Navy Techval Demonstration:

Boiler Combustion Controls

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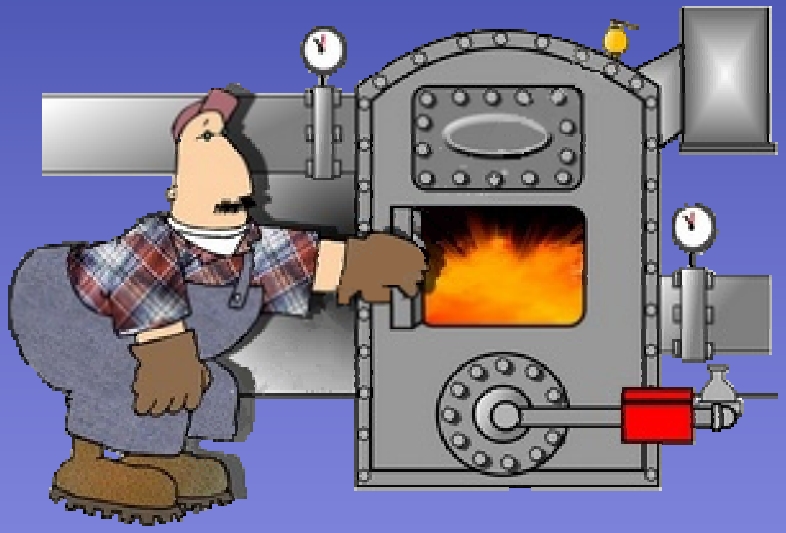
Navy Technology Validation Program (Techval)

Overview



- Demonstration
- Results
- Issues

Demonstration

- Naval Base Kitsap, Bangor, WA
- Cleaver Brooks
  - Installed in 2001
  - 500 HP boiler
  - Natural Gas, #2 fuel oil

List of Changes

- Removed existing control system
- Added new transmitters, switches, steam pressure transducer and oil flow orifice plate
- Replaced control valves
- Installed new control system

