





















Figure 12

## Summary

With some trade-offs, the tests demonstrated the viability of HVO as an alternative to diesel fuel:

- HVO density limited the injector delivery, and the engine had a 3.6% power loss at full load (a power loss of 2% to 5% was expected).
- Fuel consumption was slightly higher using HVO at all points measured.
- Overall, lower NO<sub>x</sub>, smoke and soot emissions were recorded when using HVO. For the smoke opacity test, the results using HVO were approximately 50% of diesel at all points measured.
- On average, transient response tests showed a 1.3% greater frequency drop with HVO.
- Start-up time using HVO was faster than diesel, but the time to reach steady state speed was almost equal.

**LET'S DO THE WORK.™**

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