



**(An ISO 9001:2015 ISO 45001:2018 ISO 14001:2015 Certified)**

**...Serve The Nation With More Green Power**



## Achievements

30 years of leadership right from inception in 1996.

Maintaining 1000 plus wind turbines with 485 MW under our Annual Maintenance Contract (AMC).

Installed 2483 WTGs with aggregate capacity of 4.5 GW turbines. Capacities ranging from 0.75MW to 4.2MW wind turbines of different makes.

Working with GE, Vestas, Siemens Gamesa, Suzlon, Acciona Nordex, Envision, Senvion, Sany & Powerwind.

Direct import tie-up with all global WTG spare suppliers.

First Indian wind turbine service provider company to become GWO training partner.



1000+  
Wind  
Turbines



485 MW  
Annual  
Maintenance



## Vision

To be the globally preferred service provider and serve the nation with more green power

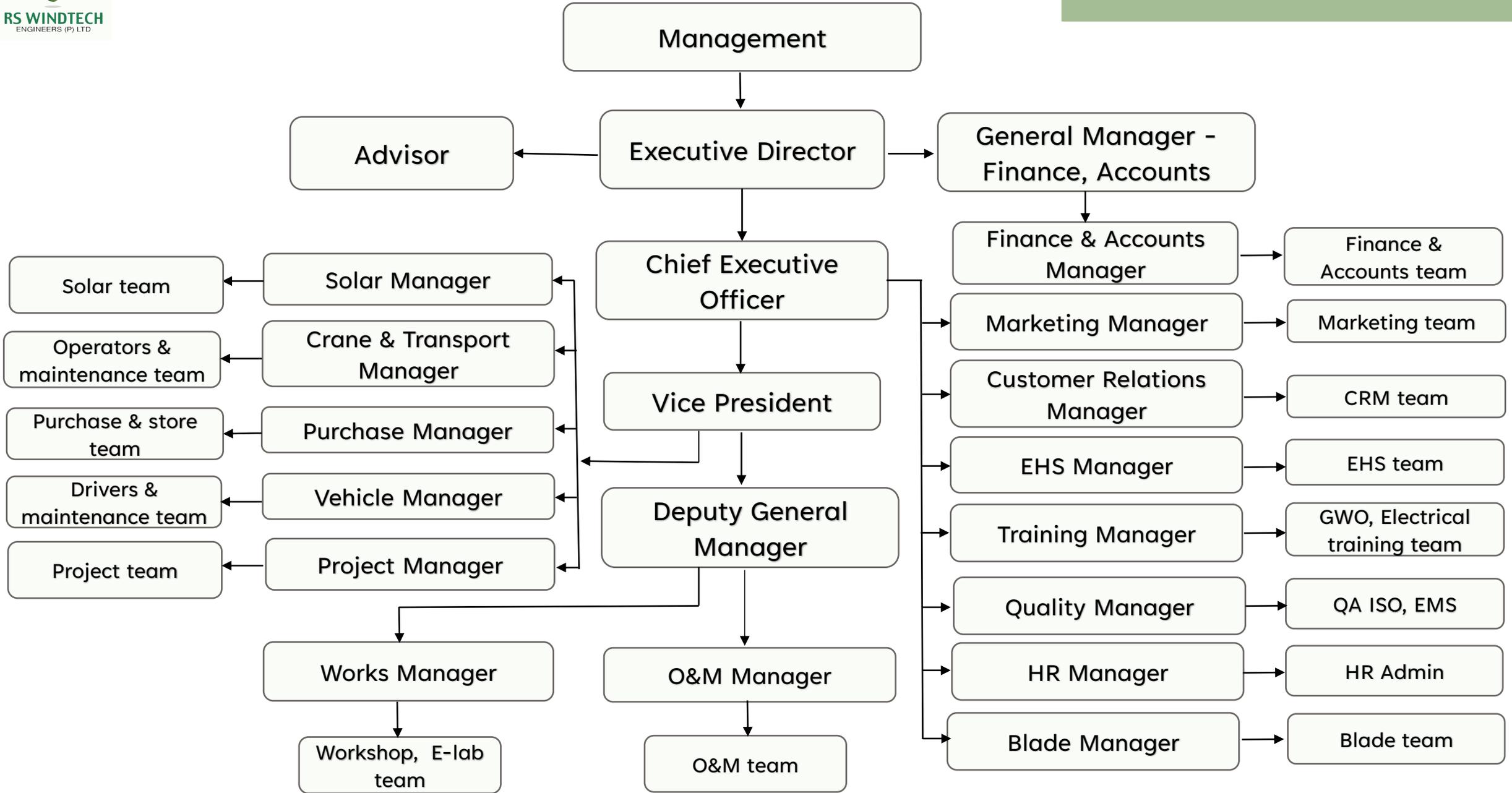
## Mission

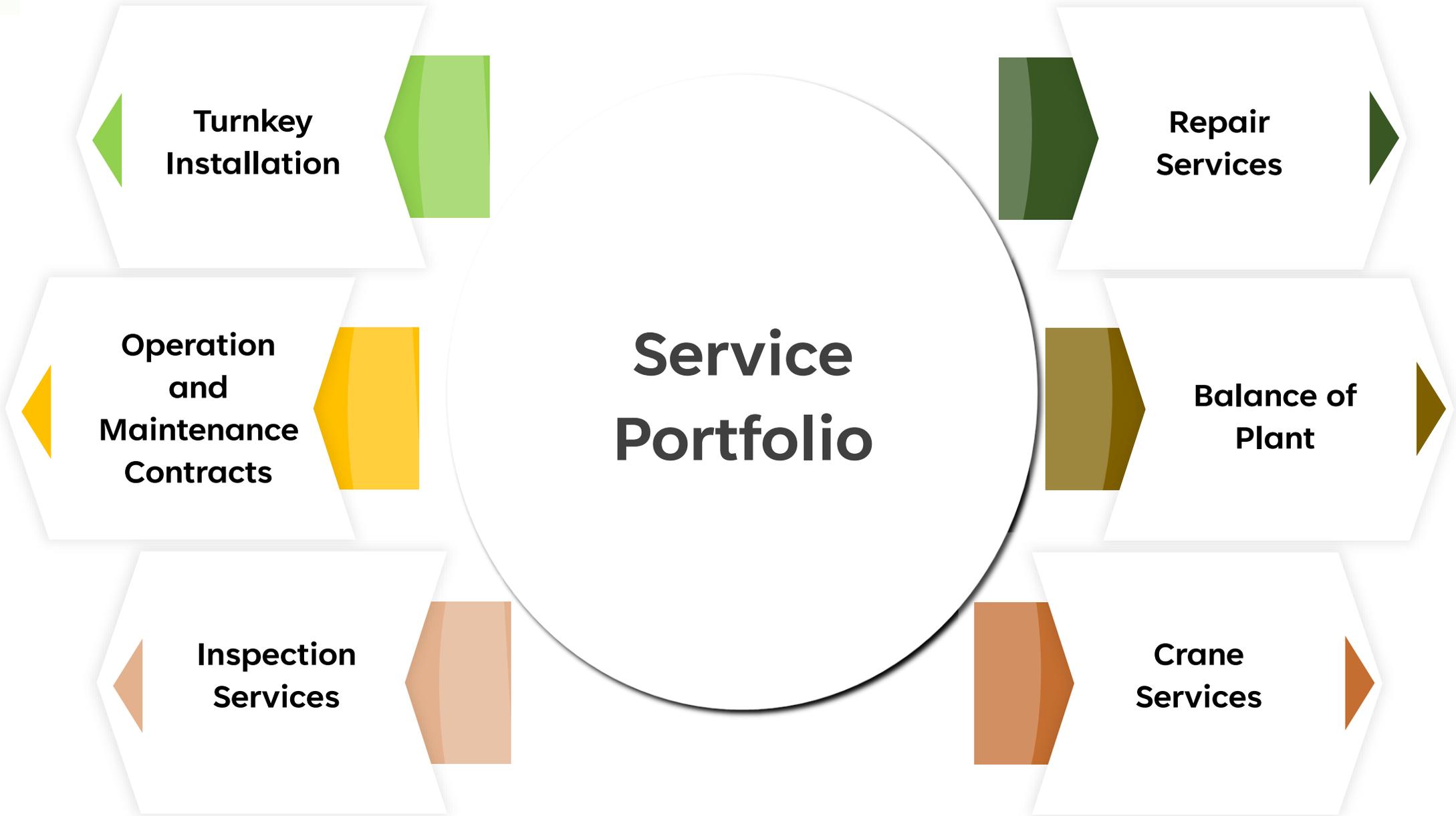
Be a single window service provider in wind

Offer value added solutions to customer requirements in installation, Commissioning & Power transmission

Maintain process edge in every service rendered

Ensure embedded safety in all the workflow process





# Certifications



## MANAGEMENT SYSTEM CERTIFICATE

Certificate no.: 140845-2013-AQ-IND-RvA Initial certification date: 17 August 2004 Valid: 16 August 2022 – 15 August 2025

This is to certify that the management system of  
**RS Windtech Engineers Private Limited**  
 Registered Office : 8/126-E3, Main Road, Aralvoimozhy, Kanyakumari District - 629301, Tamil Nadu, India  
 and the sites as mentioned in the appendix accompanying this certificate

has been found to conform to the Quality Management System standard:  
**ISO 9001:2015**

This certificate is valid for the following scope:  
**Provision of services like installation, commissioning, operation, maintenance, repair services and sale of spares for wind turbine generators**

Place and date:  
 Chennai, 27 July 2022

For the issuing office:  
 DNV - Business Assurance  
 RCMA, No. 10, GST Road, Alandur, Chennai - 600 016, India




Sivadasan Madiyath  
 Management Representative

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.  
 ACCREDITED UNIT: DNV Business Assurance B.V., Zwolseweg 1, 2994 LB, Barendrecht, Netherlands - TEL: +31(0)102022689, www.dnv.com/assurance



## MANAGEMENT SYSTEM CERTIFICATE

Certificate no.: 10000478010-MSC-RvA-IND Initial certification date: 11 October 2007 Valid: 16 August 2022 – 15 August 2025

This is to certify that the management system of  
**RS Windtech Engineers Private Limited**  
 Registered Office : 8/126-E3, Main Road, Aralvoimozhy, Kanyakumari District - 629301, Tamil Nadu, India  
 and the sites as mentioned in the appendix accompanying this certificate

has been found to conform to the Occupational Health and Safety Management System standard:  
**ISO 45001:2018**

This certificate is valid for the following scope:  
**Provision of services like installation, commissioning, operation, maintenance, repair services and sale of spares for wind turbine generators**

Place and date:  
 Barendrecht, 27 July 2022

For the issuing office:  
 DNV - Business Assurance  
 Zwolseweg 1, 2994 LB Barendrecht, Netherlands




Eric Kook  
 Management Representative

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.  
 ACCREDITED UNIT: DNV Business Assurance B.V., Zwolseweg 1, 2994 LB, Barendrecht, Netherlands - TEL: +31(0)102022689, www.dnv.com/assurance

# Certifications



## CERTIFICATE OF REGISTRATION

This is to certify that the management system of:

### RS Windtech Engineers Private Limited

has been registered by Intertek as conforming to the requirements of:

### ISO 14001:2015

**Scope of the certification:**  
Provision of Services like Installation, Commissioning, Operation, Maintenance, Repair Services, Crane Services and Supply of Spares for Wind Turbine Generators.