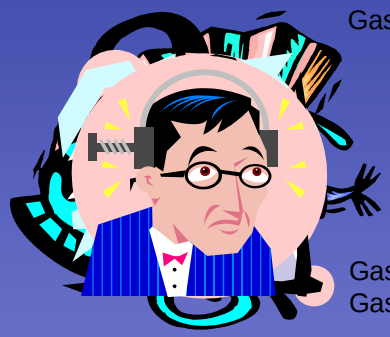
Objective

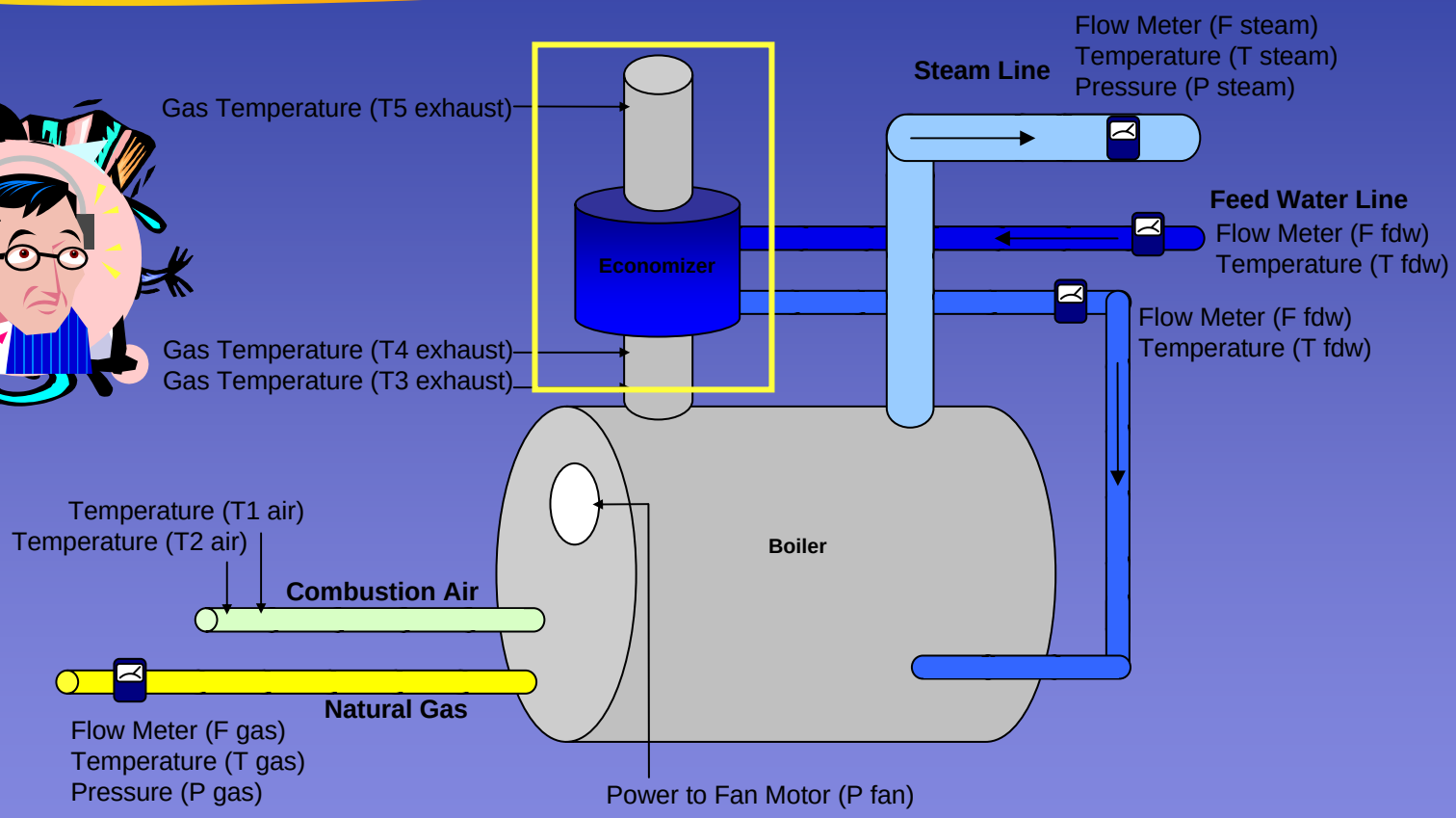
Energy Savings

Fuel Efficiency

Combustion Fan Motor Power

Boiler Properties

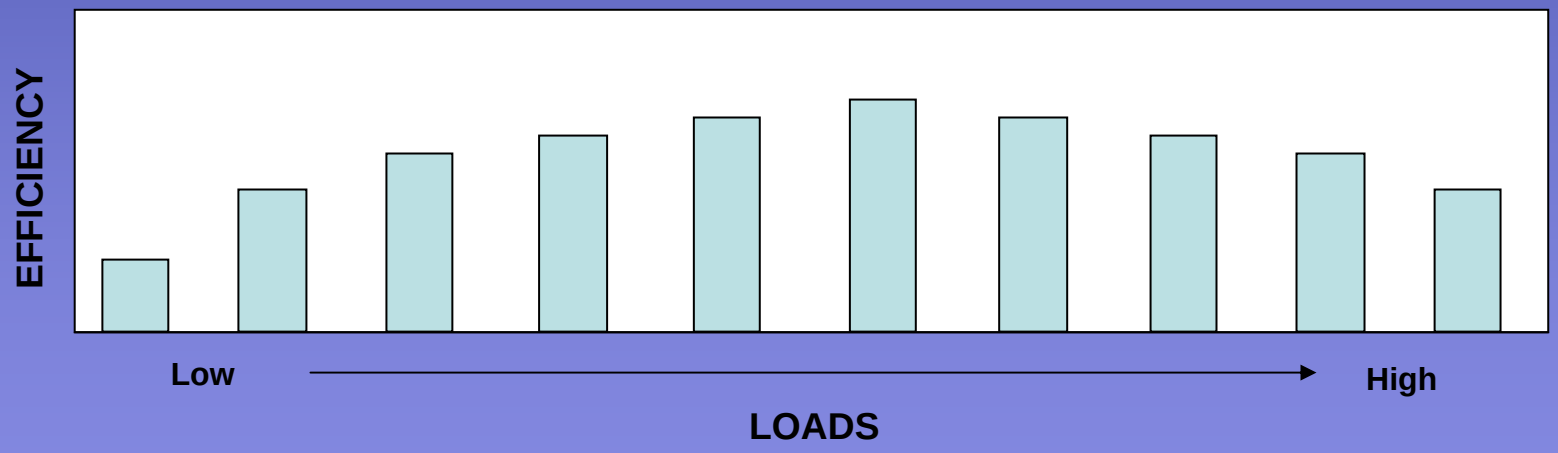




Monitoring

Data Under Operating Conditions

