Pellet/Chip Quality, Integrating Boilers into High-Temp Systems, and Maximizing Boiler Uptime

Industry Forum

March 30, 2016

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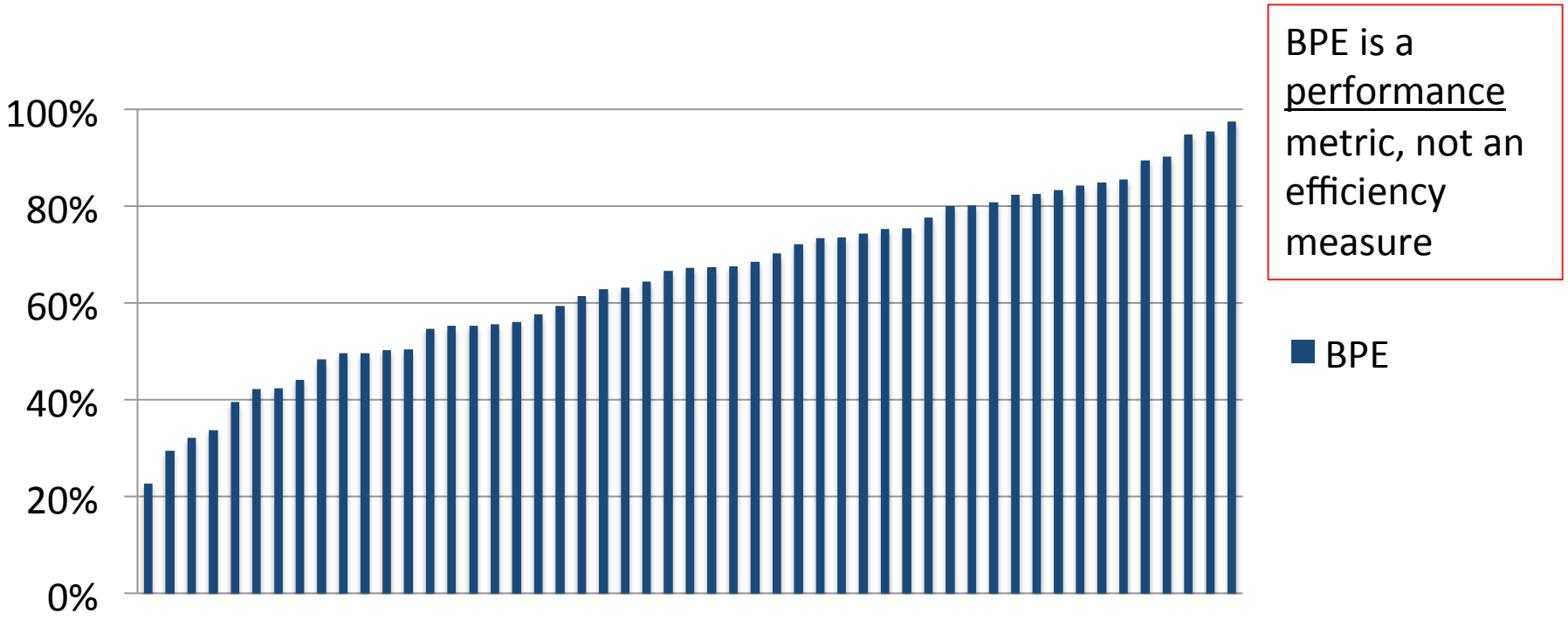
Boiler Plant Effectiveness (BPE)

