



LOK ENERGY SERVICES INC.

Commissioning Solutions | Advanced Technologies for Safety and Savings



COMMISSIONING SOLUTIONS

Advanced Technologies for Safety and Savings

International Fast Track Cleaning Specialist

30+

YEARS EXPERIENCE

50+

COUNTRIES SERVED

100%

SAFETY-LED OPERATIONS

ON TRACK · ON TIME · UNDER BUDGET



OUR MISSION

OUR SERVICES

LOK Services provides specialized pre-operational cleaning services and equipment across a wide spectrum of industries — including **Downstream Energy, Power Generation, Pulp & Paper, Petrochemical, Chemical, Food & Beverage, Agriculture, Metals, Mining,** and Commercial, Municipal, and Governmental sectors.

We are industry-focused — and that focus breeds **expertise, innovation, and value** for our clients. Every project starts with **detailed pre-planning**, including site-specific procedures and CAD drawings.

This ensures transparency and understanding between LOK, our customers, and their clients.

Our team prepares material lists, ships equipment to the site, and oversees installation — ensuring everything is aligned with project specs and ready for seamless execution.

1**QuietBlow™ High Velocity Steam Blowing**

Proprietary low-pressure steam blows at near-sonic velocity. Custom-engineered silencing and targeting systems for efficiency, noise reduction, and environmental compliance. Each blow is custom engineered with tailored silencing, diverter, and target plate systems.

2**Nitrogen & Air Blowing**

Oil-free compressor systems with LOK's Full Flow Silencer™. High-velocity air verification of piping cleanliness post-chemical pre-clean. Engineered to eliminate flow restriction while achieving maximum pipe cleaning velocity.

3**High Velocity Lube Oil Flushing**

Custom pump systems with LOK Energy-designed 1–30 micron filtration. Electronic particle counters monitor ISO cleanliness codes in real time. Eliminates unnecessary oil waste and verifies system readiness before turbine/compressor startup.

4**Chemical Cleaning**

End-to-end degreasing, iron oxide removal, and passivation services. Designed to reduce chemical waste, minimize cleaning cycles, and deliver safe, ready-to-use systems. Includes boiler pre-op cleaning, exchanger degreasing, and column/tower treatments.

5**High Velocity Water Flushing**

High-velocity displacement of construction debris and contaminants in complex piping systems. Ideal for long, complex piping including underground lines and varying pipe diameters. Verified by post-flush inspection and strainer analysis.

6**Hydrostatic Testing**

Integrated hydrostatic pressure testing performed during cleaning operations. Eliminates costly standalone test phases and commissioning delays. LOK coordinates all logistics, temporary equipment, and execution for maximum schedule efficiency.

7**Hydro Jetting**

High-pressure water jetting with LOK-engineered rotary nozzle systems. Containerized pump units from 100–400 HP and pressures from 5,000–40,000 psi. Rapid results — often within 2 days — for pipe cleaning before or after installation.



WHY LOK ENERGY?

LOK Services professionals are recognized leaders in industrial cleaning services worldwide. Our complete focus on power and steam generation breeds expertise, innovation, and knowledge that deliver real value to every client.

Equipment	Best-in-class proprietary equipment — lightweight, modular, and deployable globally with minimal setup footprint.
Positioning	Compact equipment design allows placement directly adjacent to HRSGs, Boilers, Turbines, Compressors, and Plant Equipment without obstruction.
Expertise	Sales and service staff with deep capital project experience across dozens of countries and hundreds of plant environments.
Coverage	From day-to-day maintenance chemical cleaning to combustion turbine oil flushing and multi-pressure HRSG steam blows — LOK has you covered.

LOK EXCEL SERVICE PACK®

A bundled, cost-effective, and schedule-optimized solution for commissioning and startup:

- Site-Specific Pre-Engineering & CAD Procedures
- Degreasing & Chemical Cleaning — Boilers, Piping Systems, Exchangers, Columns & Towers
- High Velocity Lube Oil Flushing — 1 to 30-micron real-time particle monitoring
- Hydrolancing of Piping Systems
- Steam or Air Blows — new and in-service steam lines
- Hydrostatic Pressure Testing — integrated with cleaning phases
- Millwrights / Technical Manpower — certified field specialists
- Temporary Equipment Rental — complete turnkey capability

CAPITAL INVESTMENT — EQUIPMENT

Steam Blow & Air Blow Equipment

- LOK Full Flow Silencer™ — engineered for noise control without flow restriction
- LOK Exhaust Steam Diverter
- Target assemblies — Stainless, Brass, and Carbon Steel impact plates
- Quick-Open (QO) Blow Valve systems for rapid cycle initiation
- Temp Blow Valves and tail pipe systems (12"–24" dia., 5–8 ft height)

