

# Transformer Health Assessment Report

## TR-001: Alpha Substation Main

### Executive Summary

Parameter	Value
Status	<span>✓</span> HEALTHY
Health Score	95/100
Risk Level	Low
Scenario	Normal Operation

### Transformer Information

Attribute	Details
Transformer ID	TR-001
Name	Alpha Substation Main
Location	Eastern Grid - Zone A
Rating	50 MVA
Voltage	115/13.8 kV
Age	8 years
Last Maintenance	2025-07-15
Next Scheduled	2026-01-15

### Current Operating Parameters

#### Temperature Readings

- **Top Oil Temperature:** 52°C (Normal: <65°C) ✓
- **Winding Temperature:** 62°C (Normal: <90°C) ✓

- **Current Load:** 72% of rated capacity

## Oil Quality Parameters

Parameter	Value	Limit	Status
Moisture Content	12 ppm	<25 ppm	Good
Tan Delta	0.35%	<1.0%	Excellent
Breakdown Voltage	65 kV	>50 kV	Good

## Dissolved Gas Analysis (DGA)

Gas	Concentration	Limit	Status
Hydrogen (H <sub>2</sub> )	45 ppm	<100 ppm	Normal
Methane (CH <sub>4</sub> )	28 ppm	<50 ppm	Normal
Acetylene (C <sub>2</sub> H <sub>2</sub> )	0 ppm	<3 ppm	Excellent
Carbon Monoxide (CO)	120 ppm	<300 ppm	Normal
Carbon Dioxide (CO <sub>2</sub> )	850 ppm	<2500 ppm	Normal

## Assessment Summary

**Overall Condition:** The transformer is operating within all normal parameters with excellent oil quality and stable thermal conditions. No fault gases detected. All insulation parameters indicate healthy condition.

## Risk Factors

- None identified

## Recommendations

1. Continue routine monitoring schedule
2. Next scheduled inspection in 6 months
3. Maintain current operating practices

## Trend Analysis

The transformer has shown stable performance over the past 12 months with no significant parameter deviations. All trending data indicates continued healthy operation.

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**Report Generated:** January 12, 2026

**Assessment Engineer:** Predictive Analytics System

**Classification:** Routine Monitoring