

# Evaluation of NTE Windows and a Work-Based Method to Determine In-Use Emissions of a Heavy-Duty Diesel Engine



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# Summary

- In-use emissions of a heavy-duty diesel engine in a heavy-duty vehicle were measured using a research-grade PEMS to determine bsNO<sub>x</sub> and bsCO<sub>2</sub> emissions over predetermined driving routes consisting of urban and highway traffic patterns.
- Test vehicle was configured at 3 different GVWs (~30k lb, ~60k lb, ~80k lb).
- bsNO<sub>x</sub> and bsCO<sub>2</sub> emissions were calculated using 30 second NTE (Not-to-Exceed) windows, continuous NTE windows, and work-based windows.
- In-use bsNO<sub>x</sub> emissions were found to increase as test weight increased.
- Amount of NTE operation was more dependent on test route than test weight.
- Similar brake-specific values of NO<sub>x</sub> and CO<sub>2</sub> may be obtained from multiple methods.
- The work window method yields accurate in-use emissions values when compared to current NTE methods, but with less variation.