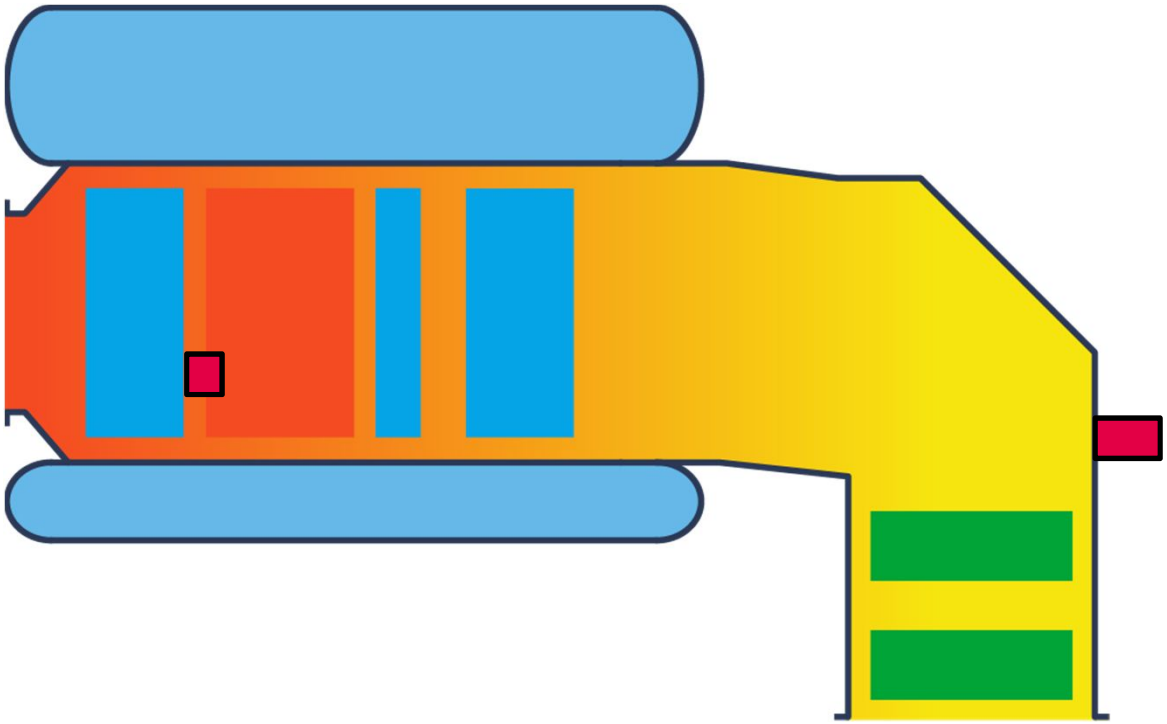
Shock Pulse Generator Reference Plant: Waste Heat Boiler – Cokenergy, Chicago / USA



- Waste heat boiler with 48 t/h (107 klbs/h) steam capacity processing waste heat from heat recovery coke ovens
- Finned tube design of EVAP and ECO located downstream SH
- Each boiler cleaned solely by 2xEG10L SPG installed upstream SH and ECO (Shock Pulse Interval = 2h)
- Replaced 12 x steam soot blowers per boiler (type T20, D5E) - saved 2.5 t/day of steam per boiler
- Trial run performed in 2016/2017 on boiler D3 – delivered SPGs for battery A to C (in total 12 boilers) since then
- OEM waste heat boiler: Nooter/Eriksen (commissioned 1998)
- Operator: Cokenergy (SunCoke, USA)

