (12) Put the engine into a loaded condition;
  - (13) Start the exhaust gas analyzer and allow the engine to operate in the loaded condition for a sufficient length of time, but not less than a ninety-second duration to insure proper CO readings. The qualified mechanic ~~shall~~is to record both CO and CO<sub>2</sub> readings; and
  - (14) Comply with record keeping ~~requirements~~provisions of rule 1501:10-2-17 of the Administrative Code.
- (D) The chief may approve an alternative to the procedure to establish the baseline exhaust emissions values of paragraph (C) of this rule.

- (E) The results of the procedures to establish the baseline exhaust emissions values under this rule ~~shall~~ are to be submitted to and approved by the chief prior to being implemented for each engine and equipment type.

Effective:

Five Year Review (FYR) Dates: 4/11/2024

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Certification

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Date

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