Data Under Fixed Loads



Preliminary Analysis

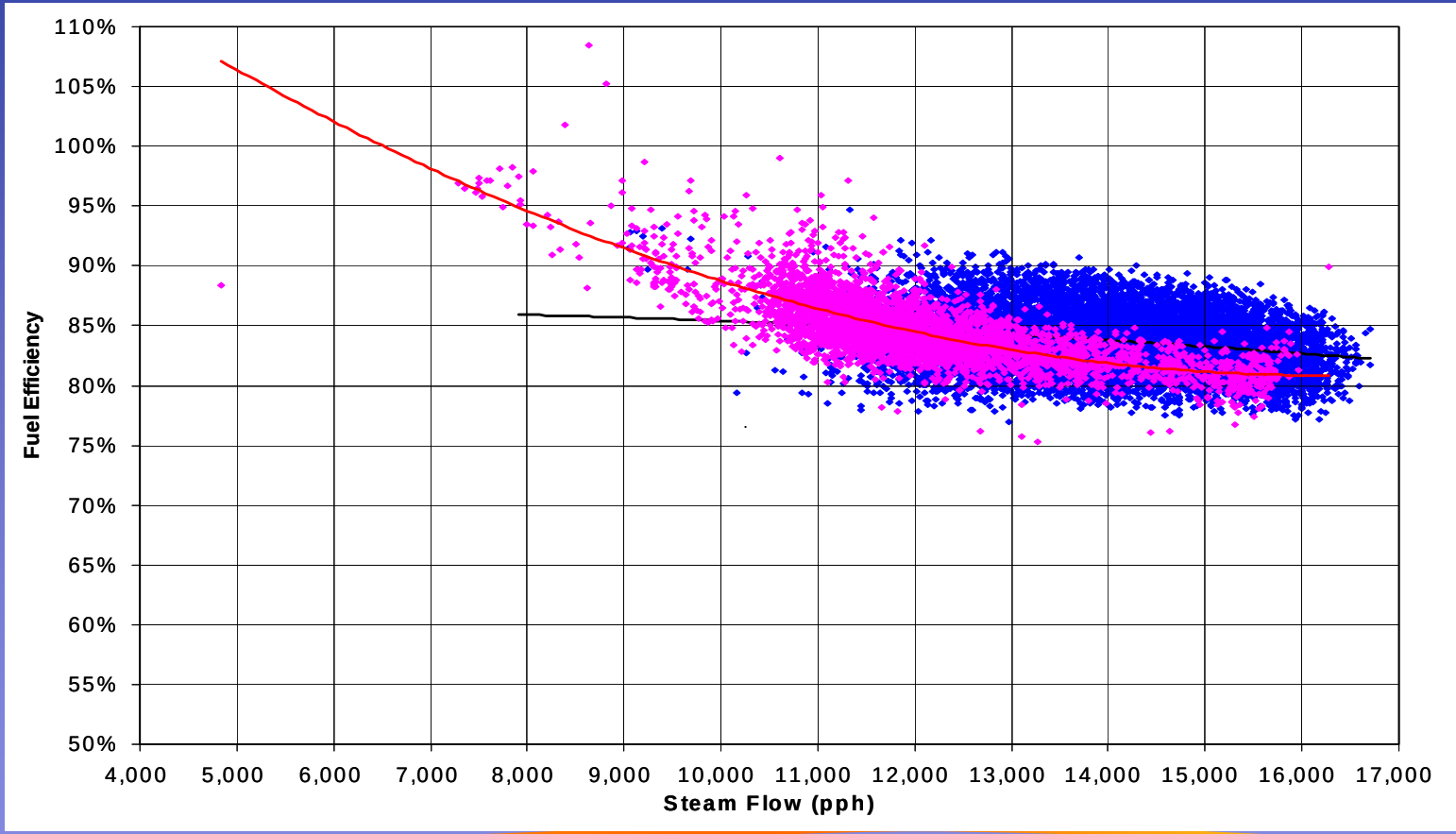
Fuel Efficiency

Improvement

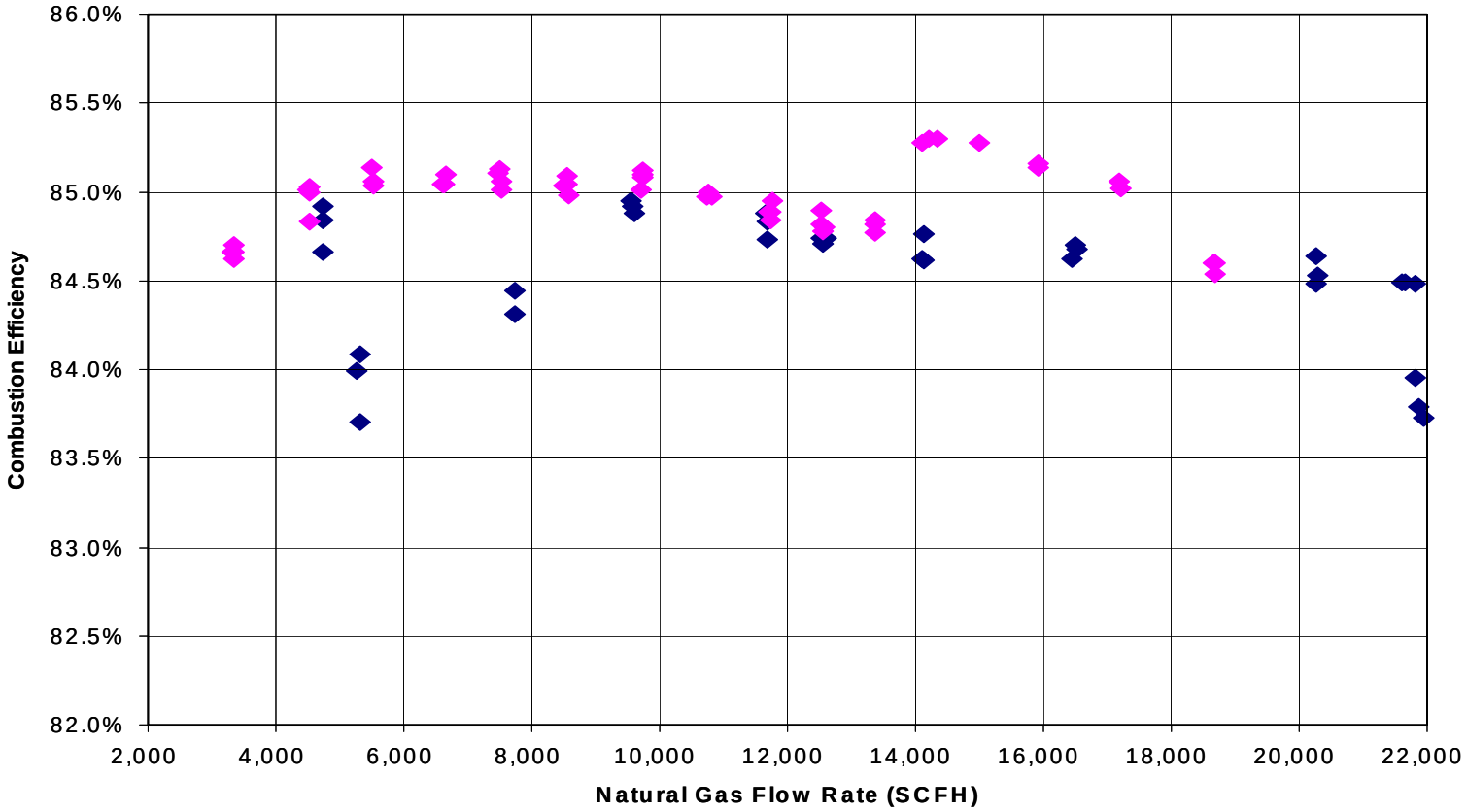
Combustion Fan Motor Power

Reduction

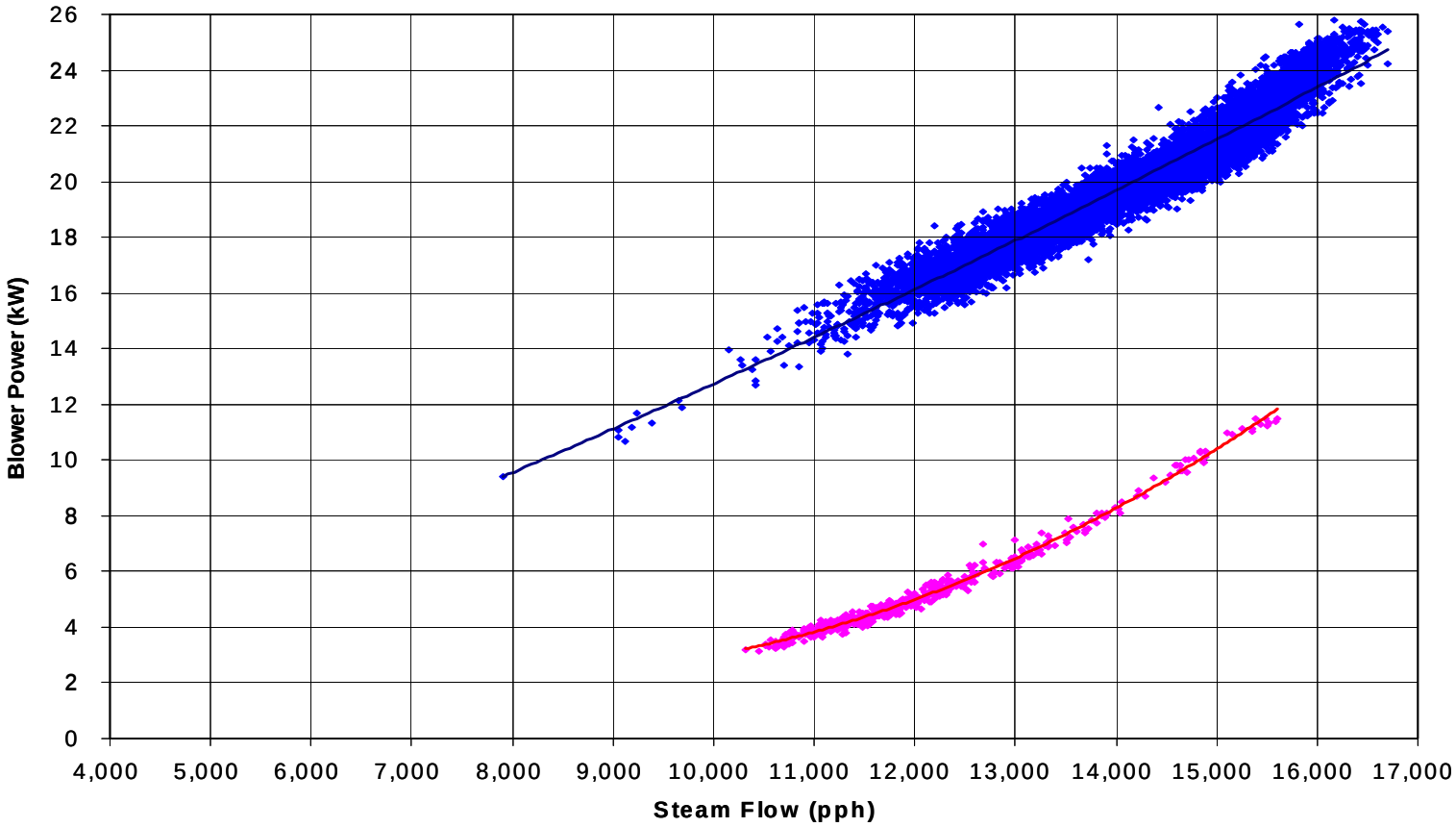
Comparative Fuel Efficiency



Combustion Efficiency



Comparative Blower Power



Issues

- Air Agency Regulations
- Infrared Flame Scanner Replacement

Path Forward

Additional Site

- 100 million BTU hot water generator
- Installed in ~1990

For More Information

Would you like to know more about this session?

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Don't forget to fill out and drop off your session evaluations!

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