EG10L Shock Pulse Generator (SPG) installed to LHS boiler wall

EG10L Shock Pulse Generator installed to rear boiler wall

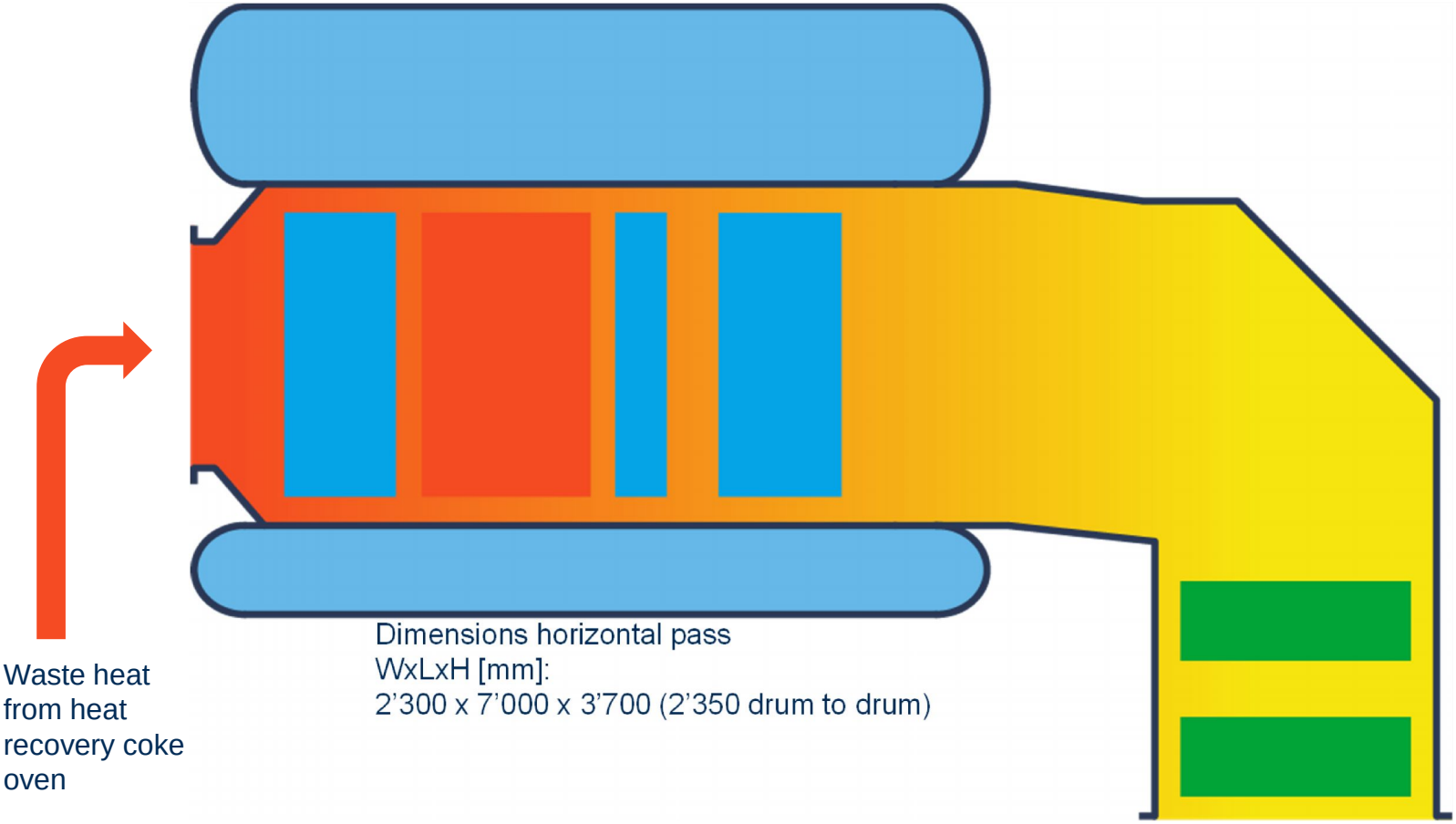
Shock Pulse Generator Reference Plant: Waste Heat Boiler – Cokenergy, Chicago / USA

EVAP 1
Bare vertical tubes

SH
Bare horizontal tubes (staggered design)

EVAP 2+3
Finned vertical tubes (finn pitch 20-30mm)

