

Annual Maintenance Contract Report

Electrical Preventive Maintenance Service Report

CUSTOMER:

LOCATION: OTP

AMC NO: AMC/2026/0001

CONTRACT PERIOD: 01-01-2026 to 31-01-2026

Submitted By

Enerzia Power Solutions

No.9, Akshaya, Sundaresan Nagar,
ELumalai Chettiar Road, Maduravoyal,
Chennai, Tamil Nadu, Pincode- 600095

(An ISO 9001:2015, ISO 45001:2018 certified company)

CONTENTS

S.No	SECTION	DESCRIPTION	PAGE NO.
1	A	Document Details	3
2	B	Executive Summary	4
3	C	Scope & Objective of AMC	5
4	D	AMC Equipment List	6
5	E	Service Schedule & Visits	7
6	F	Spare & Consumables Used	8
7	G	IR Thermography Reports	9
8	H	Equipment Test Reports	10
9	I	Statutory Documents & Attachments	11

SECTION - A: DOCUMENT DETAILS

DOCUMENT TITLE	Annual Maintenance Contract Service Report
DOCUMENT NO	AMC/2026/0001
REVISION	00
ISSUE DATE	21-01-2026
CONTRACT NO	12345
CONTRACT START DATE	01-01-2026
CONTRACT END DATE	31-01-2026

Customer Information

CUSTOMER NAME	
SITE LOCATION	OTP
CONTACT PERSON	
CONTACT NUMBER	
EMAIL	

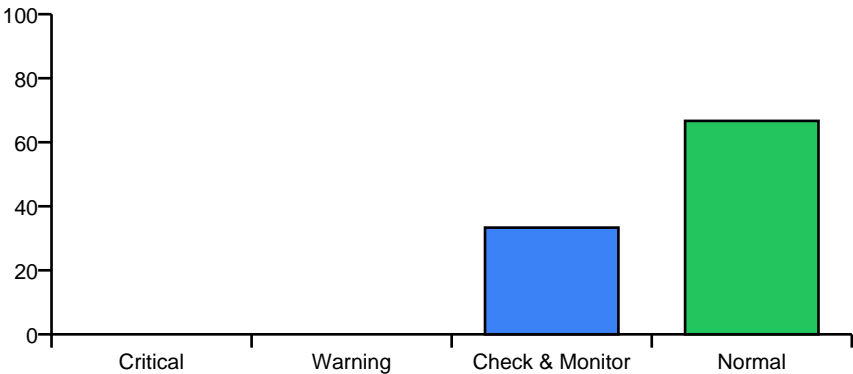
SECTION - B: EXECUTIVE SUMMARY

Electrical Preventive Maintenance has been carried out by **Enerzia Power Solutions** on **02-01-2026** for the **client** at **OTP**. A detailed report of the works done and the meter readings has been formulated hereafter in this report.

According to the thermography study conducted in the facility, the risk level is formulated as:

Risk Level	Count	Percentage
Critical	0	0%
Warning	0	0%
Check & Monitor	1	33%
Normal	2	67%

Graphical Representation of Risk Level



SECTION - C: SCOPE & OBJECTIVE OF AMC

Scope of the AMC includes:

- Preventive maintenance of all listed electrical equipment
- Operation & maintenance of all electrical installations such as transformers, HT/LT panels including CT/PT, DG Sets, Pump-motors
- To attend fault in main switches, DB, ACB, MCB, MCCB, panel board, etc.
- Periodic inspection and testing as per schedule
- Emergency breakdown support
- To check all earth electrodes, continuity of earth, measurement of earth resistance
- Replacement of minor consumables
- Technical consultation and recommendations
- Detailed test reports for all equipment
- 24/7 helpline support for emergencies

SECTION - D: AMC EQUIPMENT LIST

S.No	EQUIPMENT TYPE	EQUIPMENT NAME	QTY	SERVICE FREQ.	LAST SERVICE	NEXT SERVICE
1	acb	main acc	1	Quarterly	21-01-2026	31-01-2026
2	transformer	trafo	1	Quarterly	07-01-2026	28-01-2026

SECTION - E: SERVICE SCHEDULE & VISITS

S.No	VISIT DATE	VISIT TYPE	STATUS	TECHNICIAN	EQUIPMENT	REMARKS
1	02-01-2026	Scheduled	Scheduled	alex	-	-

SECTION - F: SPARE & CONSUMABLES USED

No spare parts or consumables used during this service period.

