PERFORMANCE STORY | KINETICLEAN® EXPLOSIVE CLEANING

One Outage, ~$200K a Year

Steam-Side Recovery on a Desert Cogeneration HRSG

Cogeneration Facility, Desert Southwest — "A" HRSG | Outage: Spring 2026

–3.5 INWC
CGT backpressure reduction: 15.7 → 12.2 INWC

–24°F
Stack inlet temperature: 363 → 339°F

~$200K/yr
Estimated annual fuel savings from backpressure recovery

THE CHALLENGE

Fouling on the "A" HRSG's tube banks was suppressing heat transfer and driving combustion gas turbine backpressure to nearly 16 INWC. With less heat absorbed by the tube sections, stack temperatures ran high and the steam cycle leaned on workarounds: hotter duct burner firing, and HP steam let down into the IP system to make up for weak IP/LP steam production.

With the steam turbine shared across three HRSGs, output effects cannot be isolated to one unit — the story lives in the steam-side data.

THE SOLUTION

Groome Industrial Service Group deployed KinetiClean® — its flagship patented detonation cleaning method — on the "A" HRSG during the Spring 2026 outage. Precisely placed detonation charges fracture and dislodge hardened deposits from tube bundles — including deep interior rows conventional methods cannot reach — without damaging tube surfaces or requiring bundle removal.

The crew placed 37 precision shots across the upstream bundle and stack — 2,750 feet of detonating cord, charge strength tailored by section — removing two super sacks of debris. When a pre-existing expansion-joint liner tear showed movement, stack blasting was curtailed to protect the unit.

AT A GLANCE

CUSTOMER
Natural-gas cogeneration facility, Desert Southwest (name withheld)

UNIT
"A" HRSG — one of three HRSGs on a shared steam turbine

SCOPE
KinetiClean® explosive cleaning — upstream tube bundle and stack

EXECUTION
37 precision shots · 2,750 ft detonating cord · 2 super sacks of debris removed

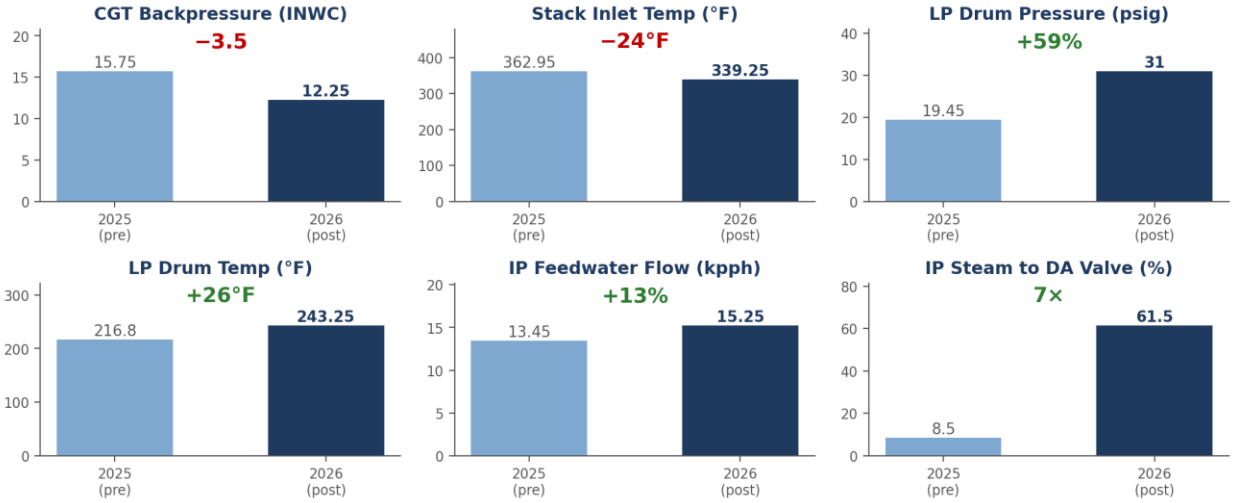
OUTAGE
Spring 2026 — completed May 22, 2026

THE RESULTS

Comparing plant DCS readings from summer 2025 to post-outage 2026, the gas side and steam side tell one consistent story. CGT backpressure fell from 15.7 to 12.2 INWC (−3.5), and stack inlet temperature dropped 24°F — heat that is no longer escaping is now being absorbed by the tube sections.

The steam cycle shows exactly where that heat went. LP drum pressure rose 59% and LP drum temperature climbed 26°F. IP drum pressure and temperature both increased, and IP feedwater flow rose 13% — the unit is simply making more IP and LP steam. The clearest signal: the IP steam-to-deaerator pegging valve, barely cracked at 8–9% before the outage, now runs at 58–65% open. The unit went from starving its IP system to producing surplus.

Steam-Side Recovery — Heat Absorbed by the Cycle, Not Lost Up the Stack
Plant DCS readings, avg of 0600/1600: Aug 16, 2025 vs. Jun 16, 2026



The workarounds unwound too: HP-to-IP letdown (NOx steam PCV) dropped from ~41% to ~25% open, and duct burner outlet temperatures fell roughly 50°F — the plant no longer fires as hard to hold steam production. HP steam flow and pressure read lower post-outage, reflecting this easier operating mode rather than any loss of capability.

THE VALUE

~$200K

ESTIMATED ANNUAL SAVINGS

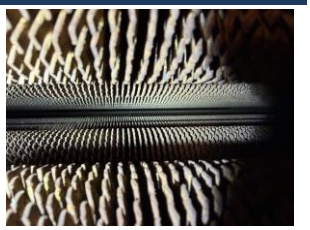
Reducing CGT backpressure by ~3.5 in. w.c. is estimated to save approximately $200K per year in fuel. The steam-side gains — restored IP/LP production, reduced HP letdown, and lighter duct burner firing — add real but less easily quantified value on top.

These comparisons are drawn from single-day readings (August 2025 vs. June 2026) and are not corrected for ambient temperature, load, exhaust flow, or other factors that may influence the observed improvement.

WHY IT MATTERS

- ~$200K estimated annual fuel savings from a 3.5 in. w.c. backpressure reduction on the combustion gas turbine.
- Restored steam production: LP drum pressure up 59%, IP feedwater flow up 13%, and surplus IP steam now pegging the deaerator.
- Costly workarounds eliminated: HP-to-IP letdown cut by roughly 40% and duct burners firing ~50°F cooler.
- 24°F lower stack temperature — fuel energy converted to steam instead of lost up the stack.
- No tube damage, no bundle pulls: KinetiClean® reached interior tube rows within the planned outage window.

The tube surfaces tell the story:

BEFORE		AFTER	
			

"We are making a lot more IP steam after the cleaning… Last year we were having to use more HP steam into our IP steam. Our CGT backpressure has dropped about 4" after the cleaning."

— Plant O&M Manager

Trusted at the plant. Built for the fleet.

ABOUT GROOME INDUSTRIAL SERVICE GROUP

Groome Industrial Service Group is a nationwide specialty maintenance provider to the power generation sector — turnkey, self-perform, and safety-led, operating from 20+ locations. Groome's five service lines — KinetiClean® Explosive Cleaning (the flagship), Catalyst Services, Mechanical Services, Specialty Coatings, and Vacuum & Water — let one call cover the whole outage, delivered by the crews plants already trust. Safety opens every door: Groome's TRIR runs consistently below industry averages, backed by embedded EHS specialists.

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