ECO 1+2
Finned horizontal tubes

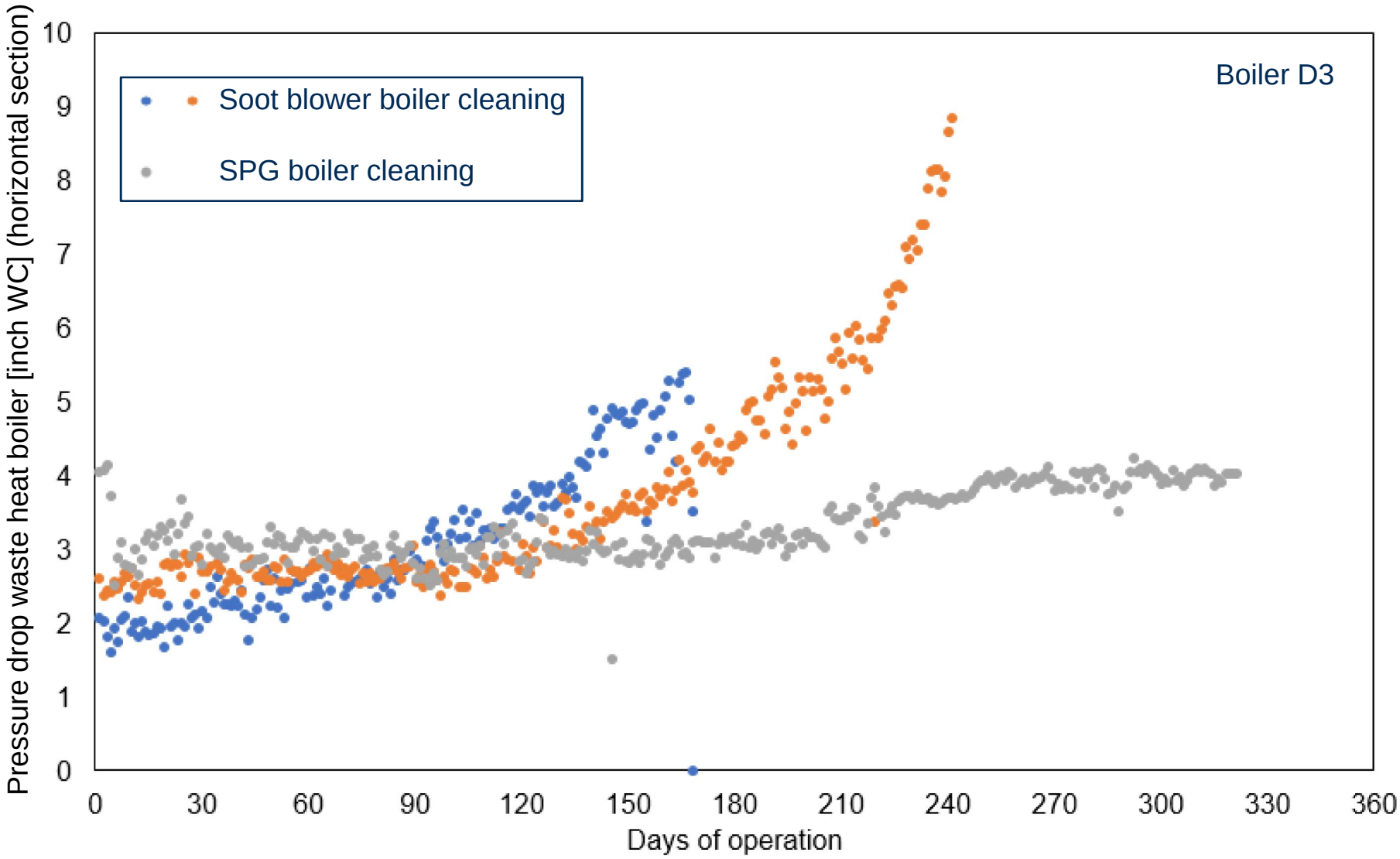


Waste heat from heat recovery coke oven