S.No	ITEM DESCRIPTION	PART NO.	QTY	UNIT	REMARKS
1					
2					
3					
4					
5					

SECTION - G: IR THERMOGRAPHY REPORTS

The following IR Thermography reports are linked to this AMC:

S.No	REPORT NO	REPORT TYPE	DATE OF STUDY	RISK SUMMARY
1	POST-TIR/2026/0001	Post Thermography	20-01-2026	C:0 W:0 CM:1 N:2

C=Critical, W=Warning, CM=Check & Monitor, N=Normal

Note: Detailed IR Thermography reports are attached as separate documents.

SECTION - H: EQUIPMENT TEST REPORTS

The following test reports are linked to this AMC service visits:

S.No	REPORT NO	EQUIPMENT TYPE	TEST DATE	STATUS	RESULT

Note: Detailed test reports are attached as separate documents in the annexure.

SECTION - I: STATUTORY DOCUMENTS & ATTACHMENTS

The following statutory documents, calibration certificates and attachments are linked to this AMC:

No statutory documents or attachments linked to this AMC.

To attach documents, edit this AMC and upload calibration certificates, statutory documents, or other relevant attachments.

ANNEXURE - 1

IR Thermography Reports

The following 1 IR Thermography report(s) are attached.

DOCUMENT IDENTIFICATION & DETAILS

REPORT NO:	POST-TIR/2026/0001	REVISION NO:	001
CLIENT:	Saama Technologies	WORK ORDER NUMBER:	bibi
LOCATION:	OTP	WORK ORDER DATE:	01-01-2026
WORK DONE:	Post Thermography	DATE OF IR STUDY:	20-01-2026
THERMOGRAPHY INSPECTION BY:		LOAD CONDITION:	
REPORT PREPARED BY:	Kavitha	REPORT REVIEWED BY:	Giftson
COORDINATING PERSON:		DATE OF SUBMISSION:	20-01-2026
COMMENTS:	jkbjkbjbjb jl		

CONTENTS

S.No	SECTION	DESCRIPTION	PAGE NO.
1	A	Executive Summary	4
2	B	Thermography Inspection Summary	5
3	C	Thermal Imaging Survey – Fundamentals & Methodology	6
4	D	Thermal Images – Risk Categorization Procedure	8
5	E	Thermal Images & Interpretations	9
6	F	Statutory Documents & Attachments	12

SECTION - A: EXECUTIVE SUMMARY

Saama Technologies approached Enerzia Power Solutions to conduct a Thermography Inspection at their facility located at OTP. The Infrared Thermal Imaging Survey was conducted on 20-01-2026. The salient findings requiring management attention are presented in this report. The detected hotspots have been highlighted after discussions with the technical staff at the site.

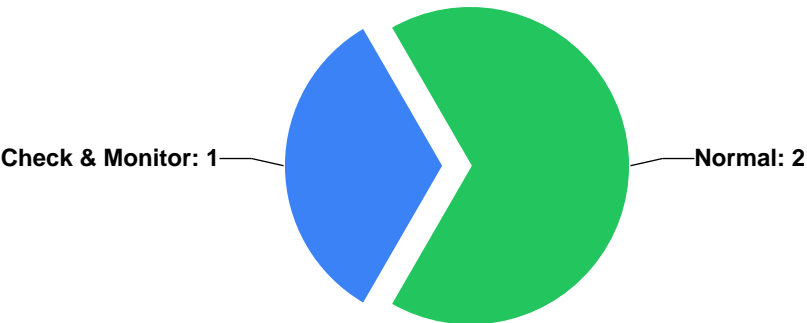
Survey Overview:

TOTAL FEEDERS/POINTS SCANNED	3
TOTAL THERMAL IMAGES CAPTURED	3

Risk Level Summary:

RISK LEVEL	COUNT	DESCRIPTION
CRITICAL	0	Major discrepancy; immediate repair required
WARNING	0	Probable deficiency; repair as time permits
CHECK & MONITOR	1	Possible deficiency; warrants investigation
NORMAL	2	No action required

Risk Distribution Chart:



SECTION - B: POST-THERMOGRAPHY INSPECTION SUMMARY

S.No	PANEL	FEEDER/LOCATION	MAX TEMP (°C)	MIN TEMP (°C)	DELTA-T (°C)	RISK CATEGORY
1	hjhjbhkj	bkbkbk	33.0	34.0	-1.0	normal
2	bkkkbkjbj	jbkbjbjk	30.0	32.0	-2.0	normal
3	bbkjbkj	bjkbkjb	40.0	29.0	11.0	check_monitor

SECTION - C: THERMAL IMAGING SURVEY – FUNDAMENTALS & METHODOLOGY

C.1 General

A preparatory meeting was organized to explain the methodology and to establish the list of equipment to be surveyed. The Infrared Thermal Imaging Survey was conducted on 20-01-2026. During the survey, infrared thermal images were captured using state-of-the-art thermal imaging equipment to identify potential hotspots and anomalies in the electrical systems.

C.2 T-Survey Approach & Methodology

Infrared T-Surveys involve capturing heat images using thermal cameras to identify hotspots for timely remedial action to prevent breakdowns. The initial discussion involved collecting information on:

- Critical Electrical equipment
- Critical Panels (feeding essential services)
- Heavy rated equipment (whose failure could cause production disruption)
- Equipment with history of failures or maintenance issues

C.3 Infrared Thermal Imaging - Principle

All objects above absolute zero (0 Kelvin or -273°C) emit infrared radiation. This radiation is measured in the infrared spectral band. Thermography is the technique of measuring this radiant energy and converting it into visible images. Thermal imaging cameras typically respond to wavelengths of 3-5 micrometers or 8-12 micrometers, allowing for accurate temperature measurements of electrical components and connections.

C.4 Why Thermal Imaging?

Thermal imaging captures heat images to display temperature distribution across surfaces and components. This technology has been widely adopted for predictive maintenance by power utilities and industrial facilities worldwide. Electrical failures are often preceded by a rise in temperature, and understanding this principle allows for effective detection and correction before catastrophic failures occur. Key benefits include:

- Early detection of potential failures before they occur
- Prevention of costly unplanned downtime
- Reduced risk of fire and safety hazards
- Extended equipment lifespan through proactive maintenance
- Non-contact, non-invasive testing method
- Ability to inspect equipment while in operation

C.5 Objective of T-Survey

The primary objectives of this Thermal Imaging Survey are:

- To identify equipment or connections requiring thermal survey attention
- To perform infrared thermal imaging of operational equipment (electrical, mechanical) to identify hotspots
- To categorize identified anomalies based on severity for prioritized corrective action
- To provide recommendations for remedial measures to prevent failures

Disclaimer:

The recommendations in this report are based on industry best practices, national and international standards (including NFPA 70B and NETA specifications), and engineering judgment. Enerzia Power Solutions is not responsible for the outcomes of implementing these recommendations.

The client is advised to consult with qualified electrical professionals before undertaking any corrective actions.

C.6 Acknowledgment

We express our sincere thanks to **Saama Technologies** and their technical team for their cooperation and support during the conduct of this Thermal Imaging Survey.

SECTION - D: THERMAL IMAGES – RISK CATEGORIZATION PROCEDURE

D.1 Why Categorize Thermal Images?