Chemical Cleaning Equipment

- Circulators: 100–5,000 gpm | 50–150 psi | CS, SS, Hastelloy construction
- Heat Exchangers: 50–1,000 sq ft | 300 psi rated @ 300°F | CS & SS
- Reverse flow manifolds, precision flow meters, Mobile Laboratory
- Stainless steel hoses, foamers, and 3D chemical delivery nozzles

Oil Flush Equipment

- 1,800 gpm high-volume flush pumps
- Full-flow 1–30-micron electronic filtration systems
- Stainless steel hose assemblies and bearing jumper circuits
- Real-time particle counters (ISO cleanliness code verification)

Hydro Jetting Equipment

- Full inventory: 100–400 HP containerized hydro blasters
- Pressure range: 5,000–40,000 psi | Flow: 3–80 gpm
- LOK-engineered rotary nozzle systems for aggressive pipe scale removal
- Remote-controlled lancing machines, tube bundle cleaners, Hydrolaze rotating hose
- Automated flex lance and abrasive tube systems; metal and concrete cutting

EQUIPMENT & PROJECTS — CHEMICAL CLEANING & AIR SYSTEMS



Chemical cleaning

Chemical Cleaning System

5,000 gpm circulator pump assembly | Carbon Steel & Stainless | 50–150 psi working pressure



Air Blow Silencers

Air Blow Silencer Installation

LOK Full Flow Silencer™ | 24" diameter duct | Noise attenuation without flow restriction



QO Blow Valve

Quick-Open (QO) Blow Valve

High-mass flow blow valve | Rapid cycle initiation for HV steam and air blow operations



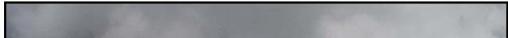
Testing

Hydrostatic & Commissioning Testing

Integrated pressure testing during cleaning phases | Eliminates stand-alone test delays



High Velocity Steam Blow



High Velocity Steam Blow — Plant Interface

Near-sonic velocity steam blow | Custom target assemblies | SS / Carbon Steel impact plates



HV Steam Blow



HV Steam Blow — Live Operation

HRSG multi-pressure steam blow | QuietBlow™ method | Per ISA 77.70 & ASME B31.1 guidelines



HV Steam Blow

HV Steam Blow — Large-Diameter Main Steam

High-temperature main steam line blow | Temp exhaust diverter system installed

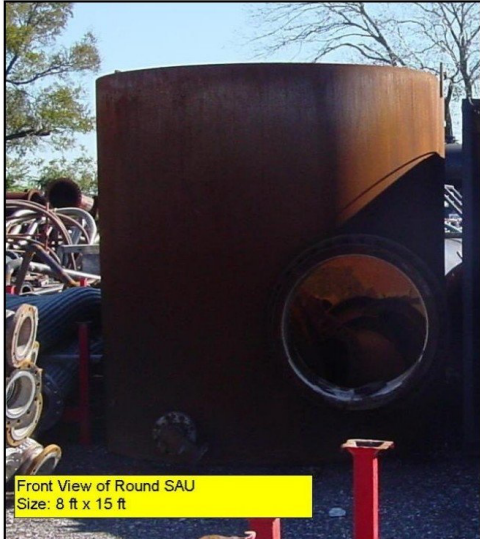


LOK Energy Temp Exhaust Pipe

LOK Energy Temp Exhaust Pipe Assembly

Exhaust tail pipe: 12"–24" Dia | Engineered diverter and silencer coupling | Carbon Steel

EQUIPMENT & PROJECTS — STEAM BLOW APPARATUS & CHEMICAL CLEANING SYSTEMS



Front View of Round SAU
 Size: 8 ft x 15 ft

Steam Attenuation Unit (SAU) — Front View

Round SAU | Size: 8 ft x 15 ft | Low-noise exhaust attenuation at near-sonic velocities



TopHats
 Sizes Vary: 12" to 24" Dia
 Heights Vary: 5 ft to 9 ft

Steam Blow Tail Pipes (Top Hats)

Tail pipe inventory: 12"–24" Dia | Height: 5–8 ft | SS and Carbon Steel for high-temp service

Steam Blow Equip



Chem Clean

Chemical Cleaning — Circulator Package

Mobile multi-pump chemical circulation | Flow rates to 5,000 gpm | Degreasing & passivation



High-Volume Flush Pump Skid

1,800 gpm lube oil flush pump | Diesel-driven skid-mounted | 1–30 micron full-flow filtration

EQUIPMENT — CHEMICAL CLEANING SYSTEM: 5,000 GPM FLAGSHIP UNIT



Chemical Cleaning System – 5,000 gpm

Chemical Cleaning System — 5,000 GPM

LOK's flagship chemical cleaning skid. Diesel-driven high-volume circulator rated to 5,000 gpm | Multi-circuit reverse-flow manifold | Stainless and Carbon Steel construction | Integral mobile laboratory for real-time chemical analysis | Deployable globally for boiler pre-op cleaning, iron oxide removal, and system passivation.