The certification covers:

Central Function: Main Site: Head Office: 8/126 E3, Main Road, Aralvoimozhy-629301, Kanyakumari District, Tamil Nadu, India  
Provision of Services like Installation, Commissioning, Operation, Maintenance, Repair Services, Crane Services and Supply of Spares for Wind Turbine Generators.

RS Windtech Engineers Private Limited: Branch Office: 1/13A, Bathrakaliputhoor, Gudimangalam - 642201, Madathukulam, Taluk, Tirupur District, Tamil Nadu, India  
Provision of Services like Installation, Commissioning, Operation, Maintenance, Repair Services, Crane Services and Supply of Spares for Wind Turbine Generators.

**Certificate Number:**  
091502001

**Initial Certification Date:**  
03 April 2018

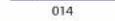
**Date of Certification Decision:**  
11 February 2024

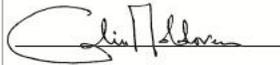
**Issuing Date:**  
13 February 2024

**Valid Until:**  
14 February 2027









**Calin Moldovean**  
President, Business Assurance

Intertek Certification Limited,  
10A Victory Park, Victory Road,  
Derby DE24 6ZF



Intertek Certification Limited is a UKAS accredited body under schedule of accreditation no. 014.

In the issuance of this certificate, Intertek assumes no liability to any party other than to the Client, and then only in accordance with the agreed upon Certification Agreement. This certificate's validity is subject to the organisation maintaining their system in accordance with Intertek's requirements for systems certification. Validity may be confirmed via email at certificate.validation@intertek.com or by scanning the code to the right with a smartphone.

The certificate remains the property of Intertek, to whom it must be returned upon request.

## RS WINDTECH ENGINEERS P. LTD

### INTEGRATED POLICY

(Quality, Environment and Occupational health and safety )

**DOC NO :** TM01  
**ISSUE DATE:** 21/05/2009

**REVIEW NO :** 002  
**REVIEW DATE:** 10.04.2021

We at RS Windtech Engineers Pvt. Ltd. are committed to be a preferred Service partner for Installation and Operations& Maintenance of Wind Turbine Generators through a value system that balances Sustainability, Quality ,Environment and Occupational Health & Safety

All our processes will concurrently focus on and commit to:

- Providing Best Quality Services to our Customers in line with their Needs and Expectations
- Comply to Legal and other applicable requirements
- Environmental protection and Pollution prevention
- Conservation of Resources
- Contribute to promote and maintain Renewable Energy Generation
- Encourage Employee, Customers, Suppliers to contribute to Green business practices
- Provide safe and healthy working conditions to Prevent work related Injury and ill health
- Eliminate Hazards and reduce OH&S risks using Hierarchy of Controls
- Encourage consultation and participation of work force in key activities of EHS systems motivation, training and involvement of Human resources for achieving continual improvement in Quality , Environment and Safety performance
- Ensure availability of information and resources to achieve Objectives and Targets

**R.S Windtech**  
Shall ensure a performance friendly organization to continually improve the performance of Quality, Environment, Health & Safety Processes.

**Managing Director**

**Qualification for  
doing Installations  
for European OEMs  
& Customers**



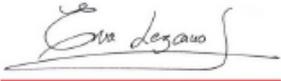
# Certificate of Membership

This is to certify that

**RS WINDTECH ENGINEERS PRIVATE LIMITED**

are now fully registered as a supplier on Achilles  
Repro.

AchillesID: 00081716  
Expiration Date: 10 July 2025

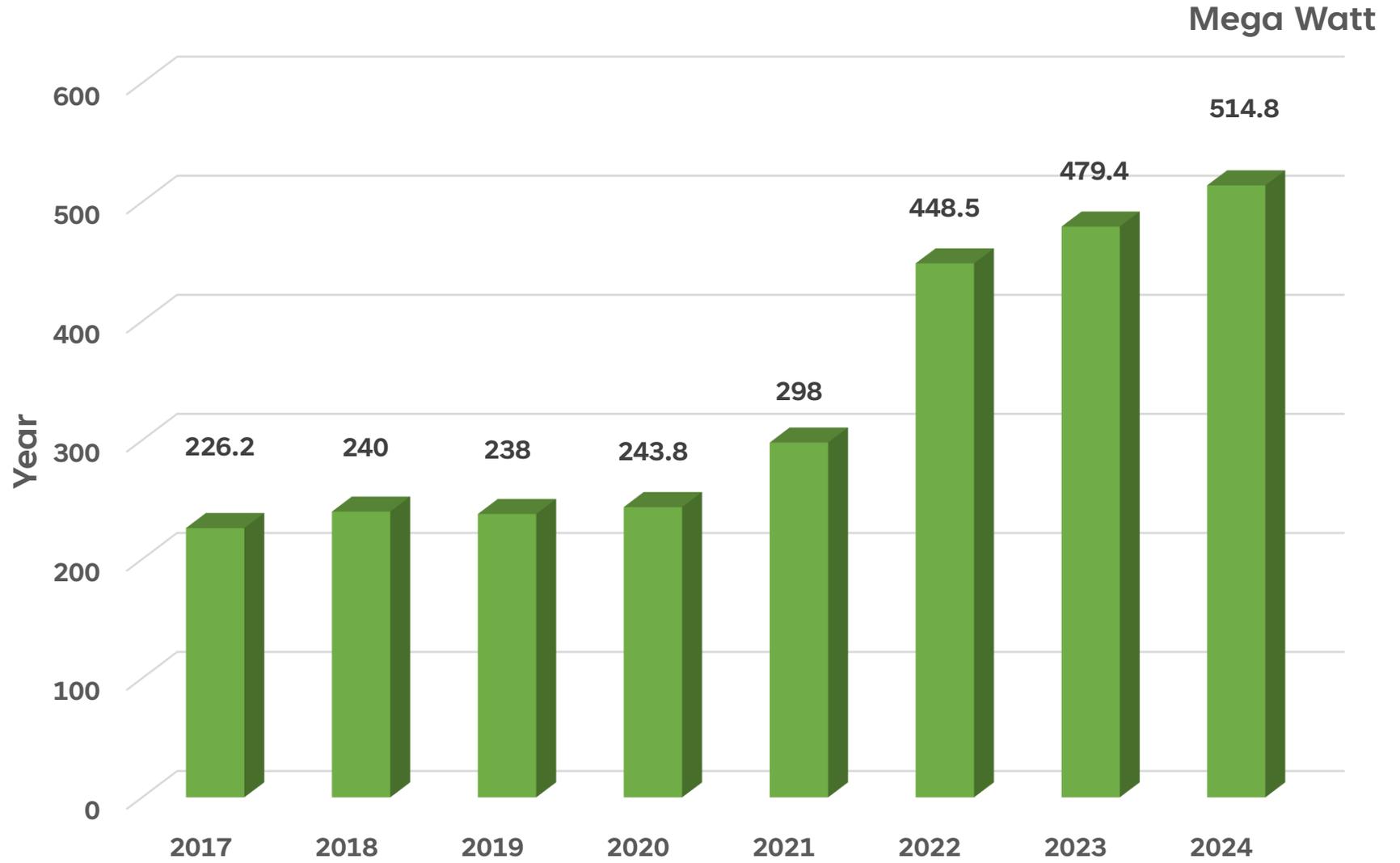


Eva Lezcano  
Directora Regional SEU Achilles



Francesc Pujol  
Presidente Comité Repro Achilles

# Project overview



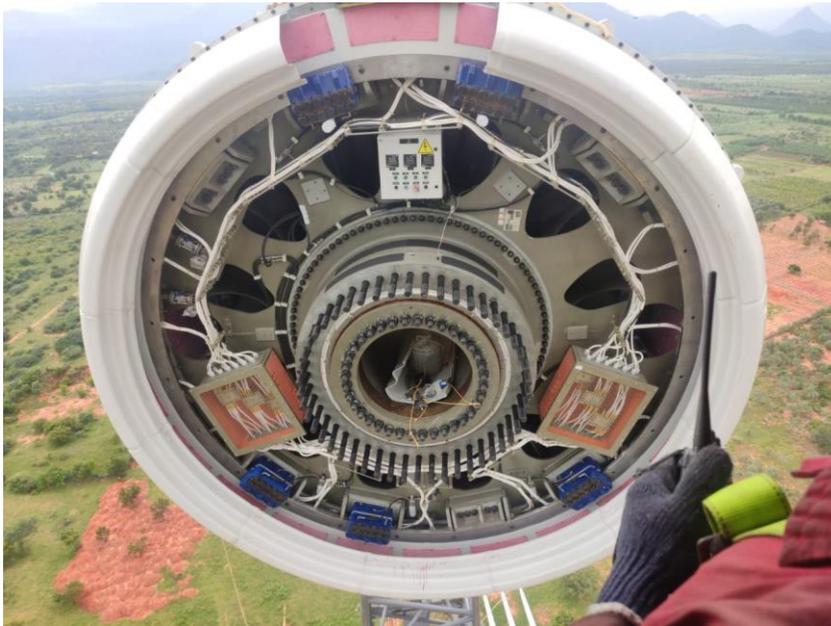
## Ongoing Projects

JSW-GE	27 turbines 2.7MW ( 24 GE turbines, 3 Senvion turbines) in Ettaiyapuram, Tamilnadu
JSW-ENVISION	50 Turbines (3.3MW) in Sandur, Karnataka
JSW- GE	5 Turbines (2.7MW) in Sandur, Karnataka
JSW-SANY	26 (4MW) in in Ettaiyapuram, Tamilnadu
AYANA- ENVISION	44 Turbines (3.3MW), Gujarat
NSL-ENVISION	12 Turbines (3.3MW) in Andhra Pradesh
SEMBCORP - ENVISION	6 Turbines (3.3MW) in Tuticorin, Tamilnadu
POWERWIND	10 Turbines (900KW) in Kayathar, Tamilnadu

