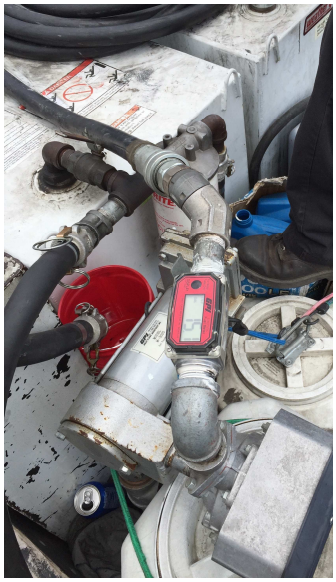
Fuel Burn Rate Comparison -Final Report- 1 MW GenSet

CD & Power, 150 Nardi Lane, Martinez CA 94553 Ph: (925) 229-2700 Friday, May 22, 2015

This test was used to determine the effect of **BestLine's Diesel Fuel Treatment** (DFT) upon fuel efficiency.

Fuel Consumption:



The fuel supply was routed from a manifold on the refueling truck through a new fuel flow meter from GPI.

This flow meter was used as the primary method of determining the fuel burn rate by comparing how much fuel was added to the main onboard fuel tank as compared to how much was remaining after it was drained back into the refueling truck through this same flow meter.

The onboard 1000 gallon fuel tank was fully drained and documented via the fuel tank drain at the bottom / outside fuel drain port after each testing cycle. (See photo.)

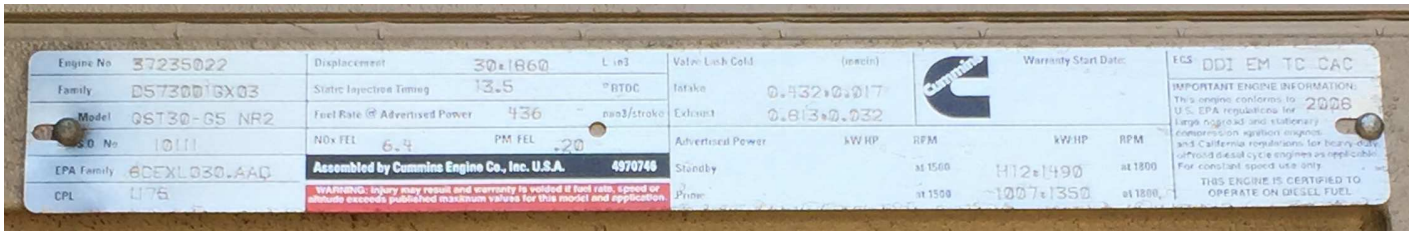
External fuel drain fitting.

The data was collected by two CD & Power technicians throughout the process.

The testing protocol was strictly adhered to and recorded to ensure the engine was operated under the same scenario for both baseline and comparison testing.

Engine Power / Load Center:

The engine power was controlled and measured by a one Megawatt (MW) load center.



Testing Protocol:

The test consisted of a 1 MW generator and Load Center capable of applying a load to the generator to simulate actual loads under normal operation.

Testing Protocol: continued

1. Each test (one without any fuel additive, and one BestLine Diesel Fuel Treatment added to the fuel), was conducted three times with one refueling event at the start of the test and drained fully and measured at the completion of the test.
2. The measured remaining fuel was subtracted from the amount of fuel added at the beginning test to reveal the burn rate for the three cycles of testing.
3. In addition to the test protocol outlined below, there was a one hour cleanout cycle after the baseline tests were conducted that used BestLine Diesel Fuel Treatment premixed with the fuel at a ratio of three (3) ounces per 10 gallons. This cleanout cycle was performed to prepare the engine for the second round of testing and to ensure better accuracy and stability of the test. This cleanout cycle was run at full power and load.

Fuel Burn Test	Time	RPM
Idle / no load	20 minutes	650
Full speed with LB fan only	3 minutes	1800
Full speed with LB @ 200 kw load	2 minutes	1800
Full speed with LB @ 500 kw load	20 minutes	1800
Full speed with LB @900 kw load	20 minutes	1800
Full speed with LB fan only	5 minutes	1800
Idle / no load cool down	3 minutes	650
Engine shut down	1 minute	0
Total time for each test	74 minutes	

Average Without BestLine DFT	Average With BestLine DFT
225 gallons of fuel added	150 gallons of fuel added
110.8 gallons reclaimed	48.7 gallons reclaimed
114.2 gallons burned	**101.3 gallons burned**
Performance Results:	**11.3% decrease in fuel consumption**

Test was conducted by CD & Power technicians.

1. _____ Date: 5 / 24 / 15

2. _____ Date: 5 / 26 / 15

Participants:

Owen Charles: CD and Power technician.
Marcos Jetmore: CD and Power technician
Perry Anderson: BestLine Lubricants VP Sales.

Test Certified by CD & Power as accurate and reliable

X _____ Date: 5 / 26 / 15