Categorization of thermal images helps prioritize corrective actions based on the severity of the problem identified. This systematic approach ensures that the most critical issues receive immediate attention while less severe anomalies are scheduled for routine maintenance. The following factors are used to determine risk levels:

- Relative temperature difference (Delta T) between hot spot and reference
- Industrial experience and thermal imaging analytical expertise
- Equipment age and condition
- Environmental conditions during survey
- Load level at time of inspection
- Criticality of equipment (safety, reliability, production impact)
- Past equipment reliability data and maintenance history

D.2 RISK LEVELS

Based on the Delta-T (temperature difference) measurements and the factors mentioned above, identified anomalies are classified into the following risk categories:

RISK LEVEL	DELTA-T (ΔT)	INTERPRETATION	PRIORITY ACTION
CRITICAL	$\Delta T \geq 15^{\circ}\text{C}$	Major discrepancy; potential for fire, explosion or major failure	Immediate repair required
WARNING	$\Delta T \geq 4^{\circ}\text{C}$ and $< 15^{\circ}\text{C}$	Indicates probable deficiency; significant repair cost if ignored	Repair at next available opportunity
CHECK & MONITOR	$\Delta T > 1^{\circ}\text{C}$ and $< 4^{\circ}\text{C}$	Possible deficiency; minor disruption potential	Warrants investigation
NORMAL	$\Delta T \leq 1^{\circ}\text{C}$	No deficiency detected; normal operating temperature	No action required

D.3 NOTES

Note 1: "Critical equipment" refers to equipment whose failure can result in hazardous conditions including over-pressure, explosions, toxic releases, fires, or significant production disruption.

Note 2: Delta-T temperatures and corrective action recommendations are based on NFPA 70(B), Section 21.17.5.6, and the International Electrical Testing Association (NETA) standards for infrared inspection of electrical systems.

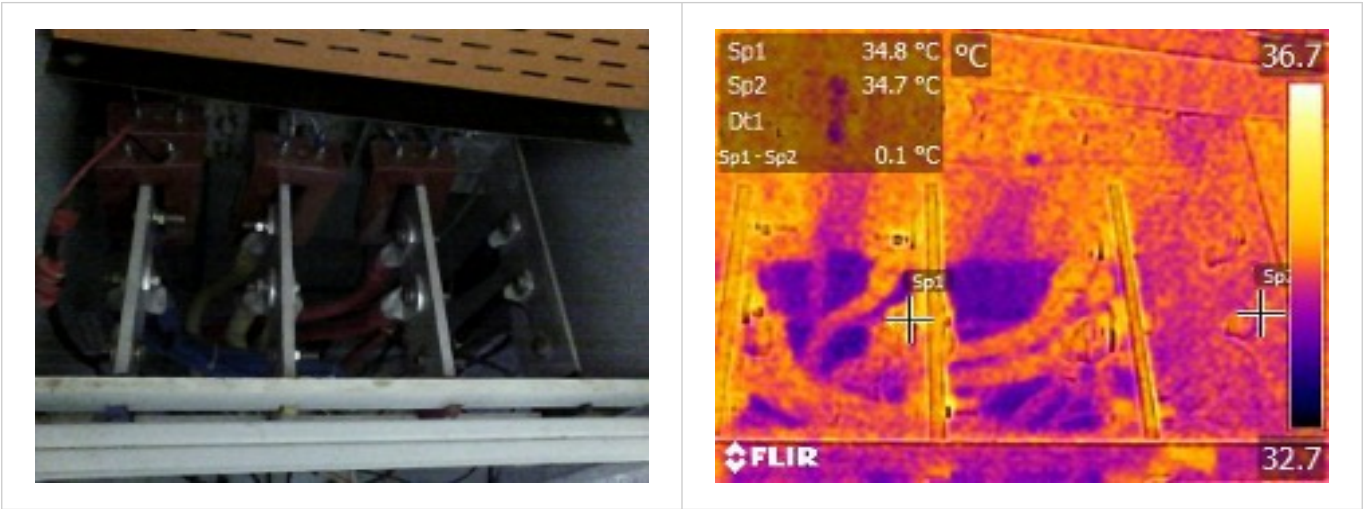
Note 3: Temperature measurements are taken with the equipment operating under normal load conditions. Variations in load levels may affect the Delta-T readings. It is recommended to conduct inspections during peak operating periods for most accurate results.