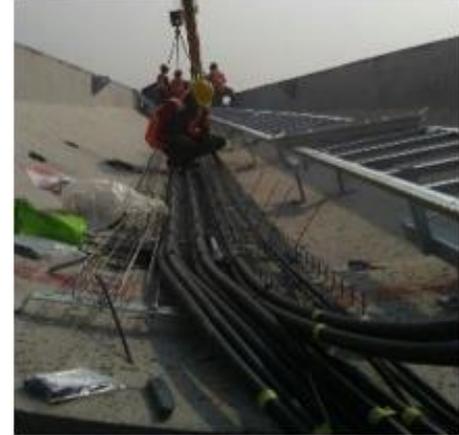
# SANY - 4MW Installation



# WEG – 4.2MW Installation



## Acciona -3MW Pre-installation



# Acciona -3MW installation





## Unmatched Operation & Maintenance Expertise

RS Windtech has extensive experience in operation & maintenance which include trained technicians with tools and special jigs and necessary crane packages for replacing gear boxes, blades & transportation of major turbine components to our workshop facilities for repairing works. We have our own trailers for transportation and excellent partner tie-up outside TN.”

# Training



**RS WINDTECH ENGINEERS PRIVATE LIMITED**



NO: 8/126 - E3 MAIN ROAD, ARALVOIMOZHI – 629 301, KANYAKUMARI DISTRICT  
TAMIL NADU, INDIA.

*Bureau Veritas Industrial Services (India) Pvt. Ltd. certify that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the Global Wind Organisation Standard detailed below*

*Standard*

**GWO REQUIREMENTS FOR TRAINING PROVIDERS:  
VERSION 13.0, MAY 2023**

*Scope of certification*

1. PROVIDING BASIC SAFETY TRAINING AND BASIC SAFETY TRAINING REFRESHER IN FIRST AID, MANUAL HANDLING, WORKING AT HEIGHTS AND FIRE AWARENESS MODULES AT FIXED TRAINING FACILITY AND MOBILE TRAINING FACILITY
2. PROVIDING BASIC SAFETY PARTIAL REFRESHER TRAINING IN FIRST AID, MANUAL HANDLING, WORKING AT HEIGHTS AND FIRE AWARENESS MODULES THROUGH DIGITAL LEARNING FACILITY
3. PROVIDING BASIC TECHNICAL TRAINING IN MECHANICAL, ELECTRICAL, HYDRAULICS, INSTALLATION AND BOLT TENSIONING MODULES AT FIXED TRAINING FACILITY
4. PROVIDING ADVANCED RESCUE TRAINING (ART) AND ADVANCED RESCUE TRAINING REFRESHER (ARTR) AT FIXED TRAINING FACILITY
5. PROVIDING ENHANCED FIRST AID TRAINING AND ENHANCED FIRST AID REFRESHER TRAINING AT FIXED TRAINING FACILITY AND MOBILE TRAINING FACILITY
6. PROVIDING SLINGER SIGNALLER TRAINING AT FIXED TRAINING FACILITY
7. PROVIDING LIFT USER TRAINING AT ONSITE TRAINING FACILITY

Original cycle start date: 03 November 2018  
Expiry date of previous cycle: 13 October 2023  
Recertification Audit date: 30 August 2023  
Recertification cycle start date: 13 October 2023

Subject to the continued satisfactory operation of the organisation's Management System, this certificate is valid until: 13 October 2025

Certificate No. IND.23,454/BA-GWO Version: 2 Issue date: 08 November 2023

  
Certification Authority  
Jagdheesh N. MANIAN  
Director – CERTIFICATION, South Asia  
Commodities, Industry & Facilities Division



Certification Body Address: Oldenborggade 1B, 7000 Fredericia, Denmark.

Local Office : Bureau Veritas Industrial Services (India) Pvt. Ltd.  
72 Business Park, Marol Industrial Area, MIDC Cross Road "C",  
Andheri (East), Mumbai – 400 093, India.

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation.  
To check this certificate validity please call +91 22 6274 2000. OR E-mail: [cert.india@bureauveritas.com](mailto:cert.india@bureauveritas.com)

# Training Provider Global Wind Organization

First ISP in the country to be certified by GWO as their training provider

Provided trainings to OEMs and service providers in Basic safety training (BST), Basic technical training ( BTT) , Advanced rescue training (ART).

Nordex, Envision, Suzlon, Senvion, EWT, Sprng Energy , Avanti, UE System, OnSight Analytics, Windcare, SGS, Hydac, Shethia, Usha Fire & Safety, Bureau Veritas, FEPL, Everrenew, Sembcorp and others.

650 MT Crawler crane of Sany with 156 meters fly jib.

400 MT Crawler crane of Liebherr LR 1400 with 112 meters luffing boom.

400 MT Crawler crane of Liebherr LR 1400/2 with 102 meters fly jib.

330 MT Demag HC-810 hydraulic mobile tyre mounted telescopic crane with 106 meters luffing boom.

160 MT Krupp hydraulic mobile tyre mounted telescopic crane with 83 meters fly jib & luffing boom.

160 MT Liebherr hydraulic telescopic crane with 65 meters fly jib.

100 MT SCM, SA-4100 Hydraulic mobile tyre mounted telescopic crane with 48 meters boom.

65 MT P&H, T-650 Hydraulic mobile tyre mounted telescopic crane with 42 meters boom.

15 MT Farana hydra with 12 meters boom.

12 MT Farana hydra with 12 meters boom.

12 MT Hydra cranes with 11 meters boom.

**The only 650ton Crane in South India, Owned & Operating by RS Windtech.**





## 400T Cranes



# Stores - Aralvoimozhi



# Stores - Aralvoimozhi



# Stores - Udumalpet



## In-stock Main Components 1650KW



**Gearboxes, Generators, Couplings & Yaw gear units**

## In-stock Main Components –1650KW



**Transformer**

## RS Windtech turbines

- **NM48/Vestas 750KW – 2 No's**
- **NM82/Vestas 1650 KW – 4 No's**



# Tools & tackles



# Special Tools & Equipment

Laser Alignment tools – Easy laser for generator alignment and Hilti laser for concrete tower alignment

Tensioning pumps - SGI Galea , ITH pump & Boltight make with maximum 750 PSI

M30, M36, M42, M48 single & multistage tensioners.

Hydraulic pumps.

Electronic torque wrenches of EF250 Plus, EF 400, HG 20, HG 30 of Alkitronic make.

Torque guns ranging between 3 MXT to 12 MXT of Hytorc, Titan & Tristar make.

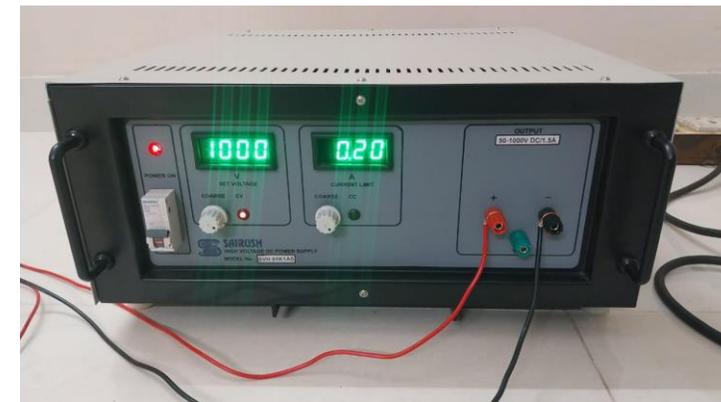
Torque multipliers of Norwolf make.

Power Ascender kit.



# Electronics Laboratory

- We undertake TAC and TOI boards of NEG Micon 750KW , 950KW, 1650 KW of other capacity turbines.
- Well equipped electronic laboratory for servicing all types of control boards and instruments.
- Facility to conduct trigger test to check healthiness of PCBs and SCR's in the presence of customer.
- We maintain reserve stock of PCBs and essential spares to reduce downtime of turbines.





