TRANSFORMER INSPECTION REPORT

Commercial / Industrial · All Transformer Types
NFPA 70B · IEEE C57.12 · IEC 60076 · OSHA 1910.269 · NEC 250.30 / 450.10

SECTION 1 — JOB & SITE IDENTIFICATION

Complete before beginning inspection

Inspection Date: MM/DD/YYYY	Time of Inspection: HH:MM ☐AM ☐PM	Permit / Work Order #:
Inspector Name:	Company / Firm: reports-inc.com	License #:
Client / Owner:	Property Address:	Unit #:
Transformer Location: Vault / Pad / Pole / Indoor	GPS Coordinates:	Weather Conditions:
Transformer ID / Asset #:	Utility Account #:	Circuit / Feeder ID:
Nameplate kVA Rating:	Primary Voltage: kV	Secondary Voltage: V
Cooling Class: ONAN / ONAF / OFAF	Insulation Class:	Year Manufactured:
Service Voltage Configuration: Delta / Wye / Zig-Zag	Tap Setting:	Load at Inspection: % rated

LEGEND: • Pass — Item meets applicable standard · • Fail — Deficiency found; corrective action required · • N/A — Not applicable to this installation · RED TEXT — Critical safety item

SECTION 2 — ADMINISTRATIVE & IDENTIFICATION

Pre-inspection documentation and site data

Inspection Item	Result / Status
☐ Inspection work order / permit number verified [OSHA 1910.269]	○ Pass ○ Fail ○ N/A
☐ Transformer nameplate data recorded (kVA, voltage, impedance, serial) [IEEE C57.12]	○ Pass ○ Fail ○ N/A
☐ Transformer ID tag / asset number legible and matches records [NEC 450.10]	○ Pass ○ Fail ○ N/A
☐ Manufacturer, model, and year of manufacture recorded [IEEE C57.12]	○ Pass ○ Fail ○ N/A
☐ Transformer type confirmed (liquid-filled, dry-type, pad-mount, substation) [IEC 60076]	○ Pass ○ Fail ○ N/A
☐ Voltage ratings (primary / secondary) verified against drawings [IEEE C57.12]	○ Pass ○ Fail ○ N/A
☐ Cooling class designation verified (ONAN, ONAF, OFAF, etc.) [IEC 60076]	○ Pass ○ Fail ○ N/A
☐ Location map / site plan on file	○ Pass ○ Fail ○ N/A
☐ Prior inspection records reviewed for recurring deficiencies [NFPA 70B]	○ Pass ○ Fail ○ N/A
☐ Lockout/Tagout (LOTO) procedures verified before energized approach [OSHA 1910.269]	○ Pass ○ Fail ○ N/A
☐ Arc-flash hazard analysis / PPE level confirmed [NFPA 70B]	○ Pass ○ Fail ○ N/A

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Findings / Observations:

Corrective Actions Required:

SECTION 3 — PHYSICAL CONDITION & ENCLOSURE

Structural, environmental, and weathering assessment

Inspection Item	Result / Status
☐ Tank / enclosure free of dents, deformation, or impact damage [IEEE C57.12]	○ Pass ○ Fail ○ N/A
☐ Paint / coating intact — no peeling, blistering, or bare metal exposed [NFPA 70B]	○ Pass ○ Fail ○ N/A
☐ Active corrosion (rust, oxidation, pitting) noted and located [NFPA 70B]	○ Pass ○ Fail ○ N/A
☐ Enclosure welds and seams free of cracks [IEEE C57.12]	○ Pass ○ Fail ○ N/A
☐ Pad-mount cabinet doors close, latch, and lock properly [NEC 450.10]	○ Pass ○ Fail ○ N/A
☐ Ventilation openings clear of debris and obstructions [NFPA 70B]	○ Pass ○ Fail ○ N/A
☐ Drainage / weep holes functioning [IEC 60076]	○ Pass ○ Fail ○ N/A
☐ Ground-level clearances comply with NEC 450.10 (12 in. min. ventilation sides) [NEC 450.10]	○ Pass ○ Fail ○ N/A
☐ Vegetation / debris cleared within 3 ft of unit [NFPA 70B]	○ Pass ○ Fail ○ N/A
☐ Unit leveling adequate (< 1.5° tilt for liquid-filled) [IEC 60076]	○ Pass ○ Fail ○ N/A
☐ Evidence of animal intrusion (nesting, burrowing, chew marks) [NFPA 70B]	○ Pass ○ Fail ○ N/A