SECTION - E: THERMAL IMAGES & INTERPRETATIONS

INSPECTION ITEM 1: hjhjbhbj - bkbkbk

CUSTOMER NAME	Saama Technologies
DATE OF STUDY	20-01-2026

PHOTO & IDENTIFICATION



THERMAL ANALYSIS

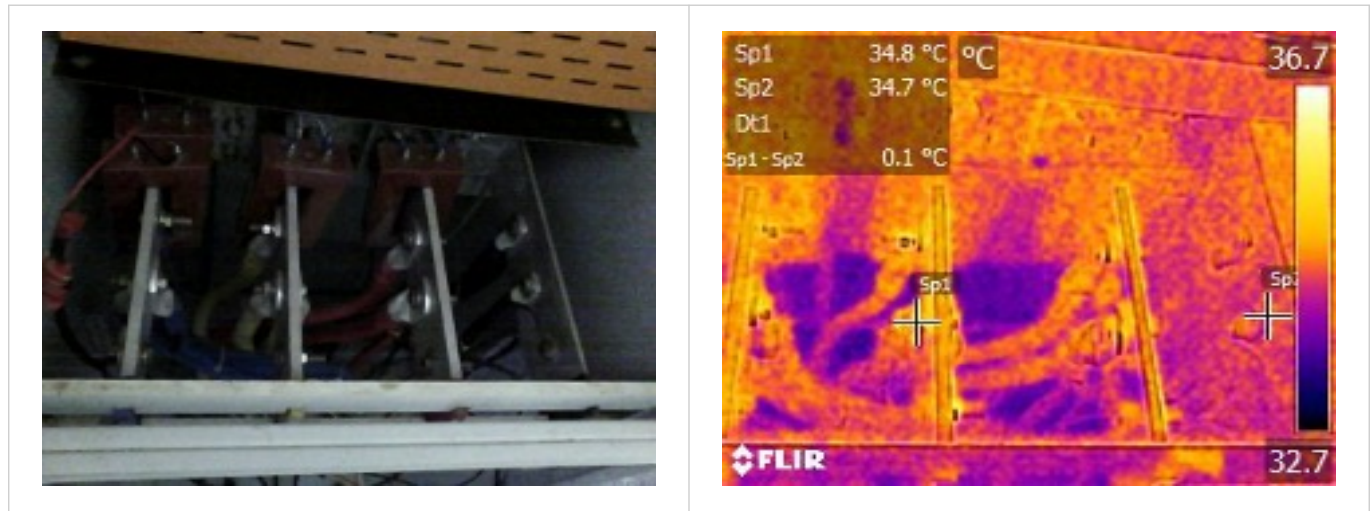
LOCATION	bjhvhvjhv
PANEL	hjhjbhbj
FEEDER	bkbkbk
MAX TEMPERATURE	33.0°C
MIN TEMPERATURE	34.0°C
DELTA-T (ΔT)	-1.0°C
RISK CATEGORY	normal

ANALYSED BY	
COMMENTS	
SIGNATURE	

INSPECTION ITEM 2: bkkkbkjbj - jbkjbjbjk

CUSTOMER NAME	Saama Technologies
DATE OF STUDY	20-01-2026

PHOTO & IDENTIFICATION



THERMAL ANALYSIS


LOCATION	kbeyfi
PANEL	bkkkbkjbj
FEEDER	jbkbjbjk
MAX TEMPERATURE	30.0°C
MIN TEMPERATURE	32.0°C
DELTA-T (ΔT)	-2.0°C
RISK CATEGORY	normal