## Lifting Jigs NM82/1650KW





# Rotor Lock NM82/1650KW



# Rotor Stand NM82/1650KW





# Main Shaft Lock NM82/1650KW



# Pitch Accumulator Recharging Kit



# Own equipment - Transformer Oil Filtration



# Transformer Replacement work



# Up tower - Generator Bearing Replacement



# Generator De-Erection



# Replacement of Gearbox Suspension



# Replacement of Generator Coupling



# Repairing of Yaw Gear Drive



# Blade Bearing

Removal and Replacement of defective bolts



# Hydraulic parts



Replacement of Yaw caliper seals

# Hydraulic parts



Replacement of RTU

# Hydraulic parts



Pitch Actuator seal replacement

# Hydraulic part



Repair / Replacement of Proportional Valve

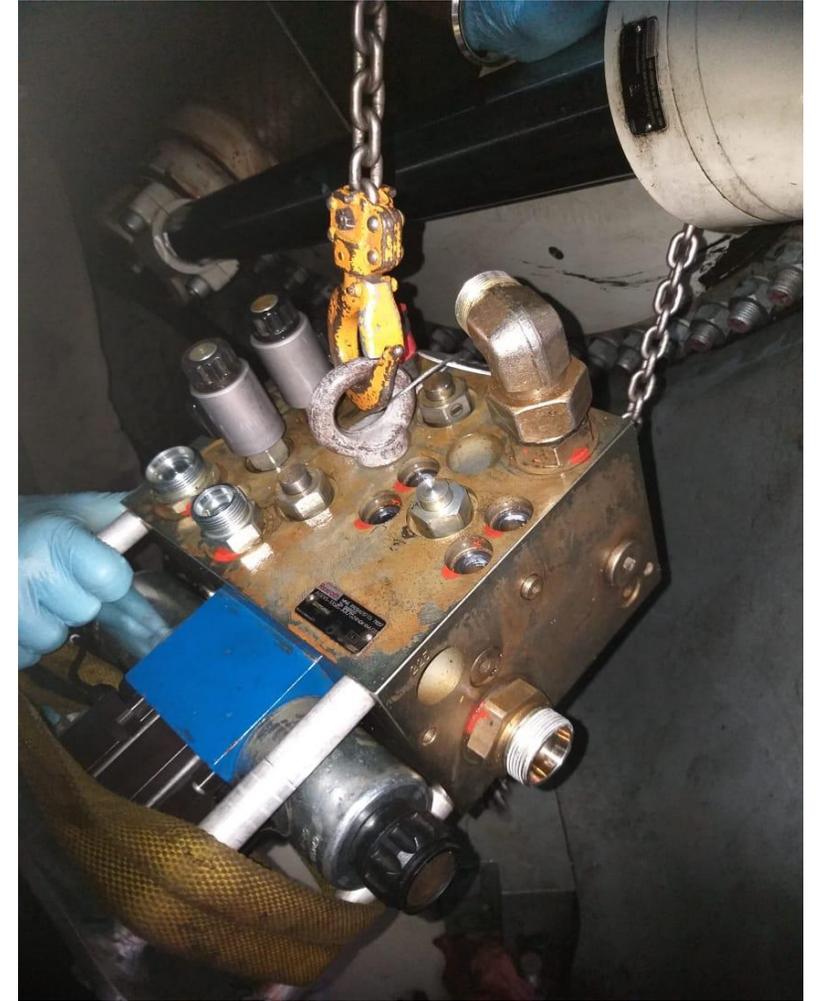


# Hydraulic part



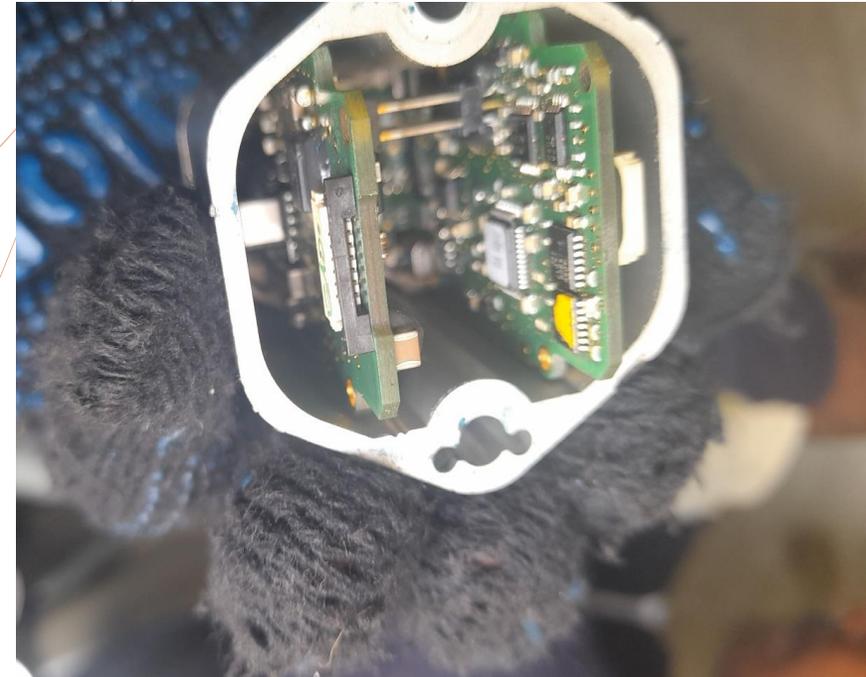
Replacement of Accumulator Bladder

# Hydraulic parts



Troubleshooting of Hydraulic pump & Manifold

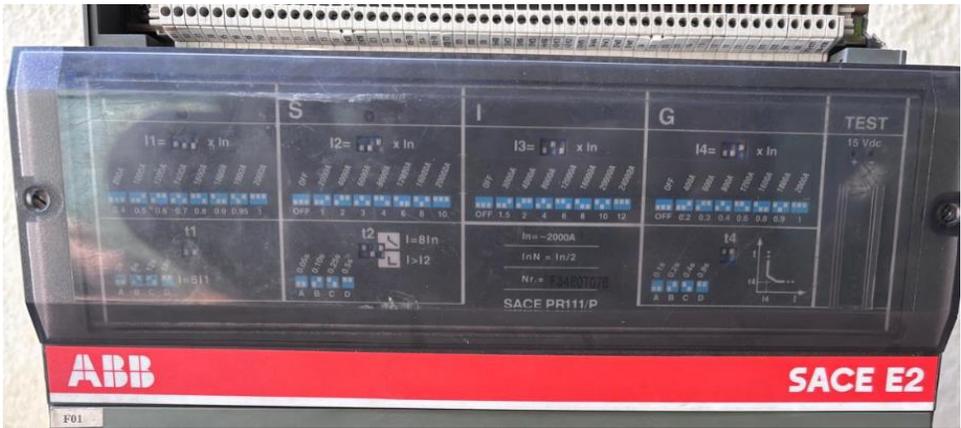
# Hydraulic parts



Replacement of Balluff Transducer

# Retrofit of ABB Air Circuit Breaker

ABB Obsolete model PR111/P



Upgraded Model PR121/P

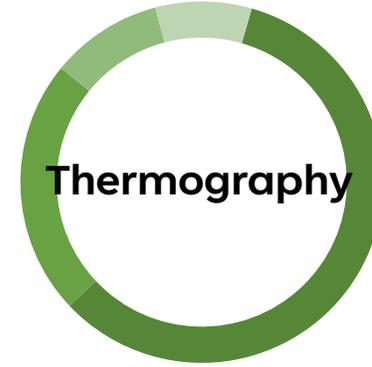
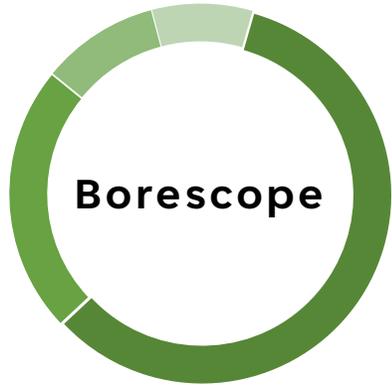


# Blade Stud Replacement

On-tower blade bearing stud replacement work to avoid blade failures.



# PREVENTIVE MAINTENANCE



	<b>BORESCOPIIC INSPECTION REPORT</b>	Report No. : RSW/BI/2019/WTG No:07
		Date : 18 <sup>th</sup> June 2019
		Sheet : 01 of 09
Project :	Inspection of NEG Wind Turbine Gear Box.	
Client :	Energy	GE XL LV SI No:1709A0123
Tag No/Description :	WTG No:07 (Wind Turbine)	Gear Box No. : 00/10 FA 284832
Ass :		Reference drawing : Not Available

**1. INTRODUCTION**

Inspection was carried out for WTG No: 07 (NEG Wind Turbine) Planetary/Helical Gear Boxes on 18<sup>th</sup> June 2019. Due to the abnormal noise observed in Wind Turbine, it was anticipated some damage in the gearbox internals.

To find the root cause of the abnormal noise, inspection was carried out on both planetary and helical gear stages by opening the inspection cover. Gearbox inspection window was opened and offered for inspection and visual inspection. Gears and accessible parts of the gearbox was inspected using GE XL LV borescope equipment with 6.1 mm dia scope tip and 6m length.

This wind turbine is in service since the year of 2002, and no maintenance/inspection history was available at the time of inspection.

**2. PHOTO (GENERAL VIEW)**



Photo #1

Name Plate:



Photo #2

**3. GENERAL OBSERVATION(S)**

Planetary gear box

Inspection window was opened in order to perform the visual inspection and borescope inspection. Inspection was performed for the accessible portion of ring gear and planetary gears. Mild abrasion was observed on the ring and planetary gears and no major abnormalities were noticed. The ring and planetary gear was found in satisfactory condition.

Helical gear box

Inspection cover was opened, visual inspection and borescope inspection was performed for LSS gear, IMS pinion, IMS gear, HSS pinion and Bearings of the IMS Pinion. LSS and IMS Gear bearings were not accessible for borescope inspection. Inspection was performed for the accessible portion of all the gears and bearings of helical stage. Heavy Scuffing and mild abrasion was observed on the LSS gear and IMS pinion, whereas heavy abrasion was observed on IMS Gear and HSS Pinion. The cause of noise can be due to scuffing damage on the gears.

**INSPECTION SUMMARY**

S No.	Image Number	Location	Observation	Result
1	Photo #03 - 04	Ring Gear	Mild abrasion on face and flank.	Satisfactory
2	Photo #05 - 06	Planet Gear 1	Mild abrasion on face and flank.	Satisfactory
3	Photo #07 - 08	Planet Gear 2	Mild abrasion on face and flank.	Satisfactory
4	Photo #09 - 10	Planet Gear 3	Mild abrasion on face and flank.	Satisfactory
5	Photo #11 - 16	LSS Gear	Heavy Scuffing on flank and mild abrasion on face.	Not Satisfactory
6	Photo #17 - 22	IMS Pinion	Heavy Scuffing on face and mild abrasion on flank.	Not Satisfactory
7	Photo #23 - 26	IMS Pinion Bearing	Mild wear marks on rolling elements.	Satisfactory
8	Photo #27 - 32	IMS Gear	Heavy Abrasion and scoring marks	Satisfactory
9	Photo #33 - 37	HSS Pinion	Heavy abrasion on face and flank.	Satisfactory

**5. CONCLUSION**

Based on the above observations, significant abrasions and scuffing on LSS Gear and IMS Pinion suggests this gear box train in unsatisfactory condition and not fit for continuous service under standard operating conditions.

