CleanConnect.ai | AI Solutions For Energy

Midstream · Upstream · Downstream | Remote Operations | Equipment Integrity

Eliminating Unnecessary Callouts with Safe Remote Operations

How CleanConnect.ai's Visual AI platform gives operators verifiable, real-time confidence to start up and shut down pumps, compressors, and rotating equipment — from the control room — without sending personnel into the field.

SECTOR	KEY EQUIPMENT	PRODUCTS USED	OUTCOME
Upstream · Midstream · Downstream	**Pumps · Compressors · Rotating**	**Visual AI**	**Safe Remote Startup/ Shutdown**

THE CHALLENGE

Starting up or shutting down pumps, compressors, and other rotating equipment requires operators to visually confirm that no personnel are in the hazard zone, that seals and connections are intact, and that no leaks are present — before and during the procedure. Without real-time visual assurance, standard practice demands boots on the ground for every event, regardless of time, weather, or risk level. This drives unnecessary callouts, fatigue, and exposure to hazardous environments.

WITHOUT CLEANCONNECT.AI

- Operators dispatched to site for every startup or shutdown — day or night
- No remote visibility into equipment area — personnel exposure unavoidable
- Unplanned callouts disrupt off-shift crews and increase fatigue risk
- Startup blind spots create liability if an unreported leak or personnel hazard exists
- Incident investigations rely on operator memory — no objective record
- Weather, remote location, or access constraints delay safe execution

WITH CLEANCONNECT.AI

- Control room operators visually confirm the equipment area is clear before initiating
- AI-synchronized Visual AI detects any leaks at seals, flanges, or vents in real time
- Unnecessary callouts eliminated — field visit only if AI flags an anomaly
- Timestamped video and gas data create an auditable startup/shutdown record
- Automated alerts notify EHS the moment a threshold is exceeded mid-procedure
- Consistent, procedure-grade evidence regardless of shift, weather, or staffing

THE SOLUTION

CleanConnect.ai deploys camera hardware alongside its Visual AI software platform at pump and compressor stations. The always-on system gives control room operators a live, AI-analyzed view of the equipment area — confirming clear zones, detecting leaks at the source, and generating a defensible record of every remote operation performed.

1 Clear-Zone Confirmation

Before initiating any startup or shutdown, Visual AI scans the equipment area and confirms no personnel are present in the hazard zone — removing the need for a manual site walk.

2 Real-Time Leak Detection at Source

CleanConnect's Visual AI continuously monitors for leaks at seals, flanges, vents, and connections during the procedure — distinguishing normal purge activity from an actual release event.

3 AI-Corroborated Video Evidence

Every leak event is automatically paired with simultaneous video, pinpointing the exact release location and enabling immediate remote assessment without dispatching personnel.

4 Procedure-Grade Audit Trail

Each startup and shutdown generates a timestamped, geo-tagged record — leak readings, video footage, alert history — exportable as a PDF for OSHA, EPA, or internal compliance review.

RETURN ON INVESTMENT

24/7
Always-on monitoring — zero gaps across shifts, weekends, or adverse weather

↓ 70%
Reduction in unnecessary field callouts for routine startup and shutdown events

100%
Video-corroborated evidence for every remotely initiated equipment operation

Operator Safety & Fatigue Reduction

Personnel are no longer required on-site for every procedure. Field visits are reserved for confirmed anomalies — reducing exposure to rotating equipment hazards and eliminating disruptive off-shift callouts.

Regulatory & OSHA Defensibility

Every remote operation generates an objective, timestamped record. Demonstrate that procedures were executed safely and that no emissions events went unaddressed — protecting the facility in any audit or incident review.

Faster, More Confident Operations

Operators initiate startups and shutdowns with real-time assurance rather than uncertainty. Anomalies are caught in minutes — not discovered hours later by the next crew rotation.

Scalable Across Multi-Site Portfolios

A single control room team can remotely oversee startup and shutdown activity across multiple pump and compressor stations simultaneously — maximizing coverage without proportional headcount growth.

Ready to operate safely from the control room?

See how CleanConnect's Visual AI can be deployed at your pump and compressor stations. Book a Demo → cleanconnect.ai

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