



SriVaru Green Energy
Service Private Limited

Hoto Inspection Report – V47

Report No	HIR /2024-25/SVGE/ 057
Date	17-06-2024
Inspected By	Mr. N. Ranjith kumar , Mr. Chermraja
Site Operator	Mr. Samuthram and Joint inspected with service staffs of M/s Green Tech

Customer	M/s Sankar & Associates		
WEG No	PS713	Location	04
Tower Height	50 Mtr	HTSC No	3216
Capacity	600 kW	Site	Sambavarvadakarai
Model	V47, RRB	D.O.C	30-03-2009

V47 BOTTOM

1	EB Customer Yard System	
1.1	Earth Pit slot	Not available
1.2	EB, Customer, Control Room Painting	Ok
1.3	EB Side Lightning Arrester (KV)	Ok
1.4	Customer Side Lightning Arrester (KV)	Ok
1.5	EB Side, Customer Side Handle Earth	Ok
1.6	All Insulator	Ok
1.7	EB Meter Glass	Ok
1.8	EB Side, Customer Side AB switch Working Condition	Ok
2	Power Transformer	
2.1	Transformer Oil Level	Low, need to be refilled
2.2	Transformer Temperature Gauge	Ok
2.3	Transformer Oil Leakage	LT "Y" phase oil leakage observed
2.4	Transformer Breather Silica gel	Expired, need to be replaced
2.5	Transformer Termination & Cover Bolt	Cover nut M10 5 no's not available
2.6	Transformer Earth Plate Connection	Ok
2.7	Transformer Gland & Earth	Ok
3	Safety	
3.1	Earth Rod – 3No's	Earth rod damaged
3.2	Fire Extinguisher	Ok
3.3	Fire Bucket Sand – 2 No's With stand	Not available
3.4	33KV Hand Gloves	Not available
3.5	Rubber Mat	Ok
3.6	Safety Guide Photo	Not available
3.7	First Aid Box	Not available

4	Control Room	
4.1	Tube Light In & Out	Outer light fitting 2 no's damaged
4.2	Light MCB – 2 Pole	Ok
4.3	Room Window Glass	Ok
4.4	Power Cable Stand Platform	Ok
5	Ground To Top Cable System	
5.1	3 Phase Cable 4 Core	Ok
5.2	Auxiliary Cable 5 Core	Ok
5.3	Light Cable 4 Core	Ok
5.4	EMC Cable 10 Core	Ok
5.5	Earth Cable Top to Bottom	Ok
5.6	Fiber Optic Cable	2 run used, 2 core failed.
6	Ground Main Panel System	
6.1	Watchdog	Not available, bypassed condition.
6.2	Timer	Ok
6.3	Air To Air 6" Cooler Fan (2 No's)	Bearing noise observed
6.4	Stabilizer 2KVA	Ok
6.5	Capacitor 4" Cooling Fan (2 No's)	Ok
6.6	Den Card Surge Arrester	Ok
6.7	63A Fuse	Ok
6.8	2S Relay	Ok
6.9	1B Relay	Ok
6.10	24V Indication Lamp	H944 failed
6.11	Thyristor	Ok
6.12	EH 550 Contactor	Ok

6.13	RCC Circuit	Ok
6.14	Generator Breaker Mechanism	Ok
6.15	Controller Switch Mechanism	Ok
6.16	Gen Cable Termination Ground	Ok
6.17	CT Coil (600/1) – 3No's	Ok
6.18	Panel Door Hinge	Ok
6.19	Panel Door Lock	1 no damaged
6.20	1.5V Processor Cell Box	Ok
6.21	Power Cable PG – Gland	Ok
6.22	1 A Transformer	Ok
6.23	EMC Switch	Ok
6.24	Trip Q8 Test (MENU 13A)	Ok
7	ACB System	
7.1	Ammeter	Ok
7.2	Voltmeter	Ok
7.3	Ammeter, Voltmeter selector switch	Ok
7.4	230V Indication Lamp (R, Y, B)	2 no's failed
7.5	25VA Transformer	Ok
7.6	350VA Transformer	Ok
7.7	2A Glass Fuse & 20A Fuse Holder	Ok
7.8	ACB Safety Acrylic Sheet	Ok
7.9	ACB Current Coil (800/1) (3No's)	Ok
7.10	ACB Termination Cable & Bus pare	Ok
7.11	ACB Handle Rod	Not available
7.12	ACB Working Condition	Ok