**6. RECOMMENDATION(S)**

- Replace LSS gear and IMS pinion as OEM recommended.

	Name	Designation	Date	Signature
Inspected By		Condition Monitoring Engineer	18.06.2019	
Approved By		DGM	25.06.2019	

# Borescope

On tower Borescope inspection for assessing the healthiness of gearbox, generator and main bearing.

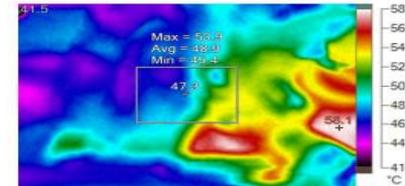


# Thermography

Thermography is used to detect abnormalities in gearbox, generator, printed circuit boards, panels, which helps to prevent damages and generation loss.

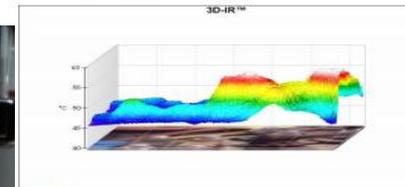
RS WINDTECH ENGINEERS PRIVATE LIMITED  
 (ISO 9001 : 2008 & OHSAS 18001: 2007 Certified Company)  
 E-mail : rawe@rswindtech.com, Web : www.rswindtech.com

Wind Turbine Location 06



Visible Light Image

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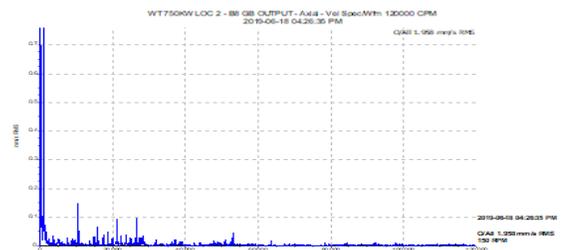


Graph

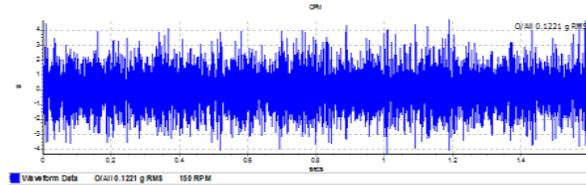
Image Info	
Background temperature	22.5 °C
Emissivity	0.95
Transmission	1.00
Average Temperature	49.0 °C
Image Range	41.5 °C to 58.1 °C
Camera Model	T125
IR Sensor Size	160 x 120
Camera serial number	11110020
OCA Version	1.3.8
Camera Manufacturer	Fluke Thermography
Lens description	20mm
File Location	C:\Users\CM Sales2\Desktop\suman images\IR000751.IS2
Calibration Range	-25.0 °C to 125.0 °C



Gearbox Output Shaft NDE Horizontal velocity spectrum:



Gearbox Output Shaft NDE Time Waveform:



Generator

Gearbox

Main Bearing

Yawing system

Tower



# Vibration Analysis

# Oil Analysis

We have in house facility and tie-up with major laboratory to check the condition of oil in turbines, based on the analysis report oil replacement /filtration is planned and carried out.



**Wind Turbine Oil Analysis Report**

16-B Komakuti Nagar Main Road, Pulikessari, Chennai 600100  
 India  
 Tel: +91 44 45573039  
 Fax: +91 44 45573119

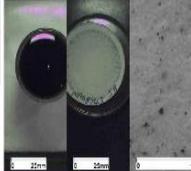
R.S. WIND TECH  
KANYAKUMARI

Sample Number: **NA48743**

Nacelle ID : WDG\_NGR      Code : 5MTNTN  
 Serial No :                      Job No :  
 Alt Id :                              Location : DAVERRVLLAM  
 Description: NRG MITCON      Oil : MORTL XMP 320  
 Component : GEARBOX          Queries : Please Contact The Diagnostic Department  
 Model : JAKE MW48

**Diagnosis**      **Current Sample**

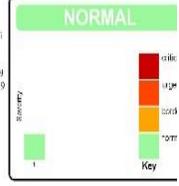
1.) s/n:NA48743 on 03/01/2019 SMR:43121HRS  
 Aluminium wear rats are high. A microscopic particle examination of particles filtered from the oil revealed no abnormal contamination. Check for abnormal noise and vibration. Check correct oil level is being maintained. Particle count critical. Recommend filtering the oil to remove contaminants. Please return feedback.



**Diagnosis**      **Previous History**      **Feedback**

**SEVERITY**

**NORMAL**



1

**Wear Metals**      **Special Tests**

Sample Number	Date Sampled	Date Received	Date Reported	Oil Consumption	SMR	UNITS	Oil In Service	Filter Changed	Oil Drained	Oil Brand And Grade
1 NA48743	03/01/2019	10/01/2019	11/01/2019	-	43121	HRS	0	Yes	Yes	MOBL XMP 320

Sample Iron Chromium Cobalt Aluminum Copper Tin Lead PQL Index Biometh

1 13 0 0 23 2 0 0 0 47 0

A full spectrometric analysis is carried out on all samples but only relevant results are reported in partition

**Contaminants**      **Particle Count / ml**

Sample	Silicon	Sodium	Sulfur	Nitrogen	Water	Moisture	Acid	Friction	4 micron	6 micron	14 micron	20 micron	35 micron	100 micron	Count/ml		
1	6	2	14	19	2	161			22366	31161	1662	501	227	8	1	0	23/2/16

A full spectrometric analysis is carried out on all samples but only relevant results are reported in partition

**Additives & Lubricant Condition**      **Viscosity**

Sample	Magnesium	Calcium	Antioxidant	Zinc	Phosphorus	Sulfur	Total Acid	Water	Moisture	FTIR	Viscosity in cSt@40 °C	Viscosity in cSt@100 °C	Viscosity Index
1	0	28	875	1416	2198	0	6080	3.23	5.7		304.0	28.2	130

Viscosity in cSt@40 °C

Viscosity in cSt@100 °C

Viscosity Index

No Values To Plot Graph

A full spectrometric analysis is carried out on all samples but only relevant results are reported in partition

**Graphical Representation Of Key Data**

**Oil In Service**      **Iron**

No Values To Plot Graph

No Values To Plot Graph

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WearCheck India is An NABL ISO/IEC 17025 Accredited Laboratory

P.T.O.

## Ultrasonic Test

We perform UT inspection from hub side and inside nacelle of main shaft, blade bearing by using probe of 45 degree and zero degree. The 45 degree probe is used for main shaft plumber block area. We can scan up to 8 meters length main shaft.



# Blade Repair & Maintenance

## Our Services

### Inspections

- Blade Inspection and Assessment
- Specialized Blade Monitoring System
- Preventive Blade Maintenance

### Blade Repair Services

Comprehensive solutions across five categories

- LE 3MM Wind Protection Tape 2.0 Application
- Inspection of the Aerodynamic Add-On
- Blade Cleaning
- Polytech ELLE Leading Edge Protection
- Blade Root Inserts Issue - Upgrades and Modifications

# Blade Repair & Maintenance

Repair  
Services



We have in house blade repair and maintenance team to repair all makes and capacity blades. We source raw materials from the same source as OEMs.

For blade inspection, we utilize sky lift.