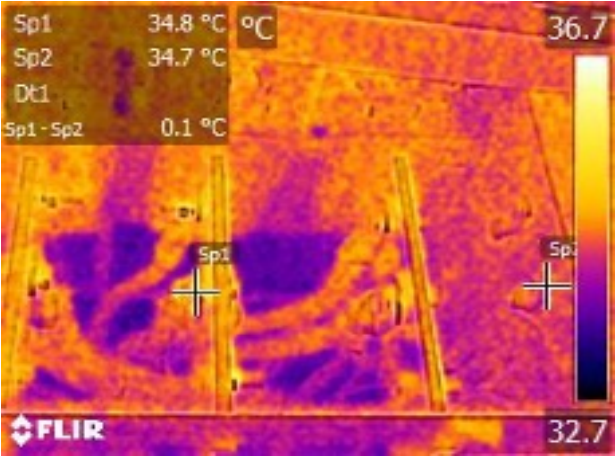
ANALYSED BY	
COMMENTS	
SIGNATURE	

INSPECTION ITEM 3: bbkjbkj - bjkbkjb

CUSTOMER NAME	Saama Technologies
DATE OF STUDY	20-01-2026

PHOTO & IDENTIFICATION





THERMAL ANALYSIS

LOCATION	iybvi
PANEL	bbkjbkj
FEEDER	bjkbkjb
MAX TEMPERATURE	40.0°C
MIN TEMPERATURE	29.0°C
DELTA-T (ΔT)	11.0°C
RISK CATEGORY	check_monitor

