

ELECTRICAL SAFETY AND RELIABILITY AUDIT CHECK LIST
FOR
POWER TRANSFORMERS

TF

TRANSFORMER LOCATION I.D. #: XFMR E
TRANSFORMER EQUIPMENT I.D. #:
VOLTAGE: 2400/480
KVA: 1000

CASE ----	Yes	No	N/A
1. Is the transformer properly tagged?	☒	☐	☐
2. Is the manufacturer nameplate in place and legible?	☒	☐	☐
3. Is the transformer case free of any signs of corrosion?	☐	☒	☒
4. Is the transformer case adequately painted?	☐	☒	☐
5. Is the transformer case free of any oil leaks? (Look at case, bushings, radiators, and valve.)	☒	☐	☐
6. Are oil samples taken regularly?	☒	☐	☐
7. Is the transformer adequately grounded? (Must have two leads if its capacity is KVA and above)	☒	☐	☐
8. Has the transformers been checked for PCB's and properly labeled?	☒	☐	☐
9. Are vehicle barricades located if needed?	☒	☐	☐
10. If the transformer has open bushings, is there a fence surrounding the transformer?	☐	☐	☒
11. Are there warning signs posted on the fence?	☐	☐	☒
12. Is the fence grounded?	☐	☐	☒
13. Is the transformer operating free of excessive noise and vibrations?	☒	☐	☐
14. Is the transformer operating below rated capacity?	☒	☐	☐

- | | | | |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| 15. Is the transformer located away from process piping? | ☒ | ☐ | ☐ |
| 16. If transformer is within 20 feet (6 meters) of building, is the building wall non-combustible? | ☒ | ☐ | ☐ |
| 17. Is there easy access for fire fighting? | ☒ | ☐ | ☐ |
| 18. Is the transformer bolted to foundation? | ☒ | ☐ | ☐ |
| 19. Is the transformer on a PPM program? | ☒ | ☐ | ☐ |
| 20. Is the transformer maintenance history being kept? | ☒ | ☐ | ☐ |
| 21. Is high resistance ground system in place? | ☐ | ☐ | ☒ |
| 22. Is ground detector system on PPM schedule? | ☐ | ☐ | ☒ |
| 23. Does transformer have a circuit breaker on the primary? (10,000 kVA and above) | ☒ | ☐ | ☐ |
| 24. Is short circuit protection available? | ☒ | ☐ | ☐ |
| 25. Is protective device coordinated with other devices? | ☒ | ☐ | ☐ |
| 26. Is dissolved gas analysis data available? (1000 kVA and above) | ☒ | ☐ | ☐ |
| 27. Is there a dike around the transformer to contain an oil spill? | ☐ | ☒ | ☐ |
| 28. Is there a pit with oil/water separation? | ☐ | ☐ | ☒ |
| 29. Is the pit protected with a fire barrier? | ☐ | ☐ | ☒ |
| Case Index Score: | ☒ | ☐ | ☐ |

RADIATORS

- | | Yes | No | N/A |
|--|-------------------------------------|--------------------------|--------------------------|
| 1. Is the transformer radiator free of any signs of corrosion? | ☒ | ☐ | ☐ |
| 2. Is the transformer radiator adequately painted? | ☒ | ☐ | ☐ |

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- | | Yes | No | N/A |
|---|-------------------------------------|--------------------------|-------------------------------------|
| 3. Is the transformer radiator free of any oil leaks? (Look at case, bushings, radiators, and valve.) | ☒ | ☐ | ☐ |
| 4. Are the radiators removable with cut-off valves? (2000 kVA and above) | ☐ | ☐ | ☒ |
| 5. Are cooling fans operating properly? | ☒ | ☐ | ☐ |
| Radiators Index Score: | | | <u>3</u> |

INSTRUMENTS

- | | Yes | No | N/A |
|---|-------------------------------------|--------------------------|--------------------------|
| 1. Is the oil level at an acceptable level? | ☒ | ☐ | ☐ |
| 2. Is the oil level gauge in good condition? | ☒ | ☐ | ☐ |
| 3. Is the tank pressure at an acceptable level? | ☒ | ☐ | ☐ |
| 4. Is the tank pressure gauge in good condition? | ☒ | ☐ | ☐ |
| 5. Is the Buchholz Relay in good condition? | ☒ | ☐ | ☐ |
| 6. Is the Sudden Pressure Relay in good condition? (required for 10 MVA and above) | ☒ | ☐ | ☐ |
| 7. Is the Pressure Relief Valve (PRV) in good condition? | ☒ | ☐ | ☐ |
| 8. Is the transformer running at an acceptable temperature? (below 50 degree C rise above ambient) | ☒ | ☐ | ☐ |
| 9. Is the temperature switch and level switch wired to alarm in a continuously occupied location? [LPP 3.7.6] | ☒ | ☐ | ☐ |
| 10. Is the breather system in good condition? | ☒ | ☐ | ☐ |
| Instruments Index Score: | | | <u>3</u> |

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BUSHINGS

Yes No N/A

1. Are the exposed bushings clean? ✓
2. Is the termination hardware on exposed bushing
clean and without any signs of corrosion? ✓
3. Are exposed bushings equipped with lightning
protection devices? ✓

Bushings Index Score: NA

CONDUIT/CABLE

Yes No N/A

1. Does cabling enter transformer from bottom or
side only? ✓
2. Is cabling or duct anchored to foundation? ✓

Conduit Index Score: 3

TAP CHANGER

Yes No N/A

1. Is the tap changer locked or bolted
(and tagged)? ✓

Tap Changer Index Score: 3

Power Transformer Average Index Score: 3