# Blade Root End Span Wise Crack Repair

Repair  
Services



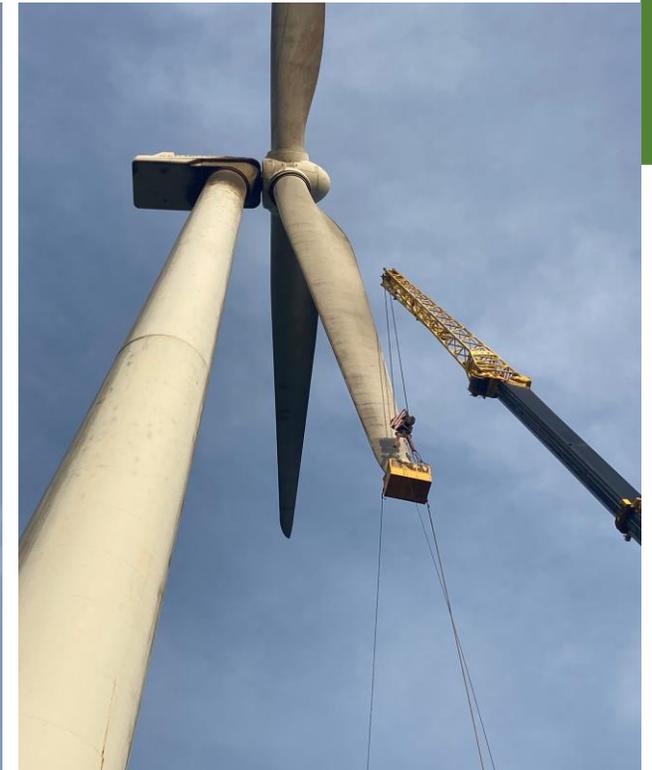
# Lightning Damage Repair

**Repair  
Services**



# Up-tower Blade Repair

**Repair  
Services**



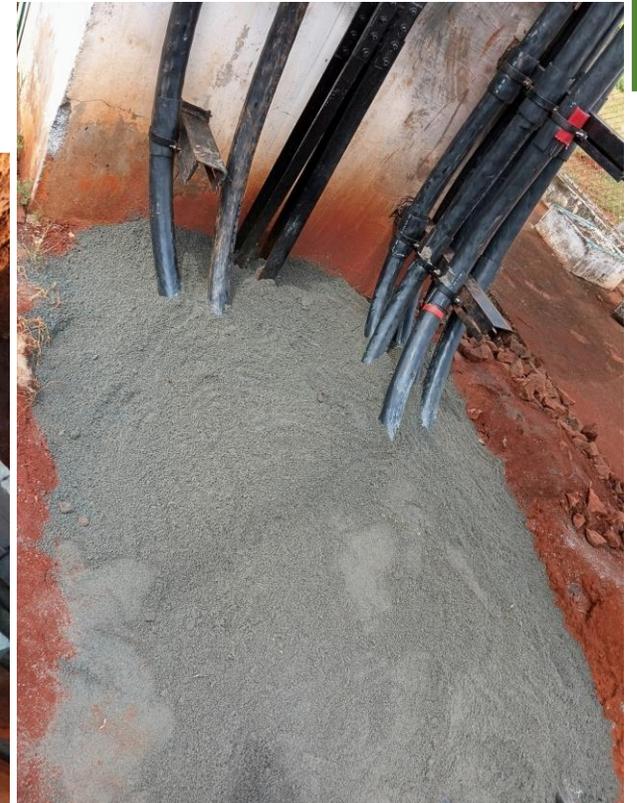
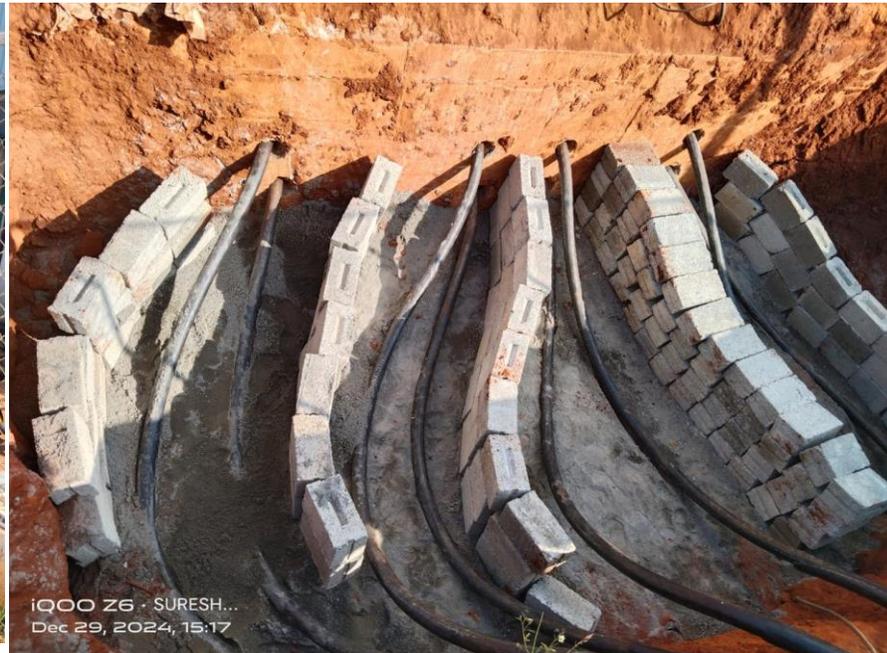
# On-tower Nacelle cover and collar repairing



# Blade Root Repairing

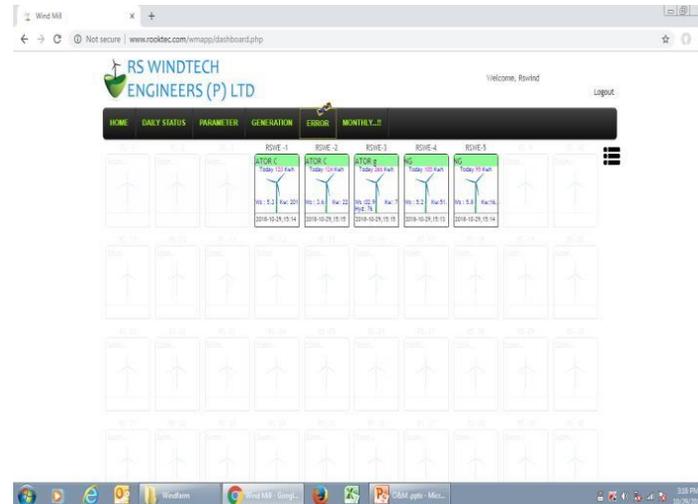
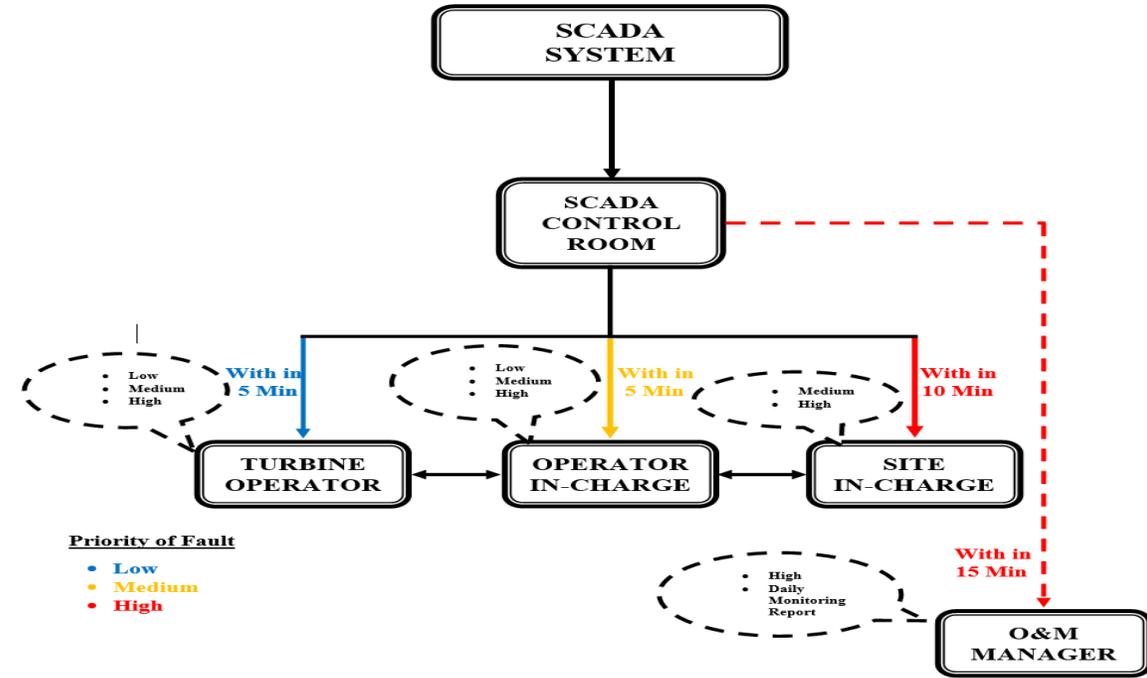
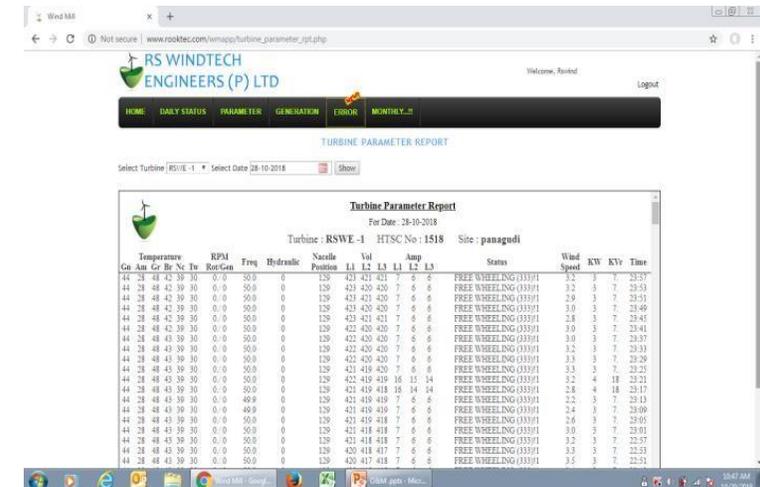


# UG Cable Replacement



# SCADA

Customers can have access to our in-house SCADA system which will enable them to acquire details regarding the condition of their turbines and the generation. We have dedicated team for monitoring WTG using Scada 24/7