8	Additional Panel System	
8.1	400A MCB Mechanism	Handle damaged
8.2	Cooling Fan 4"	Ok
8.3	Dust Filter Cover	Damaged
8.4	Danger Cover	Ok
8.5	Door Lock	Thread type 2 no's not available
9	Pitch System Checking	
9.1	Balluff Sensor Value 0.041, 9.853	-0.039; +9.853
9.2	Hydraulic Pump Holding Time 0 To 200 bar	32 Sec
9.3	proportional Valve Holding Time (180 To 200 Bar Time)	45 Sec
9.4	Sine Test	Ok
9.5	Pitch Acc Bar	70 Bar
9.6	Alarm Lock Fault Check	External RRPM guard Error yaw controller 30000
10	All Temperature °C	
10.1	Ambient	34°C
10.2	Gen 1	54°C
10.3	Nacelle	37°C
10.4	Control	42°C
10.5	Hydraulic	49°C
10.6	Gear Oil	53°C
10.7	Gear Bearing	49°C
11	Tower system	
11.1	Top to bottom all bolts	Ok
11.2	Tower earth	Ok
11.3	Tower vibration	Ok

12.1 MAIN PANEL CAPACITOR TEST

	STEP 1 25 X 2	STEP 2 25 X 2	STEP 3 25 X 2	STEP 4 25 X 2
L1 – V 387	30	34	34	32
L2 – V 385	30	34	33	32
L3 – V 384	30	35	34	35

12.2 ADDITIONAL PANEL CAPACITOR TEST

	STEP 1 25 X 1	STEP 2 25 X 2	Grid 25 X 1	Additional
L1 – V 378	17	34	15	
L2 – V 379	18	34	16	
L3 – V 378	17	35	16	

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GROUND REMARKS:

1. Power Transformer oil level low, need to be top-up.
2. Power Transformer Y phase LT side oil leakage observed.
3. Power Transformer silica, breather expired
4. Power transformer M10 cover bolt nut not available.
5. All earth pit slap not available.
6. Earth rod damaged
7. Fire bucket stand and bucket not available
8. Safety guide not available
9. First aid box not available
10. Control room Out yard side and tower side light fitting damaged to be replaced new
11. Watch dog not available, circuit bypassed
12. Air to air cooler bearing noise observed, need to be taken for service
13. H944 24V LED failed
14. Panel door lock 1 no damaged
15. CT218 display LED failed
16. CT218 fixing clamp not available
17. EB panel 230V indicator lamp failed
18. ACB handle rod not available
19. APFC panel handle damage
20. Air duct cover 1 no damaged
21. APFC panel door lock 2 no's not available, thread type
22. Holding time 45 sec.



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V47 TOP

13	Hydraulic Unit System	
13.1	Hydraulic Unit Damper	Ok
13.2	Hydraulic Motor Bearing Noise	Ok
13.3	Hydraulic Cooling Fan Leaf & Cover	Leaf not available
13.4	Hydraulic Oil Level	Ok
13.5	Hydraulic Oil Condition	Ok
13.6	Oil Level Sensor CT3218 – 3 Led	Ok
13.7	Hydraulic Oil Leakage	Hyd. manifold oil leakage observed slightly
13.8	Pitch Cylinder Oil Leakage	Ok
13.9	Balluff Sensor Safety Cover	Ok
13.10	17 Bar Pressure Switch	Ok
13.11	10 Bar Pressure Switch	Ok
13.12	Pitch & Brake Pressure Relief valve	Ok
13.13	Hydraulic Motor Cable	Ok
13.14	Hydraulic Hose A	Ok
13.15	Hydraulic Hose B	Ok
13.16	Hydraulic Hose C	Ok
13.17	Hydraulic Hose D	Ok
13.18	Hydraulic Dummy Hose & Adapter	Ok
13.19	Hydraulic Hose Laying Sandwich	Ok
13.20	Pitch Cylinder Safety Cover	Ok
13.21	Brake Accumulator	70 bar
14	Gear Box System	
14.1	Gear Oil Level	Ok
14.2	Gear Oil Condition	Ok
14.3	Air Filter	Ok
14.4	Gear Oil Filter	Ok