ANALYSED BY	
COMMENTS	vhvkj
SIGNATURE	

SECTION - F

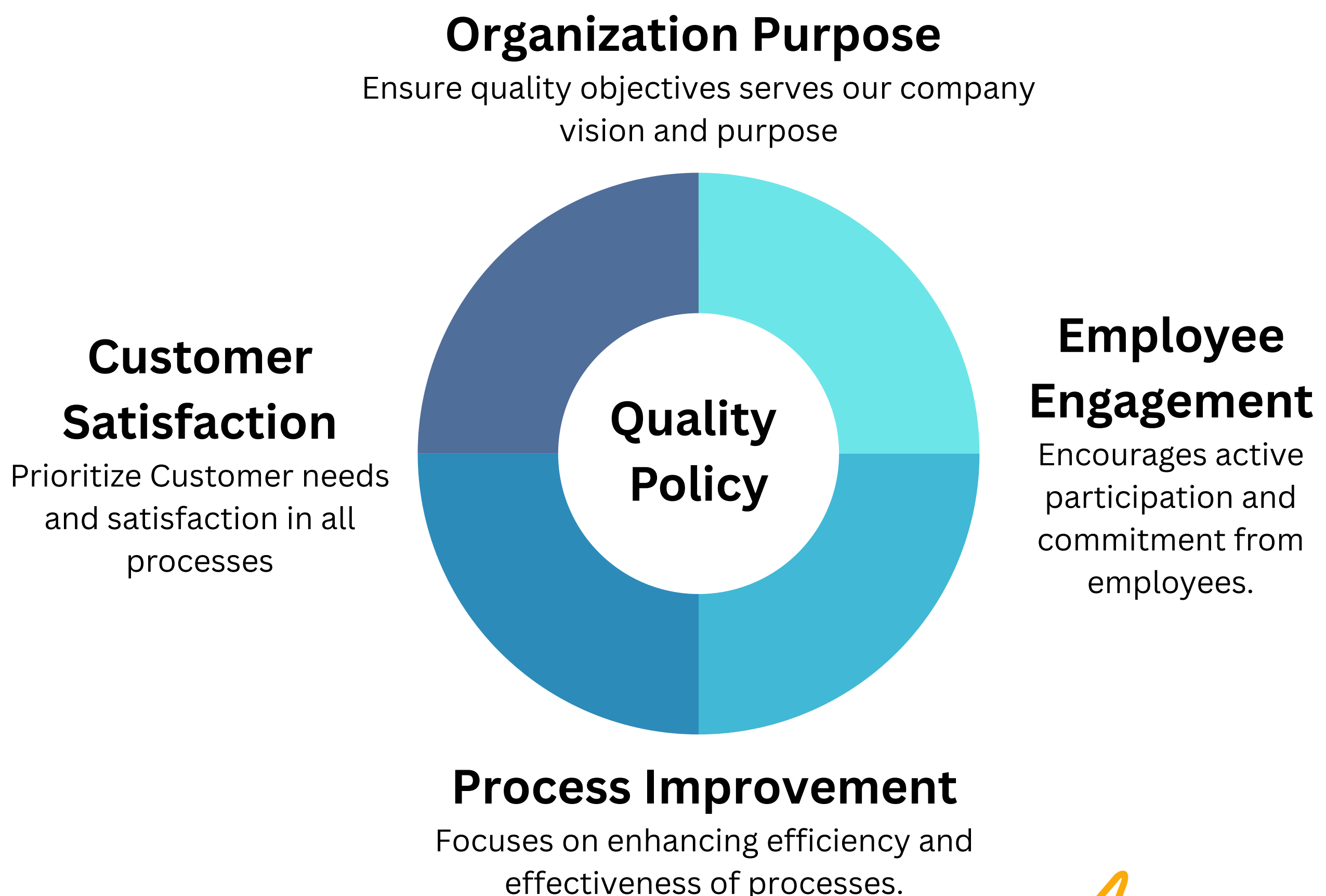
Statutory Documents and Attachments

The following pages contain calibration certificates
and other statutory documents.

Quality Policy

Enerzia Power Solutions is committed to meeting our customer needs and expectations by innovating and continually improving the products, services and processes, measuring the effectiveness of our management system, and complying with ISO 9001, required regulatory and safety standards.

We recognize that quality is the collective responsibility of all employees; it is not just a goal but a fundamental principle that guides our company operations.





Contact Us

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ANNEXURE - 2

Equipment Test Reports

The following 2 test report(s) are attached.

TRANSFORMER TEST REPORT



Report #: TRN/2026/0003

Report Date: 13-01-2026

Report Type:

<input type="checkbox"/> Periodical Maintenance	<input type="checkbox"/> Breakdown Maintenance	<input type="checkbox"/> Annual Shutdown Maintenance	<input type="checkbox"/> Equipment Testing
<input type="checkbox"/> Pre-Commissioning	<input type="checkbox"/> Warranty	<input type="checkbox"/> Calibration	<input type="checkbox"/> Routine Inspection

CUSTOMER INFORMATION

Company Name:	RATHIK INDUSTRIAL & LOGISTICS PARK PRIVATE LIMITED	Site Location:	M/S. RATHIK INDUSTRIAL & LOGISTICS PARK PRIVATE LIMITED No. 231/2, 237/5B, 229/1B, 235/8, 237/5B, 249/1A1, 209/3, Sriperumbudur Taluk, Kunnam Village, KAnchipuram, Tamil Nadu, India - 631604
Project Name:		P.O. Ref #:	rat12345
Contact Person:	MR.HARI	P.O. Dated:	
Email:		Phone:	9789894644

SERVICE PROVIDER DETAILS

Company Name:	Enerzia Power Solutions	Engineer Name:	Pradeep Rajan
Company Address:		Engineer Email:	pradeep@enerzia.com
		Mobile:	8973336965

EQUIPMENT DETAILS - TRANSFORMER

Equipment Name:	250 KVA TRANSFORMER	Equipment Location:	TRASNFORMER YARD
Make / Model:	VOLTECH MANUFACTURING CO LTD	Serial No:	VMC/A/6398
Rating:	250	Year of Manufacture:	2020
Date of Testing:	13-01-2026	Next Due Date:	13-01-2026

TEST RESULTS

Remarks: No specific test results recorded.

OVERALL RESULT & RECOMMENDATIONS

Overall Result:	UNSATISFACTORY
Recommendations:	No specific recommendations.
Remarks:	Equipment tested and found satisfactory.