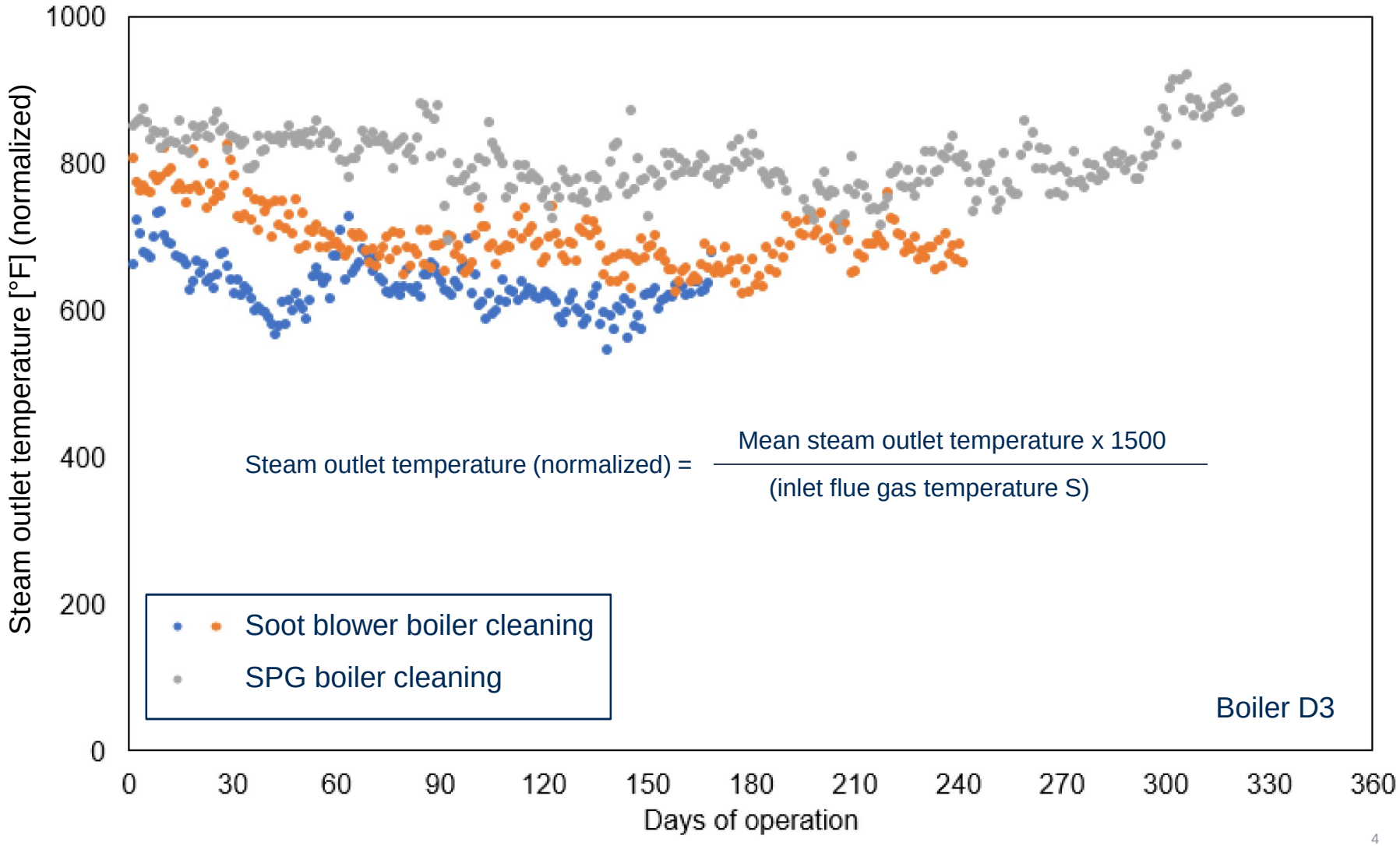
Dimensions horizontal pass
WxLxH [mm]:
2'300 x 7'000 x 3'700 (2'350 drum to drum)