14.5	Gear Box Magnetic Rod	Ok
14.6	Gear Box Manifold Oil Leakage	Ok
14.7	Radiator Oil Leakage	Oil leakage observed
14.8	Gear Oil Hose L	Ok
14.9	Gear Oil Hose S	Ok
14.10	Gear Box Noise	Ok
14.11	Gear Stay Function	Ok
14.12	Low Speed Oil Seal	Ok
14.13	Hallow Shaft Cover Crack	Ok
14.14	Low Gear Oil Switch CT 3133 – 6 Led (750RPM)	Nitrile washer 1 no not available
14.15	Pitch Bearing	Ok
14.16	Gear oil leakage	Ok
14.17	Gear box 'I' Hook	Ok
15	Yawing System	
15.1	Yaw Motor Cable	Ok
15.2	Yaw Motor Leaf & Cover	Right side leaf and cover screw not available
15.3	Warm Gear Noise & Bearing	Ok
15.4	Warm Gear Oil Level	Ok
15.5	Warm Gear Oil Leakage	Ok
15.6	Yaw Top Teeth	Ok
15.7	Yaw Top Safety Cover (Aluminum)	Ok
15.8	Yaw Stopper Block M16	Ok
15.9	Yaw Top Bed Bolt	Ok

16	Generator System	
16.1	Gen Bearing Noise	Ok
16.2	Gen Cooling Fan Leaf	Ok
16.3	Gen Damper	Damper settle down (Front LHS)
16.4	Gen Termination	Ok
16.5	Gen Cable Gland	Ok
16.6	Gen Cable Clamp & Plate	Ok
16.7	Gen Nipple	Ok
16.8	Gen Bed Earth	Ok
16.9	Gen, I Hook	Ok
17	Brake System	
17.1	Brake Pad Thickness	3 mm need to be changed single sensor available
17.2	Brake Pad Bypass Box - 4 (1-2)	Ok
17.3	Brake Pad Signal - 3 Set (GeneratorSide or Gear Box Side)	Single pad connection
17.4	Brake Caliber – 3No's	Ok
17.5	Brake Caliber Metal Hose	Ok
17.6	Brake Disc Thickness	Ok
17.7	Brake disc heat absorb	Ok
17.8	Brake Disc Cover Top and Bottom	Ok
17.9	CD Coupling Disc	Ok
17.10	CD Coupling Cover	Ok
17.11	Fire Safety chart	Not available
17.12	CD Coupling Noise	Ok

18	Battery Box System	
18.1	12V Battery	8V, 10 V
18.2	24V Charger	Failed
18.3	Box 230V Cable	Ok
18.4	Box 8 Core 24V Cable	Ok
18.5	Timer Make	Omron
18.6	Battery Box Cover	Ok
18.7	Top Panel Loop Check (95-21) (21-12) (11-31)	95-21 loop
18.8	Soft Brake Working	Failed
18.9	Soft Brake Modification	Ok
18.20	2S Relay Make	Omron RY4S relay
19	Nacelle Light System	
19.1	16 A Switch Box	Ok
19.2	Top, Front & Back Tube Light	Main bearing tube light failed
19.3	Tube Light Cable	Cable dressing to be done
20	Top Panel System	
20.1	Contactor Yaw CW	Ok
20.2	Contactor Yaw CCW	Ok
20.3	Contactor Hydraulic	Ok
20.4	Contactor Low speed	Ok
20.5	Contactor High Speed	Ok
20.6	Contactor Exhaust Fan	Ok
20.7	Thermal Relay Yaw CW	Ok
20.8	Thermal Relay Yaw CCW	Ok
20.9	Thermal Relay Hydraulic	Ok