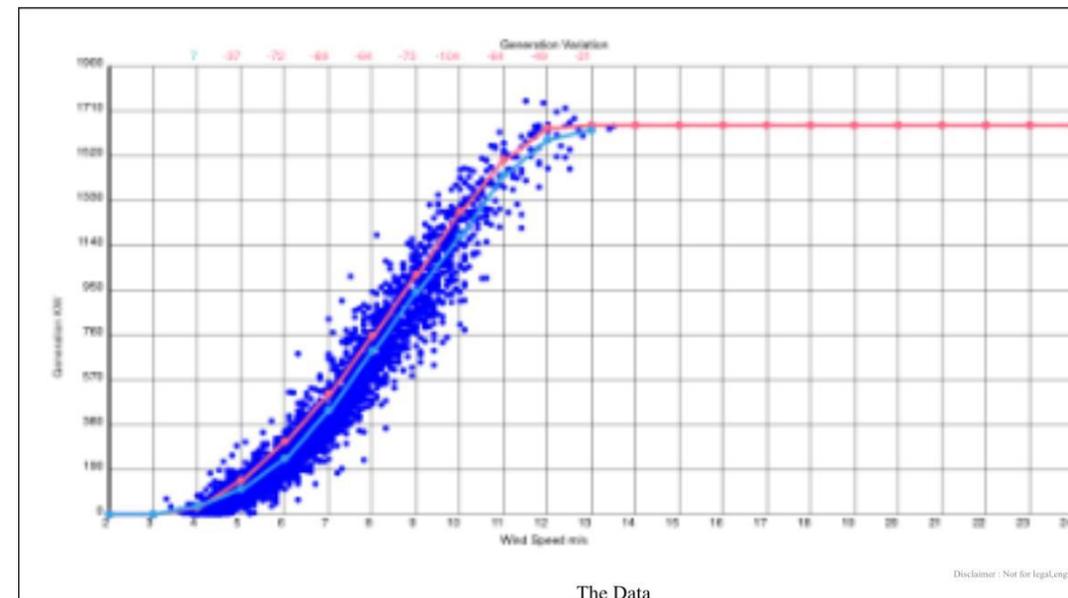



**Turbine Parameter Report**  
For Date: 28-10-2018  
Turbine: RSWE-1 HTSC No: 1518 Site: panagudi

Temperature	RPM	Freq	Hydraulic	Nacelle	Vol	Amp	Status	Wind	KW	KVh	Time						
Co	An	Co	Be	Nc	L1	L2	L3	L1	L2	L3							
44.28	48.42	39.30	0.0	50.0	0	129	431	421	7	6	6	FREE WHEELING (33391)	3.2	3	7	23:37	
44.28	48.42	39.30	0.0	50.0	0	129	431	420	7	6	6	FREE WHEELING (33391)	2.9	3	7	23:51	
44.28	48.42	39.30	0.0	50.0	0	129	431	420	7	6	6	FREE WHEELING (33391)	3.0	3	7	23:49	
44.28	48.42	39.30	0.0	50.0	0	129	431	421	7	6	6	FREE WHEELING (33391)	2.8	3	7	23:45	
44.28	48.42	39.30	0.0	50.0	0	129	422	420	7	6	6	FREE WHEELING (33391)	3.0	3	7	23:41	
44.28	48.42	39.30	0.0	50.0	0	129	422	420	7	6	6	FREE WHEELING (33391)	3.0	3	7	23:37	
44.28	48.42	39.30	0.0	50.0	0	129	422	420	7	6	6	FREE WHEELING (33391)	3.2	3	7	23:33	
44.28	48.42	39.30	0.0	50.0	0	129	422	420	7	6	6	FREE WHEELING (33391)	3.3	3	7	23:29	
44.28	48.42	39.30	0.0	50.0	0	129	421	419	407	7	6	6	FREE WHEELING (33391)	3.3	3	7	23:25
44.28	48.42	39.30	0.0	50.0	0	129	422	419	416	31	14	FREE WHEELING (33391)	3.2	4	18	23:21	
44.28	48.42	39.30	0.0	50.0	0	129	421	419	418	16	14	FREE WHEELING (33391)	2.8	4	18	23:17	
44.28	48.42	39.30	0.0	49.9	0	129	421	419	419	7	6	6	FREE WHEELING (33391)	2.2	3	7	23:13
44.28	48.42	39.30	0.0	49.9	0	129	421	419	419	7	6	6	FREE WHEELING (33391)	2.4	3	7	23:09
44.28	48.42	39.30	0.0	50.0	0	129	421	419	418	7	6	6	FREE WHEELING (33391)	2.6	3	7	23:05
44.28	48.42	39.30	0.0	50.0	0	129	421	418	418	7	6	6	FREE WHEELING (33391)	3.0	3	7	23:01
44.28	48.42	39.30	0.0	50.0	0	129	421	418	418	7	6	6	FREE WHEELING (33391)	3.2	3	7	22:57
44.28	48.42	39.30	0.0	50.0	0	129	420	418	417	7	6	6	FREE WHEELING (33391)	3.3	3	7	22:53
44.28	48.42	39.30	0.0	50.0	0	129	420	417	418	7	6	6	FREE WHEELING (33391)	3.5	3	7	22:51

# SCADA

## Power Curve Analysis



### STEP B: Turbine Physical Inspection Checklist

1. Mechanical blade angle (zero setting) and rod end distance.
2. Re-calibration the pitch actuators.
3. Wind sensors alignment / wind vane alignment.
4. Dust deposition (FT sensor) /struck up bearing on windvane/anemometer
5. Accumulators pre-charge pressure
6. Voltage measurements
7. Capacitor healthiness in +AT3
8. Stall strips on blades.
9. Blade damages, lightning strikes and Dirty blades.

### 1650kw Machine Availability - Feb 2024 Jan 2025

Sl.no	Area	Location	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25
1	Aralvaimozhi	Ramco 01	96.38%	97.43%	97.98%	99.05%	98.49%	98.87%	98.22%	99.15%	94.81%	98.46%	86.77%	94.71%
2		Ramco 02	99.85%	99.09%	96.33%	99.99%	99.78%	99.72%	99.63%	99.47%	99.87%	99.97%	95.81%	97.56%
3		Ramco 03	100.00%	99.16%	98.27%	99.62%	98.89%	99.96%	97.81%	98.73%	99.97%	98.06%	95.95%	99.67%
4		Ramco 04	97.38%	98.72%	94.12%	99.39%	99.90%	99.65%	99.16%	99.26%	98.37%	99.17%	97.38%	98.56%
5		Ramco 05	99.91%	97.31%	97.94%	97.08%	97.00%	97.89%	99.69%	98.30%	98.61%	99.46%	97.50%	99.27%
6		Ramco 06	99.66%	97.56%	99.64%	97.68%	99.46%	99.48%	99.30%	99.50%	98.27%	97.33%	99.49%	99.61%
7		Ramco 07	99.07%	99.19%	98.25%	97.53%	99.36%	98.20%	99.26%	99.40%	98.65%	100.00%	100.00%	99.62%
8		Ramco 08	99.90%	98.90%	98.38%	99.72%	98.75%	99.93%	97.91%	99.23%	99.31%	99.38%	98.26%	98.34%
9		ABT01	99.38%	96.35%	97.67%	96.59%	94.32%	97.42%	98.35%	97.71%	99.88%	97.21%	99.00%	98.46%
10		ABT02	99.99%	98.50%	97.23%	99.87%	99.11%	99.68%	98.98%	99.59%	98.93%	97.83%	97.57%	99.35%
11		KTV01	99.44%	98.90%	96.72%	99.55%	97.52%	95.10%	99.05%	96.99%	94.93%	98.00%	95.80%	98.93%
12		KTV02	99.11%	98.30%	99.97%	99.85%	99.48%	97.04%	99.80%	98.59%	97.75%	96.30%	95.90%	99.48%
13		Cotton Blossom	99.95%	98.78%	99.73%	99.94%	99.46%	94.86%	100.00%	99.22%	96.49%	98.64%	94.15%	99.83%
14		Aadhav	97.94%	97.08%	97.00%	97.89%	99.66%	97.56%	99.64%	97.68%	99.46%	99.48%	99.30%	99.79%
15		Arun	99.64%	97.68%	99.46%	99.48%	99.07%	99.19%	98.25%	97.53%	99.36%	98.20%	99.26%	98.46%
16		Arvind 3	98.25%	97.53%	99.36%	98.20%	99.90%	98.90%	98.38%	99.72%	98.75%	99.93%	97.91%	96.00%
17		Arvind 4	98.38%	99.72%	98.75%	99.93%	97.94%	97.08%	97.00%	97.89%	97.53%	99.36%	98.20%	99.26%
18	Theni	T16	97.00%	97.89%	99.69%	98.30%	97.94%	97.68%	99.46%	99.48%	99.72%	98.75%	99.93%	97.91%
19	Surandai	Govindaraja	99.46%	99.48%	99.30%	99.50%	97.94%	97.53%	99.36%	98.20%	96.59%	94.32%	97.42%	98.35%
20	Udumalpet	PSR01	99.36%	98.20%	99.26%	99.40%	98.38%	99.72%	98.75%	99.93%	99.87%	99.11%	99.68%	98.98%
21		PSR02	98.75%	99.93%	97.91%	99.23%	99.44%	98.90%	96.72%	99.55%	99.55%	97.52%	95.60%	99.05%



# KAIZEN

# On Tower – Blade Cleaning & Inspection work

Blade cleaning by Rope Access method

Regular cleaning can prevent dirt accumulation, optimize aerodynamic performance, and enhance power generation.



1<sup>st</sup>  
Time in  
India



## Mobile Gear Oil Replacement & Filtration

To reduce turbine stoppage time for oil replacement, our specially built motorized gear oil replacement unit is developed in accordance with OEM requirements.

# On-site Main Shaft & Main Bearing Replacement

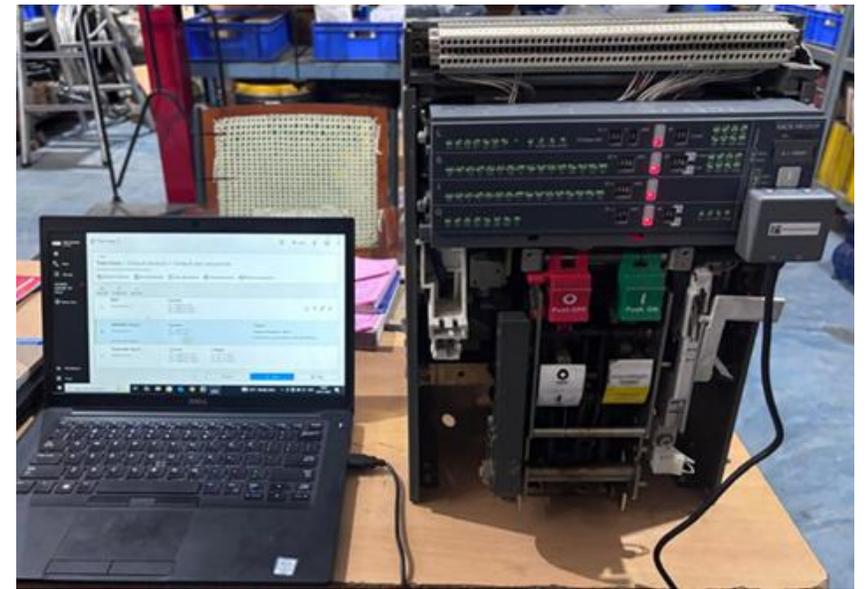
Our mobile service unit is frequently used at sites to reduce the transportation cost and downtime of turbines during major breakdowns like main bearing and main shaft failure.

