

CASE STUDY: US Naval Air Station - Whidbey Island



TOTAL SAVINGS:


12.54%

in 4 months

TWO MONTHS ROI

FINANCIAL SAVINGS:	\$522.98
CO₂ SAVINGS:	3,337 lbs
Installed:	DEC 2016
Trial period:	4 Months
Volume installed:	0.4 US Gallons
Boiler Spec:	1x396MBH (116KW)



A Real Energy Saving Solution to Improve Boiler and Chiller System Efficiency

RAPID BOIL™ is an energy saving additive which can be installed into any wet boiler system. Water is used in heating systems because it is cost effective and readily available, however in reality water alone is not the most efficient transporter of heat. **RAPID BOIL™** improves the heat transfer properties of the water resulting in a significant effect on the overall system efficiency.

Check out these trial results posted by the Energy Program Manager at the US Navy

The trial was conducted in a single storey (Building 2641) Personnel Support Detachment (PSD) unit. This hydronic system is heated by a diesel powered Weil Mclain Model 80 Series 1 boiler with an output of 396MBH or 116kW.

The volume of the hydronic system was recorded to be 41 US Gallons (155L) and therefore 0.41 Gallons (1%) was installed on the 5th of December 2016.

Half hourly usage data was recorded for the 4 month trial period and compared with the same time period the year before. Electrical consumption was also monitored to confirm there was no significant change in activity between the two years. The usage data was compensated using Heating Degree Days (18.5°C) from the on-site weather station on Whidbey Island.

Note: There was a time period where the meter was non-operational in 2017 and this time period was eliminated.

PSD Building	Usage (kWh)	HDD (18.5°C)	Usage/HDD (kWh/HDD)
Dec 2015 - March 2016	121031.9	1210.8	99.96
Dec 2016 - March 2017	78717.69	900.4	87.42

Energy Savings 12.54% (in 4 months)

By comparing the predicted usage with actual usage (based on degree days) the trial **saved 149.8 US Gallons**. At \$3.90 per Gallon this is a saving of \$522.98.

One US Gallon of diesel will emit 10.13kg of CO₂. The trial therefore **saved 1517kg or 3337lbs of CO₂**.