BPE = % of heating time when boiler plant is providing water ≥ setpoint − 2.5°C

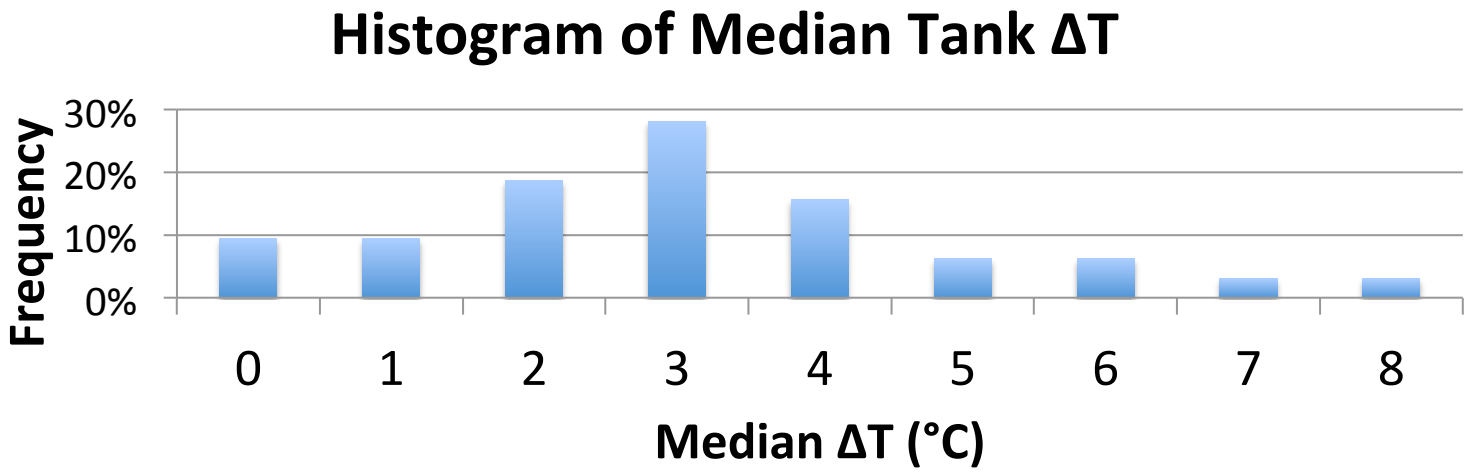
OR

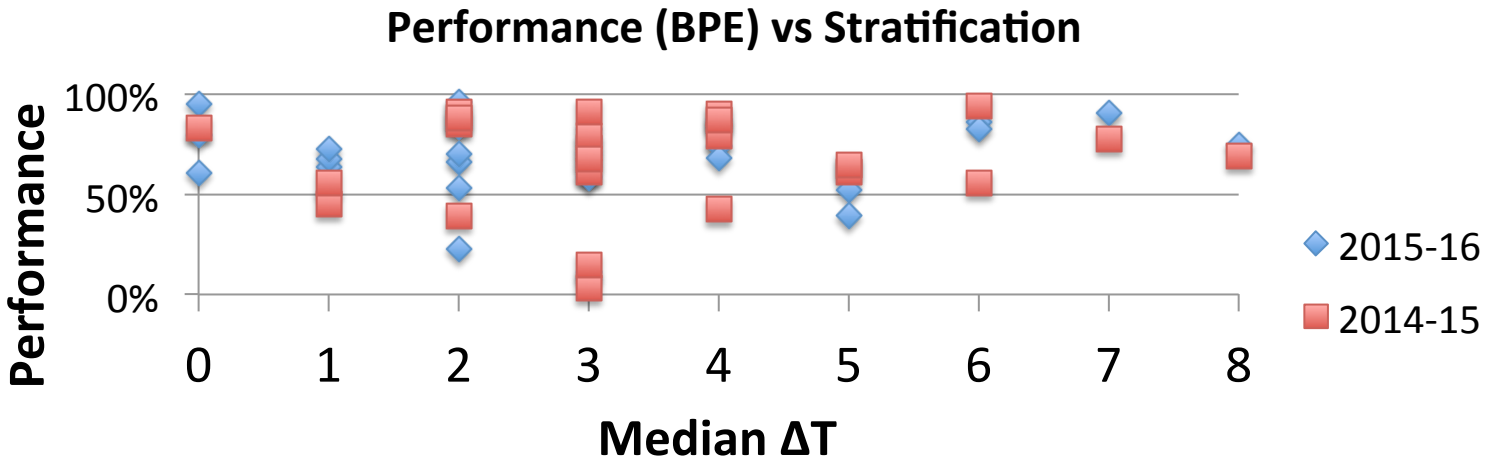
Output of all available boilers > 95% of full output (undersizing not penalized)



Each bar represents a boiler plant in the 2014-2015 or 2015-2016 heating season. Some plants have bars in both seasons.