1<sup>st</sup>  
Time in  
India

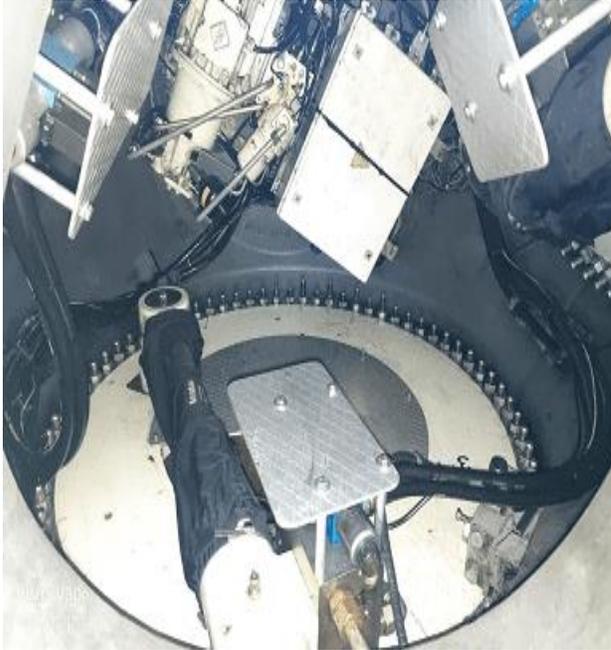


# USS Inspection & Maintenance

Annual electrical testing for safety, preventing failures, and ensuring system reliability. It helps maintain compliance while avoiding downtime



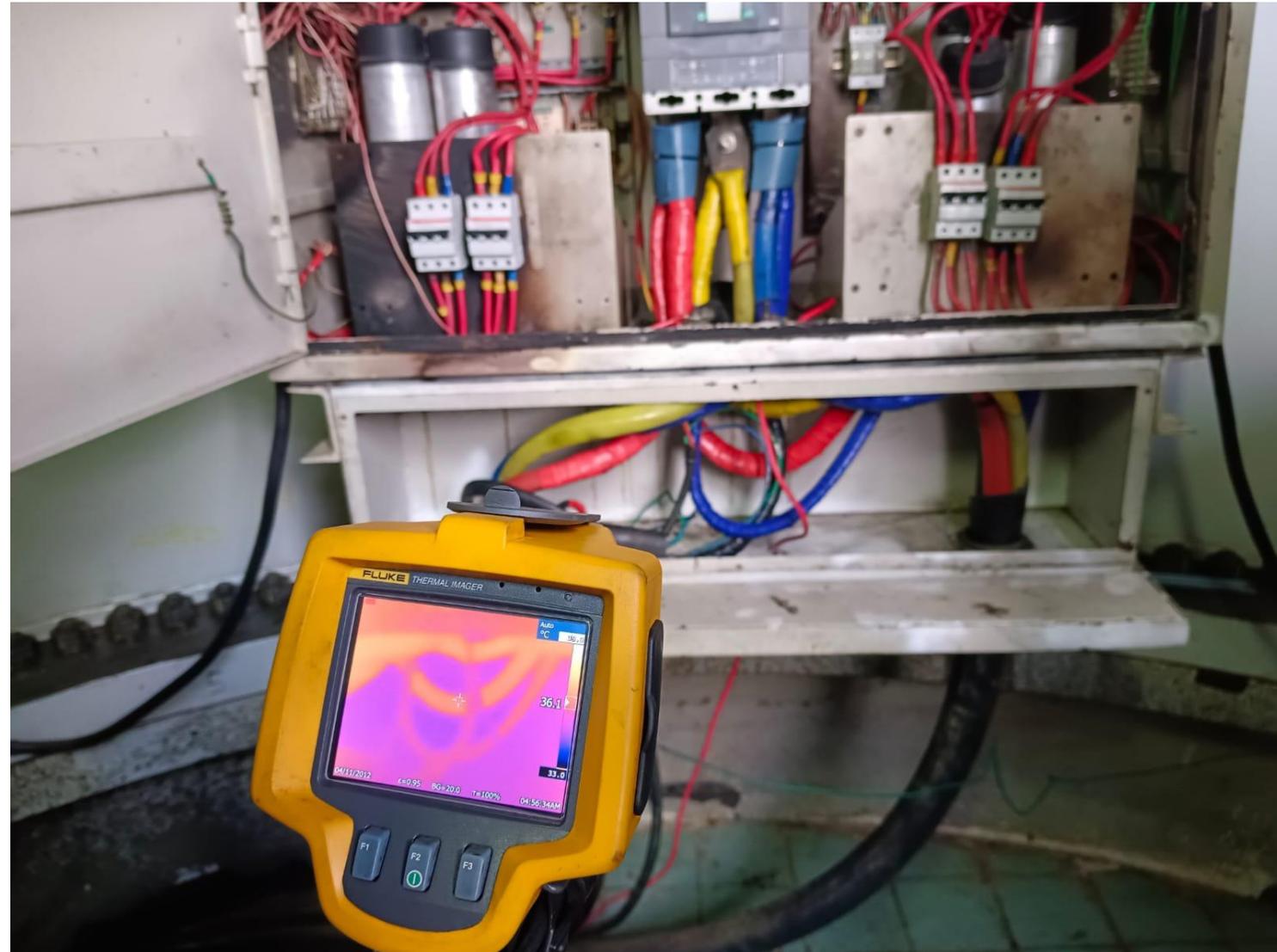
# On-Tower Blade Bearing Inspection



Detecting pitch bearing faults and blade root gap issues, this test ensures structural integrity and prevents costly failures.

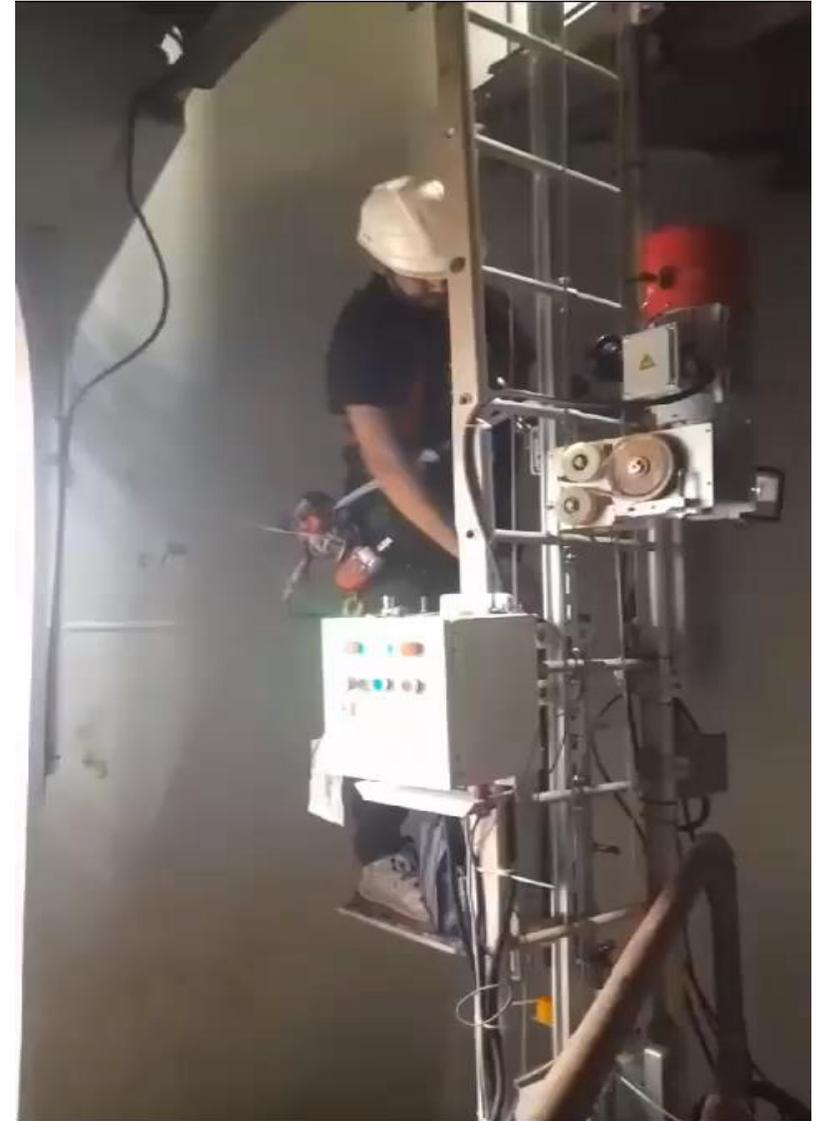
# Cable Inspection

Preventative technique to identify hotspots or potential faults in electrical cables, busbars avoiding outages and enhancing system reliability.



## Climb Assist

Improves worker accessibility and safety, making turbine maintenance more efficient and reducing physical strain.





## Unit Substation & Transmission Line Maintenance

A Grade License Holder for HT works and we deploy C license holder for each shift with necessary tooling and safety kits. We co-ordinate with TNEB at all times on basis of need.



## 24X7 Service Teams

We have a full-fledged team for Breakdown, Service and individual teams with separate vehicles for attending simultaneous break downs.

# Major clients





### **Head Office**

8/126-E3, Main Road,  
Aralvoimozhy,  
Kanyakumari-629301,  
Tamilnadu, India.

### **Branch Office**

1/13A, Dharapuram  
Road,  
Badhrakaliputhur,  
Gudimangalam,  
Udumalpet Taluk  
Tirupur District  
Tamilnadu

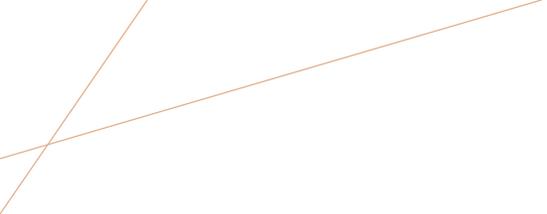
### **Branch Office**

No 1, Winter compound,  
Opp to new market,  
Sankarankoil main road,  
Surandai,  
Tenkasi District,  
Tamilnadu

### **Branch Office**

Mitra Layout,  
Raghavendra Nilaya,  
Medehelly Road, N14  
Chitradurga,  
Karnataka





THANK YOU