GLOBAL PROJECT EXPERIENCE

LOK Services has delivered fast-track commissioning cleaning across six continents. The following represents a selection from our extensive project history.

CLIENT	SERVICE(S)	LOCATION
Singapore Syngas	Pipe Flush, Degrease	Jurong Island, Singapore
Chevron	Oil Flush, Steam Blow, Chemical Clean	St. James, LA
Calpine	Pipe Flush, Oil Flush, Steam Blow	Pasadena, TX
Bechtel	Oil Flush, Steam Blow, Chemical Clean	Dahbol, India & Philippines
GE / ALSTOM	Steam Blow, Oil Flush	Holland, Greece, Pakistan, Multiple
Duke Fluor Daniel	Multi-service Full Scope	TX, SC, Belgium, Indonesia, Sembawa
Raytheon	Oil Flush, Steam Blow, Chemical Clean	Anadarko, OK & Saudi Arabia
Stone & Webster	Steam Blow, Chemical Clean	Tiverton, RI; Ghana, Africa; India
NEPCO	Pipe Flush, Steam Blow, Chemical Clean	Multiple US Sites & Puerto Rico
Siemens	Steam Blow, Oil Flush	Philippines, Campbell MO
BVZ Power Partners	Pipe Flush, Steam Blow	Batesville, MS; San Antonio, TX
Shell	Chemical Clean	Geismar, LA
Waste Management	Full Scope Commissioning	Miami, FL
Lockwood Greene	Pipe Flush, Steam Blow, Chemical Clean	Port Arthur, TX; Geismar, LA
Transfield	Oil Flush, Steam Blow	Sydney & Adelaide, Australia
Foster Wheeler	Pipe Flush, Steam Blow	Robbins, IL; Egypt; Jacksonville, FL
H.B. Zachry	Chemical Clean	Pasadena, TX
Alcoa	Pipe Flush	St. Croix, USVI
Air Liquide	Steam Blow	Geismar, LA
Ansaldo	Oil Flush, Steam Blow	Panama; Malaysia

* Partial listing. Full project references available upon request.



SAFETY MANAGEMENT SYSTEM

LOK Services operates under a comprehensive Safety Management System governing all field, transport, and commissioning activities. Our zero-incident culture is embedded at every level of project execution.

<p>Program Administration</p> <p>Requirements · Safety Recognition & Discipline · Training & Toolbox Talks · Contractor & Visitor Safety · Emergency Action & Spill Response · Accident Investigation</p>	<p>Hazard Evaluation & Control</p> <p>Employee Work/Route Observations · Facility & Equipment Reviews · Acquisition Reviews · Exposure Determinations · Hazardous Chemical Policies (Benzene, Lead)</p>
<p>Controlled Work Activities</p> <p>Confined Space Entry · Lockout/Tagout · Fall Protection · Trenching & Excavation · Crane & Lifting Equipment · Welding, Brazing & Cutting · Powered Industrial Trucks</p>	<p>Personal Protective Equipment</p> <p>Hazard Assessments · Respiratory Protection · Enhanced Visibility Uniforms · All personnel comply with site and LOK PPE standards at all times</p>
<p>Specialized Safe Work Practices</p> <p>Hydro Jetting (SWP 916) · Chemical Cleaning (SWP 918) · Vacuum Operations (SWP 917) · Machine Guarding · Hand & Power Tools · Battery Charging</p>	<p>Industrial Hygiene & Medical</p> <p>Medical Program / First Aid · Ergonomics · Heat & Cold Stress · Hearing Conservation · Bloodborne Pathogens · Hazard Communication</p>



Built for Uptime. Proven in the Field.

Safe Crews. Fast Response. Reliable Results.

USA — HOUSTON

charles@lokenergy.com · +1 (832) 781-1644
8308 Millet St, Houston TX 77012

CANADA — CALGARY

support@lokenergy.com · +1 (403) 214-4394
3112a 80 Ave SE, Calgary AB T2C 1J3



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