Dimensions ECO pass
WxLxH [mm]:
2'300 x 2'000 x 4'000

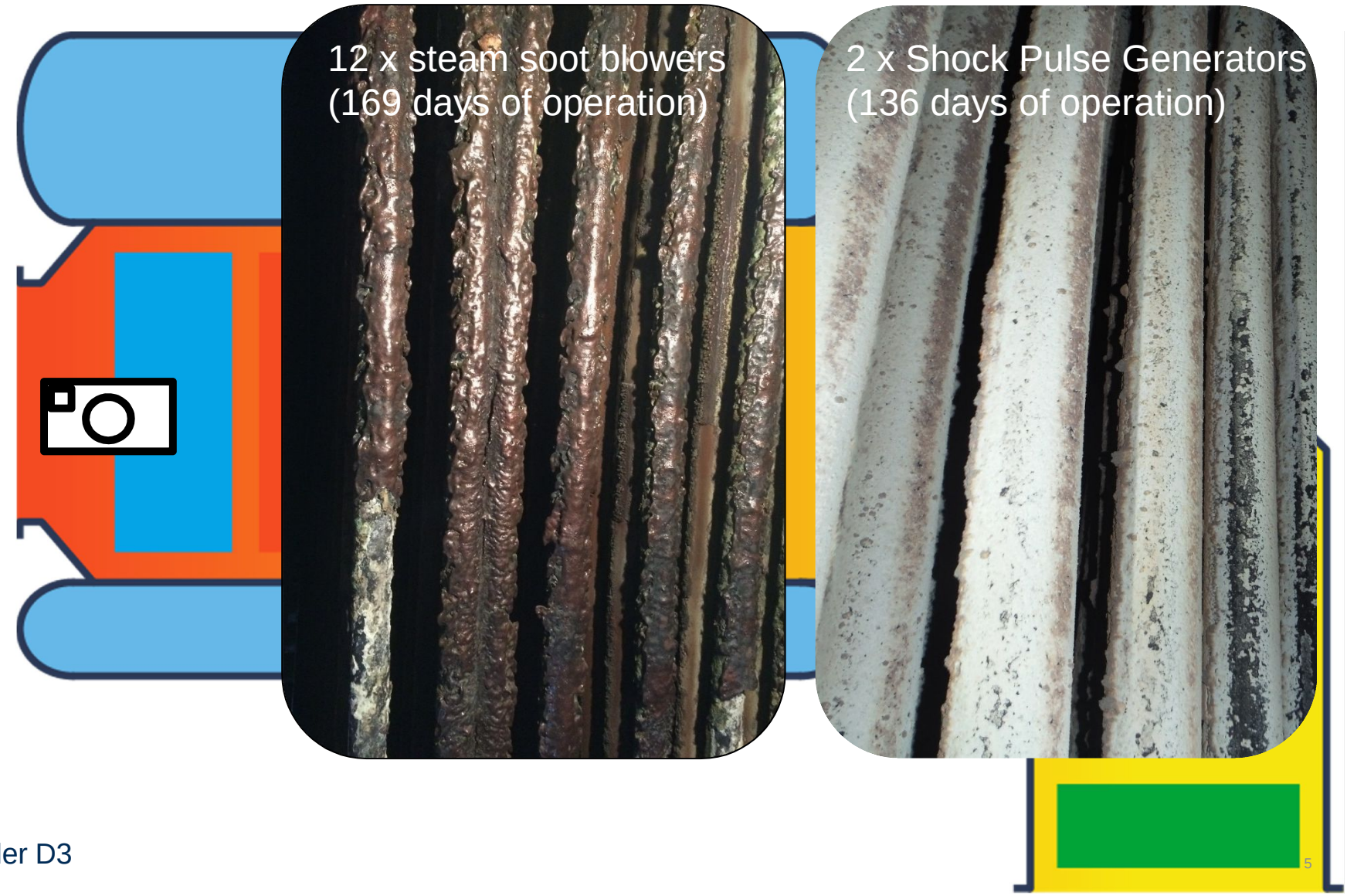
Shock Pulse Generator Reference Plant:
Waste Heat Boiler – Cokenergy, Chicago / USA



Shock Pulse Generator Reference Plant: Waste Heat Boiler – Cokenergy, Chicago / USA