20.10	Thermal Relay Low Speed	Ok
20.11	Thermal Relay High Speed	Ok
20.12	Thermal Relay Exhaust Fan	Ok
20.13	2S Relay	RY2S relay 1 no failed.
20.14	1B Relay	Ok
20.15	VOG CT279	Ok
20.16	Top Panel Cooling Fan	Failed
20.17	Main Bearing Emergency Button	Ok
20.18	Top Panel Emergency Button	Ok
20.19	Yaw Top Emergency Button	Ok
20.20	Top Panel Door	Ok
20.21	Top Panel Door Hinge	Ok
20.22	Top Panel Damper	Ok
20.23	Top Panel stand clamp	Ok
20.24	SMPS	Ok
20.25	1.5V Processor Cell Box	Ok
20.26	Rectifier	1 no weak condition
20.27	Trip Q8 Switch Working	Ok
21	Main Shaft System	
21.1	Main Bearing Noise & Play	Ok
21.2	Main Bearing Grease Leakage	Front and rear grease leakage observed
21.3	Main Bearing Front and Back Cover	Cover bolt M12 X 50 3 no's not available
21.4	Rotor Sensor	Ok
21.5	VOG Sensor	Ok

21.6	Generator sensor	Ok
21.7	Main Bearing 24V Junction Box	OK (Rotor RPM top panel to direct cable used)
21.8	Air Breather	Ok
21.9	Nipple Main Bearing	Ok
22	Blade System	
22.1	Blade Crack	Ok
22.2	Blade Arm Bearing	Ok
22.3	Blade Bearing Play	Ok
22.4	Blade Inspection Closing Cover- 3	Ok
22.5	Pitch Shaft Sliding shoe	Ok
22.6	Pitch Bolt M12 (8 No's)	Ok
22.7	Blade Flop Cover	2 no not available
22.8	Hub Entrance Door	3 no's door lock not available
22.9	Blade Breather	Ok
22.10	Nose Cone Crack	Ok
22.11	Nose Cone 'L' Clamp	Ok
22.12	Nose Cone Zig Door	Ok
22.13	Nose cone Ring U Clamp	Ok
22.14	Blade Lip Seal Grease Leakage in and out	Ok
22.15	Blade Safety Lock Block	Ok
23	Gear Oil Cooler Motor System	
23.1	Motor Bearing Noise	Ok
23.2	Cooler Motor Leaf Cover	Ok
23.3	Motor Cable Slow	Insulation damaged

23.4	Motor Cable High	Insulation damage
23.5	Air Duct Cover	Not available
23.6	Cooler Motor Bed Stand	Full rust
23.7	Big Leaf	Ok
24	Power Cable Twisting	
24.1	Twist Sensor	Cover not available
24.2	Power Cable Twist	Need to be corrected (untwist)
24.3	Cable Round Ring	Need to be dressing
24.4	 Clamp	M16 X 50 bolt set 2 nos need to be changed
24.5	Bottom to Top cable laying	Looping to top all cable need to be laying.
24.6	Nacelle Platform Cable Holding Sandwich	Ok
24.7	Power Cable Insulation	Ok
24.8	Nacelle Platform Small Cable Lock Clamp	Ok
25	Hoist System	
25.1	Remote Function	Ok
25.2	Hoist 230v Box	Ok
25.3	Chain Bag & Clamp	Not available
25.4	Chain Hook	Ok
25.5	Hoist Noise	Not function
25.6	Hoist 230v Cable	Ok
25.7	Hoist Chain Block	Ok
25.8	Safety Chain & Lock Hook	Not available
25.9	Hoist make	Ok
26	Anemometer	
26.1	Anemometer Bearing	Ok
26.2	Anemometer Cup, Holder & Cable	Ok

26.3	stand	Ok
27	Wind vane System	
27.1	Wind vane Bearing	Ok
27.2	Wind vane Holder & Cable	Ok
27.3	Wind vane Cap Nut	Ok
28	Nacelle Door System	
28.1	Nacelle Cover Crack	Ok
28.2	Nacelle Back Door	Ok
28.3	Nacelle Sky Window Top	Ok
28.4	Nacelle Lightning Spike	Ok
28.5	Lightning Spike Earth	Ok
28.6	Nacelle damper Front & back	Back side 2 no failed
28.7	Vibration Sensor	Ok
28.8	Nacelle Platform Steel Door	Ok
28.9	Nacelle Platform Ladder	Extra ladder not available
28.10	Nacelle Cover Damper	Ok
29	Exhaust Fan System	
29.1	Motor Bearing Noise	Ok
29.2	Fan Leaf & Cover	Ok
29.3	Bush, Whaser & Bolt	Ok
29.4	Motor Cable	Ok
29.5	Big Fan Leaf	Ok
30	Rotor and Blade Safety System	
30.1	Rotor Lock Bush - 4	Ok
30.2	Rotor Lock Hide Pin -4	2no's not available

