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	STANDARD: **API 537, OSHA 29 CFR 1910.119, and NFPA 37**	AUDIT FREQUENCY: **Monthly Audit**

Flare Stack Operational Safety Audit Compliance Checklist

Operational Scope: This checklist dictates the mandatory operational safety audit criteria for high-temperature industrial flare stack systems. The primary objective is to mitigate structural, ignition, and environmental release hazards in accordance with strict upstream energy regulatory frameworks.

MANDATORY PPE:	Nomex FR Coveralls (NFPA 2112), Hard Hat with Ratchet Suspension (ANSI Z89.1), Impact-Resistant Safety Glasses (ANSI Z87.1), Steel-Toe Safety Boots with Metatarsal Guards (ASTM F2413), H2S and LEL Gas Detection Personal Monitor, High-Heat Leather Work Gloves
PREREQUISITES:	Verify wind direction and meteorological conditions prior to approach. | Review current flare header pressure logs and SCADA telemetry data. | Ensure hot work permit is active if physical ignition system maintenance is required.

IGNITION AND PILOT SYSTEM INTEGRITY

#	COMPONENT / ITEM	VERIFICATION CRITERIA & ACCEPTANCE STANDARD	SEVERITY	STATUS
1	**Pilot Burner Assemblies**	Thermocouples show continuous flame presence; backup electronic igniter tests successfully without delay.	**Critical (Immediate Out of Service)**	[ ] PASS [ ] FAIL [ ] N/A
2	**Flame Front Generator (FFG)**	FFG pressure regulator maintains correct fuel-air mixture; control panel switches are responsive and free of moisture ingress.	**Warning**	[ ] PASS [ ] FAIL [ ] N/A
3	**Pilot Gas Supply Lines**	Pressure gauges indicate steady state operation within engineering design limits; no visible leaks or corrosion on piping.	**Critical (Immediate Out of Service)**	[ ] PASS [ ] FAIL [ ] N/A

STRUCTURAL AND MECHANICAL INSPECTION

#	COMPONENT / ITEM	VERIFICATION CRITERIA & ACCEPTANCE STANDARD	SEVERITY	STATUS
4	**Flare Stack Derrick and Guy Wires**	Guy wires maintain proper tension without fraying; structural members show zero signs of thermal distortion, cracks, or excessive corrosion.	**Critical (Immediate Out of Service)**	[ ] PASS [ ] FAIL [ ] N/A
5	**Wind Shield and Flare Tip**	Flare tip metallurgy shows no warping, carbon buildup, or accelerated pitting oxidation that could impede combustion efficiency.	**Warning**	[ ] PASS [ ] FAIL [ ] N/A
6	**Purge Gas Injection System**	Nitrogen or natural gas purge flow rate is actively monitored and meets minimum velocity requirements to prevent flashback.	**Critical (Immediate Out of Service)**	[ ] PASS [ ] FAIL [ ] N/A

INSTRUMENT AIR, KNOCKOUT DRUM, AND SAFETY INTERLOCKS

#	COMPONENT / ITEM	VERIFICATION CRITERIA & ACCEPTANCE STANDARD	SEVERITY	STATUS
7	**Knockout Drum Liquid Level**	High-liquid level alarms are operational; drain valves and pumps prevent carryover of liquids into the flare header.	**Critical (Immediate Out of Service)**	[ ] PASS [ ] FAIL [ ] N/A
8	**Instrument Air Supply**	Dryer dew point is within specification; air pressure to control valves and safety interlocks is stable at nominal operating pressure.	**Warning**	[ ] PASS [ ] FAIL [ ] N/A
9	**Emergency Shutdown (ESD) Interlocks**	ESD loop test verifies automatic isolation and steam/purge injection response times align with safety case documentation.	**Critical (Immediate Out of Service)**	[ ] PASS [ ] FAIL [ ] N/A

Certified Inspector / Lead Operator Signature: _____	**Date / Time:** _____	**Badge / Cert #:** _____
Site Safety Supervisor / Operations Manager Sign-off: _____	**Review Date:** _____	**Audit Status:** [ ] Approved [ ] Rectify

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