Findings / Observations:

Corrective Actions Required:

SECTION 4 — OIL / LIQUID INSULATION SYSTEMS

Liquid level, quality, leaks, and containment — IEC 60076-1, IEEE C57.12

Inspection Item	Result / Status
☐ Oil / liquid level within normal range on sight glass [IEEE C57.12]	○ Pass ○ Fail ○ N/A
☐ Sight glass clean, legible, and free of cracks [IEC 60076]	○ Pass ○ Fail ○ N/A
☐ Oil color normal (clear to light yellow — not dark or cloudy) [NFPA 70B]	○ Pass ○ Fail ○ N/A
☐ Active oil leaks present at tank seams, gaskets, or fittings [IEEE C57.12]	○ Pass ○ Fail ○ N/A
☐ Old leak staining noted (location recorded below) [NFPA 70B]	○ Pass ○ Fail ○ N/A
☐ Drain valve capped and free of leaks [IEC 60076]	○ Pass ○ Fail ○ N/A

☐	Pressure relief device intact and unobstructed [IEEE C57.12]	○ Pass	○ Fail	○ N/A
☐	Conservator / expansion tank (if equipped) at correct level [IEC 60076]	○ Pass	○ Fail	○ N/A
☐	Buchholz relay (if equipped) checked for gas accumulation [IEC 60076]	○ Pass	○ Fail	○ N/A
☐	Oil containment / spill containment basin adequate [OSHA 1910.269]	○ Pass	○ Fail	○ N/A
☐	Sampling port / valve accessible for dielectric testing [IEEE C57.12]	○ Pass	○ Fail	○ N/A
☐	Silica gel breather (if equipped) — color indicates moisture status [NFPA 70B]	○ Pass	○ Fail	○ N/A
☐	Last oil sample date and dielectric strength result on file [NFPA 70B]	○ Pass	○ Fail	○ N/A

Findings / Observations:

Corrective Actions Required:

SECTION 5 — TEMPERATURE MONITORING

Thermal performance and overtemperature protection

	Inspection Item	Result / Status		
☐	Oil temperature gauge readable and within rated limits [IEC 60076]	○ Pass	○ Fail	○ N/A
☐	Winding temperature indicator (WTI) present and functional [IEEE C57.12]	○ Pass	○ Fail	○ N/A
☐	Thermal overload trip settings verified against rated temp rise [NFPA 70B]	○ Pass	○ Fail	○ N/A
☐	High-temperature alarm contact functional (where installed) [IEEE C57.12]	○ Pass	○ Fail	○ N/A
☐	Infrared / thermographic inspection performed (attach report) [NFPA 70B]	○ Pass	○ Fail	○ N/A
☐	Hot-spot temperature calculated or measured ≤ rated limit [IEC 60076]	○ Pass	○ Fail	○ N/A
☐	Cooling fans / radiators operational (ONAF / OFAF units) [IEC 60076]	○ Pass	○ Fail	○ N/A
☐	Fan motor controls and overload relays functional [NFPA 70B]	○ Pass	○ Fail	○ N/A
☐	Ambient temperature at time of inspection recorded [IEEE C57.12]	○ Pass	○ Fail	○ N/A
☐	Load current at time of inspection recorded (% of rated) [NFPA 70B]	○ Pass	○ Fail	○ N/A

Findings / Observations:

Corrective Actions Required:

SECTION 6 — BUSHINGS & ELECTRICAL CONNECTIONS

HV/LV bushings, terminations, conductors — IEEE C57.12, NFPA 70B

	Inspection Item	Result / Status

☐	HV bushings free of cracks, chips, or carbon tracking [IEEE C57.12]	○ Pass	○ Fail	○ N/A
☐	LV bushings free of cracks, chips, or carbon tracking [IEEE C57.12]	○ Pass	○ Fail	○ N/A
☐	Bushing oil levels visible and adequate (where applicable) [IEC 60076]	○ Pass	○ Fail	○ N/A
☐	Bushing gaskets intact — no oil seepage at bushing base [IEEE C57.12]	○ Pass	○ Fail	○ N/A
☐	HV terminations tight, no discoloration or arcing evidence [NFPA 70B]	○ Pass	○ Fail	○ N/A
☐	LV terminations tight, no discoloration or arcing evidence [NFPA 70B]	○ Pass	○ Fail	○ N/A
☐	Conductor sizing verified for transformer kVA and service [NEC 450.10]	○ Pass	○ Fail	○ N/A
☐	Conductor insulation intact — no cuts, abrasions, or heat damage [NFPA 70B]	○ Pass	○ Fail	○ N/A
☐	Neutral conductor connections secure (primary and secondary) [NEC 250.30]	○ Pass	○ Fail	○ N/A
☐	Tap-changer / DETC position set correctly and locked [IEEE C57.12]	○ Pass	○ Fail	○ N/A
☐	No evidence of insulation flashover on bushing surfaces [IEEE C57.12]	○ Pass	○ Fail	○ N/A
☐	Conduit entries sealed to prevent moisture intrusion [NFPA 70B]	○ Pass	○ Fail	○ N/A

Findings / Observations:

Corrective Actions Required:

SECTION 7 — GROUNDING & BONDING SYSTEMS

NEC 250.30, OSHA 1910.269 compliance

	Inspection Item	Result / Status		
☐	System grounding conductor connected at separately derived system source [NEC 250.30]	○ Pass	○ Fail	○ N/A
☐	Grounding electrode system installed and connected [NEC 250.30]	○ Pass	○ Fail	○ N/A
☐	Equipment grounding conductor (EGC) present and sized per NEC 250.122 [NEC 250.30]	○ Pass	○ Fail	○ N/A
☐	Ground rod / electrode connections tight and corrosion-free [NEC 250.30]	○ Pass	○ Fail	○ N/A
☐	Transformer tank / enclosure bonded to grounding electrode system [NEC 250.30]	○ Pass	○ Fail	○ N/A
☐	Ground fault current path continuous and low-impedance [OSHA 1910.269]	○ Pass	○ Fail	○ N/A
☐	No multiple neutral-to-ground bonds on load side of transformer [NEC 250.30]	○ Pass	○ Fail	○ N/A
☐	Grounding conductor routed free of mechanical damage [NEC 250.30]	○ Pass	○ Fail	○ N/A
☐	Ground resistance test result on file (target < 25 ohms) [IEEE C57.12]	○ Pass	○ Fail	○ N/A
☐	Lightning arrester / surge arrester installed and bonded (if required) [IEEE C57.12]	○ Pass	○ Fail	○ N/A
☐	Arrester ground lead connected to tank ground and grounding electrode [IEEE C57.12]	○ Pass	○ Fail	○ N/A

Findings / Observations:

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Corrective Actions Required:

SECTION 8 — PROTECTIVE DEVICES & OVERCURRENT PROTECTION

Primary / secondary protection, relays, fuses, interrupters

Inspection Item	Result / Status
☐ Primary fuses / fuse cutouts present and correct ampere rating [NEC 450.10]	○ Pass ○ Fail ○ N/A
☐ Secondary overcurrent protection within 125% of FLA (or per NEC 450.3) [NEC 450.10]	○ Pass ○ Fail ○ N/A
☐ Fuse links / elements intact — no evidence of operation [NFPA 70B]	○ Pass ○ Fail ○ N/A
☐ Expulsion fuse tubes free of carbon, blowout damage [NFPA 70B]	○ Pass ○ Fail ○ N/A
☐ Protective relay settings match protection coordination study [IEEE C57.12]	○ Pass ○ Fail ○ N/A
☐ Differential relay (if equipped) tested and functional [IEEE C57.12]	○ Pass ○ Fail ○ N/A
☐ Overcurrent / ground fault relay test dates on file [NFPA 70B]	○ Pass ○ Fail ○ N/A
☐ Sudden pressure relay (if equipped) checked and functional [IEEE C57.12]	○ Pass ○ Fail ○ N/A
☐ Disconnect switch / circuit breaker operates smoothly [NFPA 70B]	○ Pass ○ Fail ○ N/A
☐ Interrupter / recloser sequence settings correct [IEEE C57.12]	○ Pass ○ Fail ○ N/A
☐ Wiring to control panel / SCADA intact and labeled [NFPA 70B]	○ Pass ○ Fail ○ N/A

Findings / Observations:

Corrective Actions Required:

SECTION 9 — SAFETY FEATURES, SIGNAGE & LABELING

NEC 450.10, NFPA 70B, OSHA 1910.269 safety markings

Inspection Item	Result / Status
☐ DANGER / HIGH VOLTAGE warning signs posted on all accessible sides [OSHA 1910.269]	○ Pass ○ Fail ○ N/A
☐ Voltage level clearly posted (primary and secondary) [NEC 450.10]	○ Pass ○ Fail ○ N/A
☐ Arc-flash hazard label present (NFPA 70E compliant) [NFPA 70B]	○ Pass ○ Fail ○ N/A
☐ Transformer ID / circuit designation label legible [NEC 450.10]	○ Pass ○ Fail ○ N/A
☐ Fire rating / PCB content label present (if liquid-filled) [OSHA 1910.269]	○ Pass ○ Fail ○ N/A
☐ Emergency contact / utility information posted [OSHA 1910.269]	○ Pass ○ Fail ○ N/A
☐ Grounding electrode conductor labeled at panel end [NEC 250.30]	○ Pass ○ Fail ○ N/A

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☐	Safety interlock / key-exchange system functional (where installed) [OSHA 1910.269]	○ Pass	○ Fail	○ N/A
☐	Transformer room / vault fire suppression system functional [NFPA 70B]	○ Pass	○ Fail	○ N/A
☐	Portable fire extinguisher within 30 ft and accessible [NFPA 70B]	○ Pass	○ Fail	○ N/A
☐	Emergency lighting functional in transformer vault [NFPA 70B]	○ Pass	○ Fail	○ N/A
☐	Dry-type transformer rated room meets 'Fire-Resistant Construction' (NEC 450.21) [NEC 450.10]	○ Pass	○ Fail	○ N/A

Findings / Observations:

Corrective Actions Required:

SECTION 10 — PHOTO DOCUMENTATION

Attach digital photos or paste/reference below

[Photo] Overview / General	[Photo] Nameplate	[Photo] HV Bushings
[Photo] LV Bushings	[Photo] Oil Sight Glass	[Photo] Temperature Gauge
[Photo] Grounding System	[Photo] Protective Devices	[Photo] Condition Defect
[Photo] Condition Defect 2	[Photo] Labeling / Signs	[Photo] Additional

Photo Notes / Captions:

SECTION 11 — OVERALL CONDITION RATING & SUMMARY

Circle one rating for each system

	1 Critical	2 Poor	3 Fair	4 Good	5 Excellent
Overall Transformer Condition					
Oil / Liquid System					
Thermal / Temperature System					
Bushings & Electrical Connections					
Grounding & Bonding System					

Protective Devices	1 Critical	2 Poor	3 Fair	4 Good	5 Excellent
Safety Signage & Labeling	1 Critical	2 Poor	3 Fair	4 Good	5 Excellent

Executive Summary / Key Findings:

Immediate Action Items (Safety):

Recommended Maintenance / Next Steps:

Priority Level:	○ IMMEDIATE — Unsafe, shut down	○ URGENT — Repair within 30 days	○ ROUTINE — Schedule maintenance	○ SATISFACTORY — No action needed

SECTION 12 — CERTIFICATIONS & SIGNATURES

The undersigned certify that this inspection was performed in accordance with applicable standards including NFPA 70B, IEEE C57.12.00, IEC 60076, OSHA 1910.269, NEC Article 250 and 450, and that the findings recorded herein accurately represent the condition of the equipment at the time of inspection.

Inspecting Technician / Inspector: Print Name Signature: Date: MM/DD/YYYY

Reviewing Engineer / Supervisor: Print Name Signature: Date: MM/DD/YYYY

Client / Owner Representative: Print Name Signature: Date: MM/DD/YYYY

Inspector License / Cert #: State / ANSI / InterNACHI Certifying Body: Expiration Date: MM/YYYY

Referenced Standards: NFPA 70B-2023 Recommended Practice for Electrical Equipment Maintenance · IEEE C57.12.00-2021 Standard for Liquid-Immersed Distribution, Power, and Regulating Transformers · IEC 60076-1:2011 Power Transformers · OSHA 1910.269 Electric Power Generation, Transmission, and Distribution · NEC 250.30 Grounding Separately Derived Systems · NEC 450.10 Marking of Transformers

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