30.3	Rotor Big Plate -1	Ok
30.4	Rotor Small Plate -1	Ok
30.5	86 Rocket – 3	Ok
30.6	86 Thread Rod – 3	Ok
30.7	washer -3, Nut -3	Not available
30.8	Grease Tray – 3	2no's not available
30.9	Disc Lock Bolt -1	Not available
31	Gear Box inner components	
31.1	Gear bearing High speed Play	Ok
31.2	Gear bearing Low speed Play	Ok
31.3	Check gear box body damages	Ok
31.4	Check in side of Gear box	Ok
31.5	Gear teeth @ low speed	Ok
31.6	Gear teeth @ high speed	Ok
31.7	Gear teeth @ intermediate	Ok
31.8	Gear intermediate pinion	Ok
31.9	Planetary gear	Ok
31.10	Gear Pump oil circulation	Ok
32	Blade Bearing	
32.1	Every 5 th blade bearing bolts M20 to be check out of 60No's	Ok
32.2	Blade Vertical play to be checked	Ok
32.3	Blade horizontal play to be checked	Ok
33	Transformer and generator	
33.1	Necessary to check Transformer terminal box	Ok
33.2	Necessary to check Generator terminal box	Ok

TOP REMARKS:

1. Break pad 3 mm only, need to be replaced immediately
2. Hyd. motor cooling leaf not available
3. Hyd. unit manifold oil leakage observed.
4. Break accumulator bar 70, need to be recharged
5. Radiator oil leakage observed
6. Pitch bearing nitrile washer not available
7. Yaw motor RHS side cover screw leaf not available
8. Generator damper settle down, need to be replaced
9. Battery charger failed, circuit loop (95-21)
10. 12V Battery failed, soft braking not work
11. Main bearing tube light failed
12. RY2S relay 1 no failed
13. Top panel cooling fan 1 no failed
14. Rectifier not used, SMPS used
15. Main bearing grease leakage observed both front and back
16. Rotor cover bolt M12 X 50 -3 no's not available
17. Rotor RPM sensor top panel to sensor direct connection
18. Blade flop 2 no's not available.
19. Hub entrance cover fasteners 3 no's not available
20. Gear oil cooler motor low and highspeed cable insulation damaged
21. Cable twist sensor cover not available
22. Looping to top cable dressing to be done.
23. U clamp fasteners M12 X 50 4nos need to be replaced
24. Winch not working condition, Pendent control not available
25. Chain bag not available
26. Nacelle vibration damper 2 no's failed
27. Balcony extra ladder not available
28. Rotor lock pin 2 no's not available
29. Grease tray 2 no's not available
30. Hyd. unit back side sound insulation damaged.

Sl.No.	Observation details as of WEG Ltd inspection	Photos showing remarks/ Witness	Sl.No.	Observation details as of WEG Ltd inspection	Photos showing remarks/ Witness
1	Break pad 3 mm only, need to be replaced immediately		9	Power Cable Twist need to be corrected (untwist)	
2	Generator damper settle down, need to be replaced		10	Watch dog not available, circuit bypassed.	
3	Battery charger and 12V Battery failed, soft braking not work		11	Yaw warm gear oil leak to be serviced	
4	Gear oil cooler motor low and high speed cable insulation damaged		12	ACB handle rod not available	
5	Cable twist sensor cover not available		13	Fiber Optic Cable 2 run used, 2 core failed.	
6	Looping to top cable dressing to be done		14	Power transformer oil LT Push oil leak to be rectified	
7	Nacelle vibration damper 2 no's failed		15	Control room Out yard side and tower side light fitting damaged to be replaced new	
8	Main bearing grease leakage observed both front and back		16	Radiator oil leakage observed to be replaced	

Conclusion:

In general, various missing components and un-repairable failed components have to be replaced along with the repair / servicing of various defective parts identified in the inspection. It appears that proper preventive maintenance and immediate attention to various issues has to be addressed.