OpsAuditHub opsauditihub.com	DOC ID: **SAF-0307**	REVISION: **Rev 2.4 (2026)**
	STANDARD: **NFPA 70E & OSHA 29 CFR 1910.269**	AUDIT FREQUENCY: **Daily Pre-Shift**

High Voltage Electrical Substation Inspection Daily Log Sheet

Operational Scope: Establishes a mandatory daily pre-shift inspection protocol for high voltage electrical substations to prevent catastrophic arc flash incidents and equipment failure. Ensures strict compliance with regional electrical safety mandates across all oil, gas, and energy operating facilities.

MANDATORY PPE:	NFPA 70E Arc Flash Suit (CAT 4 Rated), Dielectric Rubber Insulating Gloves with Leather Protectors, ANSI Z89.1 Class E Hard Hat, ANSI Z87.1 Approved Safety Glasses with Side Shields, ASTM F2413 Electrical Hazard (EH) Steel-Toe Boots, Voltage-Rated Flame Resistant (FR) Coveralls
PREREQUISITES:	Verify valid switching and operational clearance permits prior to perimeter entry. | Inspect all required high-voltage PPE for physical integrity, expiration dates, and air-inflation leaks. | Ensure calibrated portable gas detection and non-contact voltage detectors are operational.

PERIMETER SECURITY, GROUNDING & ENVIRONMENTAL CHECKS

#	COMPONENT / ITEM	VERIFICATION CRITERIA & ACCEPTANCE STANDARD	SEVERITY	STATUS
1	**Substation Perimeter Fencing & Gates**	Fencing intact, grounded continuously, warning signs clearly posted, and access gates fully secured with functional locks.	**Critical (Immediate Out of Service)**	[ ] PASS [ ] FAIL [ ] N/A
2	**Substation Ground Grid & Copper Risers**	Ground mats and visible risers free from physical damage, corrosion, or mechanical disconnection.	**Critical (Immediate Out of Service)**	[ ] PASS [ ] FAIL [ ] N/A
3	**Yard Vegetation & Drainage**	Substation yard completely clear of combustible vegetation, debris, and standing water within secondary containment areas.	**Warning**	[ ] PASS [ ] FAIL [ ] N/A
4	**Emergency Lighting & Fire Suppression**	Emergency egress lighting operational and dry-chemical/CO2 fire extinguishers fully charged with current inspection tags.	**Standard**	[ ] PASS [ ] FAIL [ ] N/A

TRANSFORMERS, SWITCHGEAR & HIGH VOLTAGE APPARATUS

#	COMPONENT / ITEM	VERIFICATION CRITERIA & ACCEPTANCE STANDARD	SEVERITY	STATUS
5	**Main Power Transformers (Oil-Filled)**	No active oil leaks, bushing porcelain clean without cracking, and cooling fans/pumps operating without excessive vibration.	**Critical (Immediate Out of Service)**	[ ] PASS [ ] FAIL [ ] N/A
6	**Transformer Buchholz Relay & Pressure Gauges**	Liquid level gauges within normal operating range; pressure relief devices reset and free of trip indicators.	**Critical (Immediate Out of Service)**	[ ] PASS [ ] FAIL [ ] N/A
7	**High Voltage Circuit Breakers (SF6/Vacuum)**	SF6 gas pressure gauge in the green operational zone; trip-free mechanical indicators aligned correctly.	**Critical (Immediate Out of Service)**	[ ] PASS [ ] FAIL [ ] N/A
8	**Surge Arresters & Disconnect Switches**	Surge arresters free of thermal discoloration or shattering; blade alignment on disconnect switches fully seated.	**Warning**	[ ] PASS [ ] FAIL [ ] N/A

CONTROL HOUSE, RELAYS & AUXILIARY SYSTEMS

#	COMPONENT / ITEM	VERIFICATION CRITERIA & ACCEPTANCE STANDARD	SEVERITY	STATUS
9	**Control Building HVAC & Environmental Seals**	Control room maintained at optimal operating temperature; cable entry conduits sealed against moisture and rodent entry.	**Standard**	[ ] PASS [ ] FAIL [ ] N/A
10	**DC Battery Bank & Charging System**	Battery electrolyte levels stable, terminal connections tight and corrosion-free, and float voltage matching manufacturer specification.	**Critical (Immediate Out of Service)**	[ ] PASS [ ] FAIL [ ] N/A
11	**Protection Relay Annunciator Panels**	No active trip, alarm, or trouble annunciator lights illuminated without corresponding engineering investigation logs.	**Critical (Immediate Out of Service)**	[ ] PASS [ ] FAIL [ ] N/A

Certified Electrical Inspector / Substation Technician Signature: _____	**Date / Time:** _____	**Badge / Cert #:** _____
High Voltage Operations Supervisor / Safety Manager Sign-off: _____	**Review Date:** _____	**Audit Status:** [ ] Approved [ ] Rectify

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