Storage Tank ΔT Results





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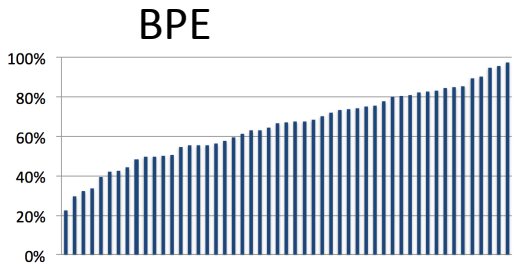
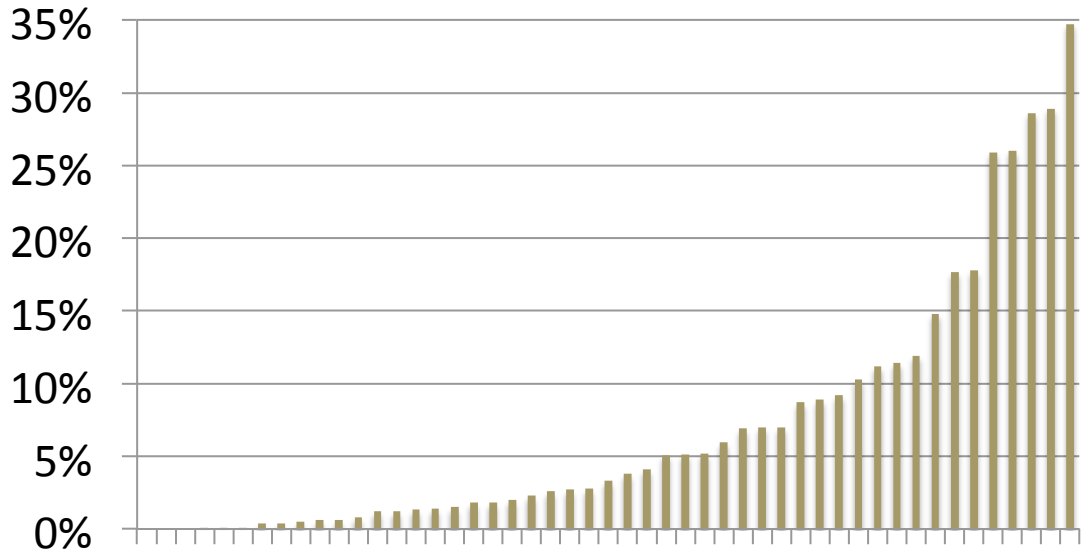


Boiler Faults and Shutoffs Lead to Large Performance Penalties



BPE = % of heating time when boiler plant is providing water ≥ setpoint − 2.5°C
OR
Output of ALL boilers > 95% of full output

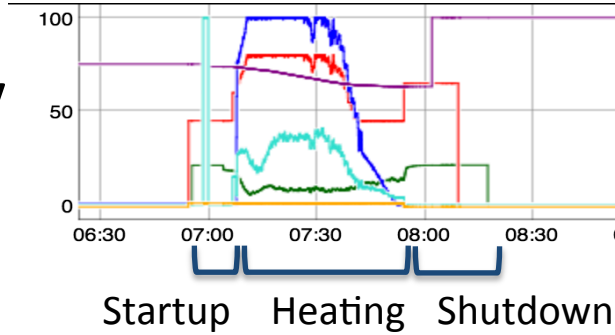
Each bar represents a boiler plant in the 2014-2015 or 2015-2016 heating season. Some plants have bars in both seasons.

