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Purpose of Evaluation

Ingram Barge was interested in evaluating the EnerBurn® Diesel Fuel Performance Catalyst in order to demonstrate the positive benefits the technology provides on a vessel in full operation in the field. The Eileen Bigelow was selected as the evaluation vessel.

Product Tested:

EnerBurn® Off-Road EC5932A (EnerBurn)

Evaluation For:

David Sehr
Chief Operating Officer
Ingram Barge
Paducah, KY

Equipment Evaluated

Vessel: Eileen Bigelow
Engine Manufacturer: EMD.
Model Number: 12-645-E7B
Engine Speed: 900RPM
Power Output: 2280hp per / 6840hp Total

Evaluation Analyst:

Janelle Engineering Inc.
Gerard L. Janelle
2190 Pagoda Lane
Punta Gorda, FL 33983

Evaluation Protocols

The protocols used to measure the positive effects of EnerBurn were accomplished with the Services of Janelle Engineering Inc. (JEI), Punta Gorda Florida and Enerdeck Chemical Corporation, Stafford Texas. The vessel being measured must be mechanically sound and in good working order so that a proper baseline can be established to compare to the subsequent benchmark runs to measure the difference in the parameters being measured.

An initial run would be conducted to establish the baseline. EnerBurn would then be introduced into the vessel's fuel and the vessel would be continuously treated for a minimum of three to six months to allow the full catalytic effect of EnerBurn to be established

Parameters measured:

- Fuel Consumption
- Shaft Horsepower
- Foot Pounds of Torque
- Engine Revolutions per Minute (RPM)
- Gear Ratio
- Fuel Temperatures
- Exhaust Temperatures
- Air Temperature
- Relative Humidity
- Exhaust Smoke (Opacity)
- Oxides of Nitrogen (NOx)

Equipment used to record the measurements:

- TTS Fuel Flow meter (3)
- UEI Technologies NOx Meter
- Omega Scope hand held Infrared Thermometer (Pyrometer)
- Humidity Air Temperature Meter
- Wager 6500 Opacity Meter
- JEI Proprietary Equipment

The following results will be determined by comparing the baseline measurements to the final benchmark measurements.

1. Fuel Consumption
2. Maximum Available Horsepower
3. Oxides of Nitrogen
4. Smoke (Opacity)
5. Propeller Horsepower demand

Evaluation Summary

Upon conclusion of the benchmark runs the data was evaluated and compared by Janelle Engineering.

The following observations were noted in the Janelle report and are the result of the presence of the EnerBurn catalyst in the engines.

- ***8.1% Decrease in Fuel Consumption***
- ***68% Reduction in Smoke (Opacity)***
- ***14% Reduction in Oxides of Nitrogen (NOx)***
- ***271 More Horsepower at no Penalty in Fuel Consumption***

The full report by Janelle Engineering can be viewed by clicking [here](#).