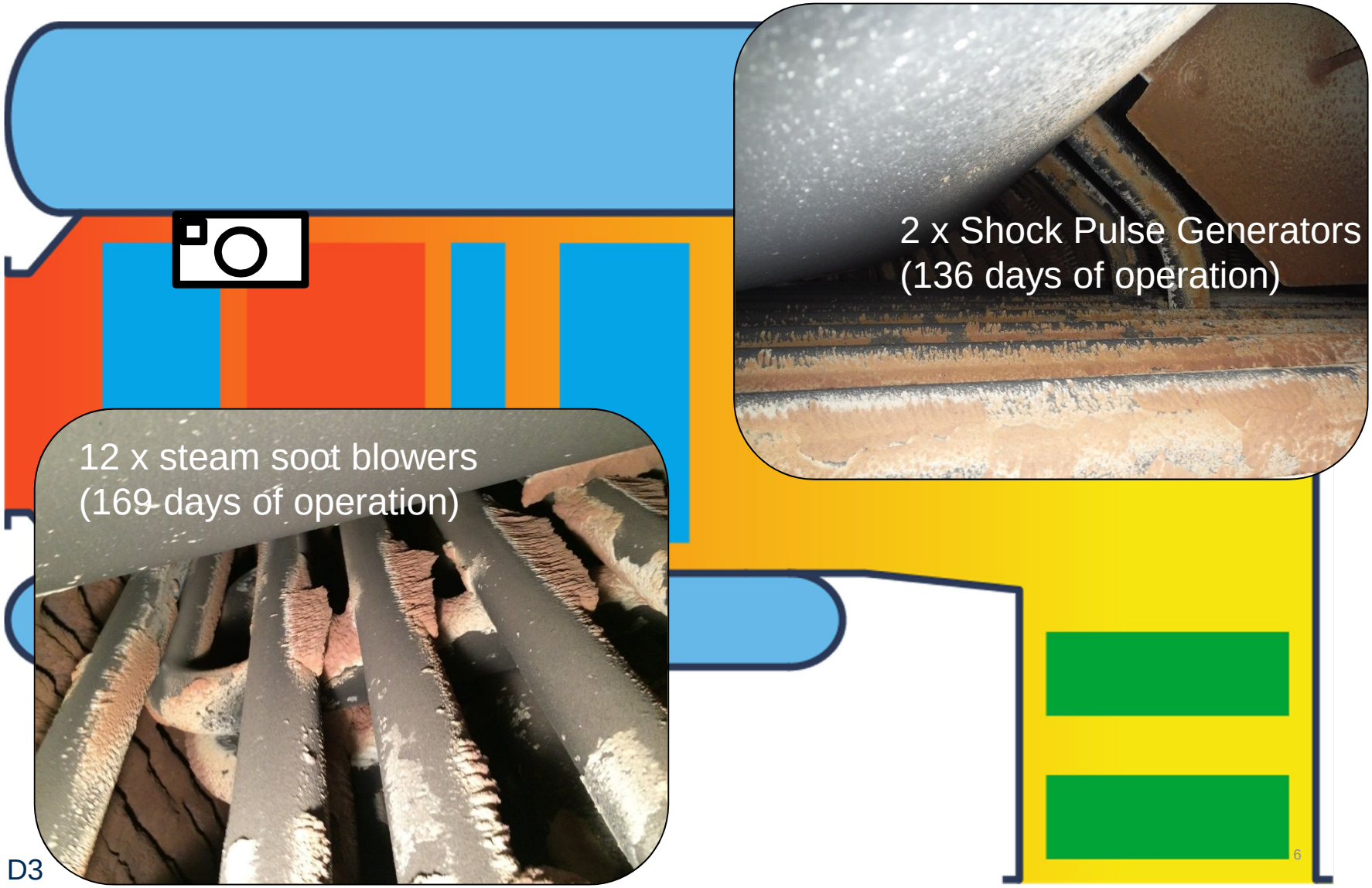


Shock Pulse Generator Reference Plant:
Waste Heat Boiler – Cokenergy, Chicago / USA