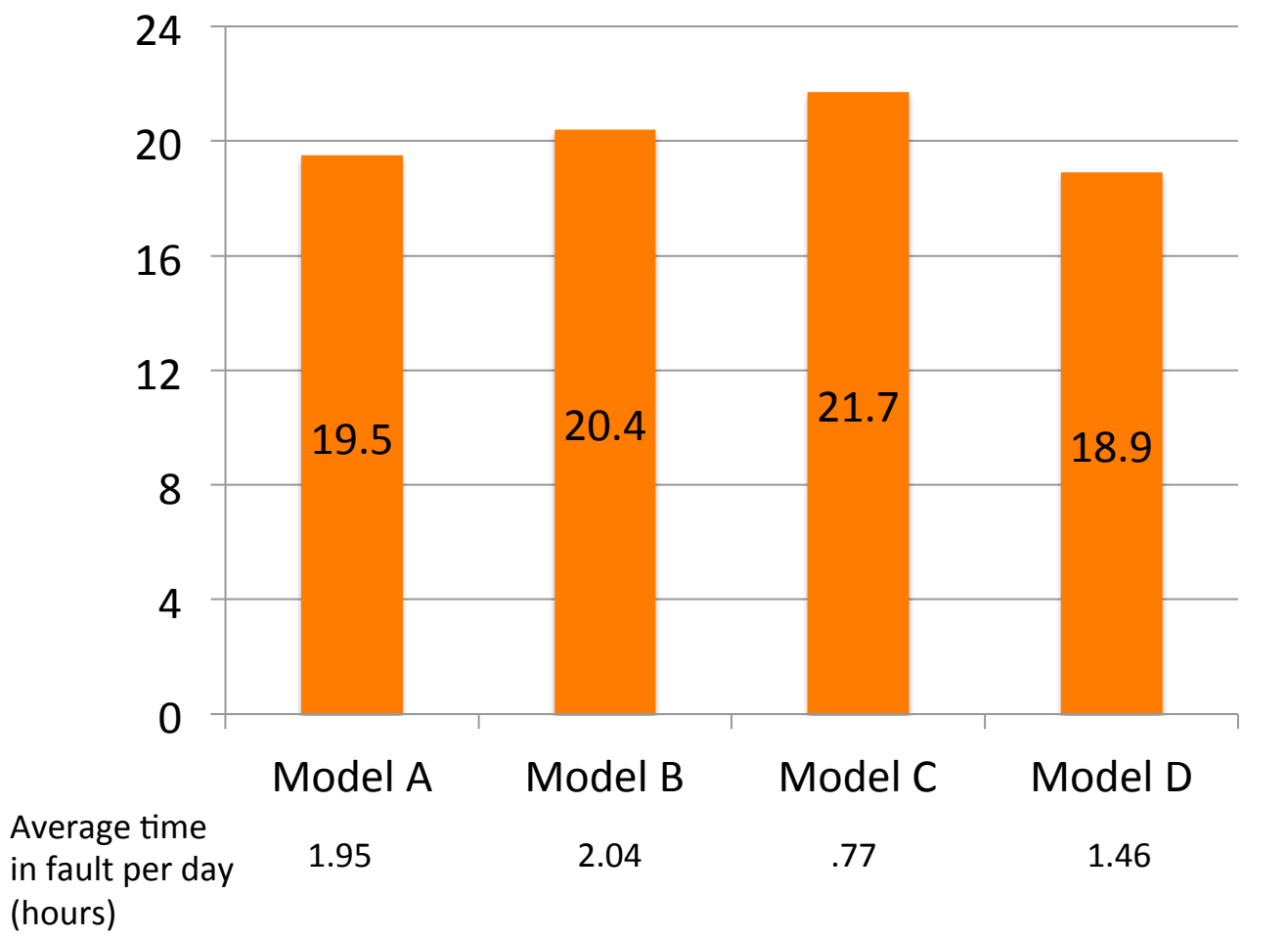
Had all boilers been available when temperature goals not met, these performance penalties = 0%

Possible reasons for shutoffs and faults:

- Manufacturer—boilers not rugged and fault often
- Service provider—lack of timely repairs keeps boilers in fault
- Operator—fails to ensure steady fuel supply or to clear faults quickly ✔

Many Boilers Can't Heat 24 Hours a Day





Max Heating Hours Per Day

(Includes average time in fault per day)

Average time in fault per day (hours)	Model A	Model B	Model C	Model D
	1.95	2.04	.77	1.46

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