SIGNATURES

SERVICE PROVIDER		CUSTOMER	
Name:	Admin User	Name:	HARI
Designation:	Service Engineer	Designation:	
Date:	2026-01-13	Date:	2026-01-13
Signature:		Signature:	

ACB TEST REPORT



Report #: ACB/2026/0001

Report Date: 17-01-2026

Report Type:

<input type="checkbox"/> Periodical Maintenance	<input type="checkbox"/> Breakdown Maintenance	<input type="checkbox"/> Annual Shutdown Maintenance	<input type="checkbox"/> Equipment Testing
<input type="checkbox"/> Pre-Commissioning	<input type="checkbox"/> Warranty	<input type="checkbox"/> Calibration	<input type="checkbox"/> Routine Inspection

CUSTOMER INFORMATION

Company Name:	Saama Technologies	Site Location:	M/S. RATHIK INDUSTRIAL & LOGISTICS PARK PRIVATE LIMITED No. 231/2, 237/5B, 229/1B, 235/8, 237/5B, 249/1A1, 209/3, Sriperumbudur Taluk, Kunnam Village, KAnchipuram, Tamil Nadu, India - 631604
Project Name:	Annual Shutdown Maintenance	P.O. Ref #:	12345
Contact Person:	mr. subramani	P.O. Dated:	16-01-2026
Email:	suresh@indospace.com	Phone:	9789894644

SERVICE PROVIDER DETAILS

Company Name:	Enerzia Power Solutions	Engineer Name:	Pradeep Rajan
Company Address:	M/S. RATHIK INDUSTRIAL & LOGISTICS PARK PRIVATE LIMITED No. 231/2, 237/5B, 229/1B, 235/8, 237/5B, 249/1A1, 209/3, Sriperumbudur Taluk, Kunnam Village, KAnchipuram, Tamil Nadu, India - 631604	Engineer Email:	pradeep@enerzia.com
		Mobile:	8973336965

EQUIPMENT DETAILS - ACB

Switchgear:	1250 A ACB	Feeder Ref/Device:	MAIN FEEDER
Make/Type:	ABB	Rated Current (A):	1250
Rated Voltage (V):	415	Serial Number:	12345
Control Voltage (V):	240 V	Spring Motor (V):	240 V
Breaking Capacity:	50	Date of Testing:	17-01-2026
Date of Energization:	17-01-2026		

SECTION 1: DETAILED CHECK LIST

No checklist data available.

SECTION 2: INSULATION RESISTANCE TEST

Voltage Applied:	1000V DC for 60 sec	Ambient Temp (°C):	30
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CB OPEN	R-R'	Y-Y'	B-B'	N-N'
Measured (MΩ)	300	450	500	440

CB CLOSE (Phase to Earth)	R-E	Y-E	B-E	N-E
Measured (MΩ)	43	56	67	89

CB CLOSE (Phase to Phase)	R-Y	Y-B	B-R
Measured (MΩ)	79	67	89

* Acceptance Criteria: ≥1000 MΩ/Volt

SECTION 3: MEASUREMENT OF COIL RESISTANCE

Ambient Temp (°C):	42	
	CLOSE COIL	TRIP COIL
RESISTANCE (Ω)	340	340

SECTION 4: MEASUREMENT OF CB CONTACT RESISTANCE

Injected Current:	100 A DC			
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PHASE	R	Y	B	N
Measured Value (μΩ)	45	45	67	56

* Acceptance Criteria: Not available in manual. Approx <0.1Ω

SECTION 6: CARBON TEST REPORT

No carbon test data available.

TEST RESULTS

Remarks: fit for operation

OVERALL RESULT & RECOMMENDATIONS

Overall Result:	SATISFACTORY
Recommendations:	nil
Remarks:	fit for operation

SIGNATURES

SERVICE PROVIDER		CUSTOMER	
Name:	subramani	Name:	sai
Designation:	Service Engineer	Designation:	
Date:	2026-01-17	Date:	

Signature:		Signature:	
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Contact Us

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