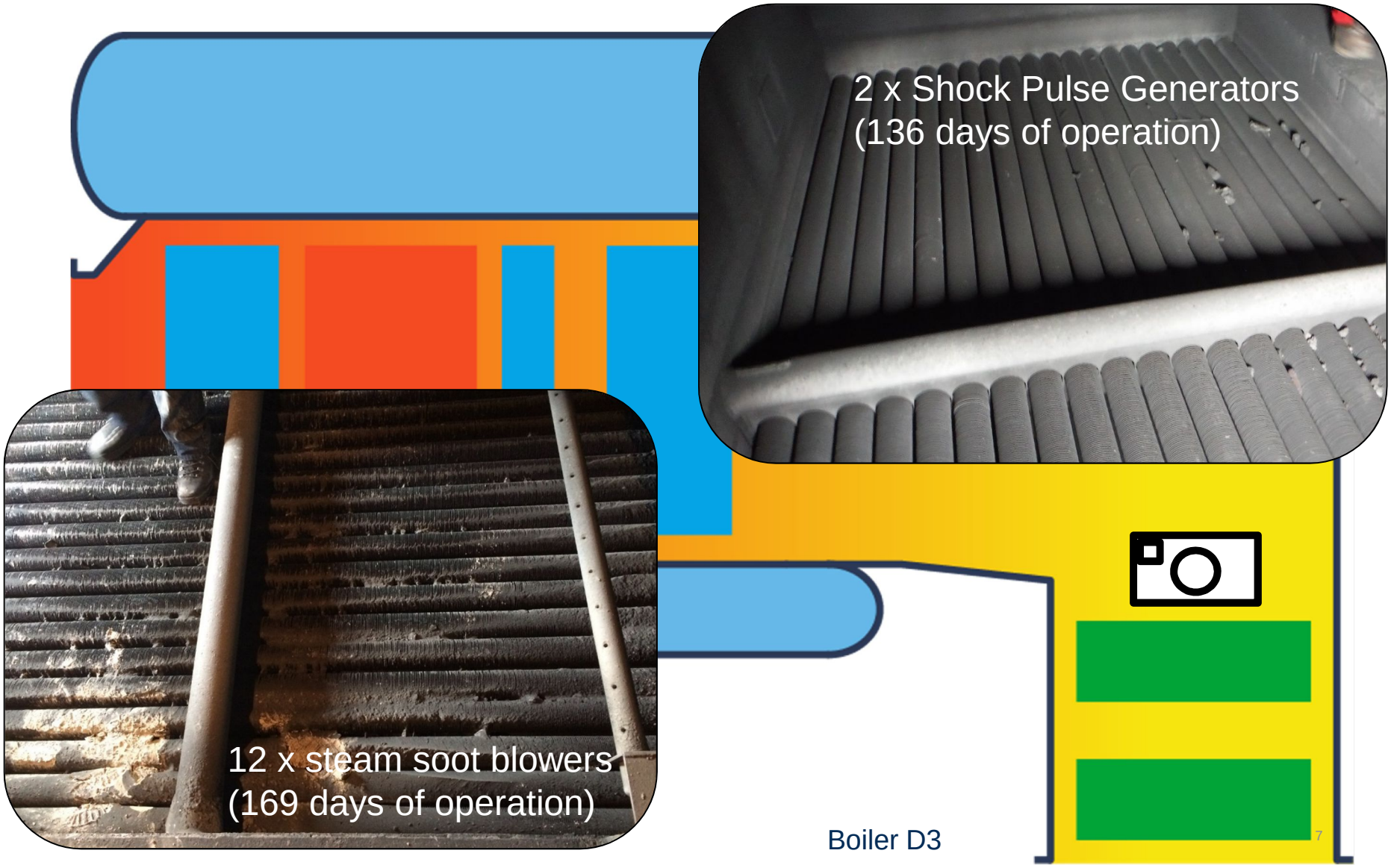
Boiler D3

Shock Pulse Generator Reference Plant:
Waste Heat Boiler – Cokenergy, Chicago / USA



Boiler D3

Shock Pulse Generator Reference Plant:
Waste Heat Boiler – Cokenergy, Chicago / USA



Shock Pulse Generator Reference Plant:
Waste Heat Boiler – Cokenergy, Chicago / USA