SMARTER ENERGY SOLUTION

# Preventive Maintenance Solar System

| Customer Name : | Summer Hotel | Maintenance : | MA | Date : | 12 November 2024 |
|---|---|---|---|---|---|

| Solar Panel | | | | Inverter | | |
|---|---|---|---|---|---|---|
| Brand | Model | Capacity | Install | Brand | Model | S/N |
| Gastlux | GL-450MB-60H | 40 Kwp. | 82 Panels | Solis | 40K-5G | 11OD7221607005 8 |

## Before Preventive Maintenance Solar System

| Solar Panels | Operating Voltage / Current | | | Time | Inspection | | Remark |
|---|---|---|---|---|---|---|---|
| String 1 ____ Panels | Voc 436.8 Vdc | Vmp 374.5 Vdc | Isc 6.27 A. | 12 : 45 | ☑ Pass | ☐ Not Pass | |
| String 2 ____ Panels | Voc 439.0 Vdc | Vmp 378.2 Vdc | Isc 6.01 A. | : | ☑ Pass | ☐ Not Pass | |
| String 3 ____ Panels | Voc 434.8 Vdc | Vmp 388.2 Vdc | Isc 6.02 A. | : | ☑ Pass | ☐ Not Pass | |
| String 4 ____ Panels | Voc 543.1 Vdc | Vmp 392.2 Vdc | Isc 6.62 A. | : | ☑ Pass | ☐ Not Pass | |
| String 5 ____ Panels | Voc 439.4 Vdc | Vmp 3745 Vdc | Isc 6.71 A. | : | ☑ Pass | ☐ Not Pass | |
| String 6 ____ Panels | Voc 366.7 Vdc | Vmp 335.0 Vdc | Isc 5.17 A. | : | ☑ Pass | ☐ Not Pass | |
| String 7 ____ Panels | Voc 325.0 Vdc | Vmp 284.7 Vdc | Isc 6.22 A. | : | ☑ Pass | ☐ Not Pass | |
| String 8 ____ Panels | Voc ____ Vdc | Vmp ____ Vdc | Isc ____ A. | : | ☐ Pass | ☐ Not Pass | |
| String 9 ____ Panels | Voc ____ Vdc | Vmp ____ Vdc | Isc ____ A. | : | ☐ Pass | ☐ Not Pass | |
| String 10 ____ Panels | Voc ____ Vdc | Vmp ____ Vdc | Isc ____ A. | : | ☐ Pass | ☐ Not Pass | |
| String 11 ____ Panels | Voc ____ Vdc | Vmp ____ Vdc | Isc ____ A. | : | ☐ Pass | ☐ Not Pass | |
| String 12 ____ Panels | Voc ____ Vdc | Vmp ____ Vdc | Isc ____ A. | : | ☐ Pass | ☐ Not Pass | |

## After Preventive Maintenance Solar System

| Solar Panels | Operating Voltage / Current | | | Time | Inspection | | Remark |
|---|---|---|---|---|---|---|---|
| String 1 ____ Panels | Voc 440.2 Vdc | Vmp 367.4 Vdc | Isc 5.48 A. | 14 : 00 | ☑ Pass | ☐ Not Pass | |
| String 2 ____ Panels | Voc 440.6 Vdc | Vmp 368.3 Vdc | Isc 5.51 A. | : | ☑ Pass | ☐ Not Pass | |
| String 3 ____ Panels | Voc 445.4 Vdc | Vmp 383.3 Vdc | Isc 5.15 A. | : | ☑ Pass | ☐ Not Pass | |
| String 4 ____ Panels | Voc 360.7 Vdc | Vmp 381.7 Vdc | Isc 5.72 A. | : | ☑ Pass | ☐ Not Pass | |
| String 5 ____ Panels | Voc 450.1 Vdc | Vmp 398.3 Vdc | Isc 6.19 A. | : | ☑ Pass | ☐ Not Pass | |
| String 6 ____ Panels | Voc 377.4 Vdc | Vmp 336.9 Vdc | Isc 4.45 A. | : | ☑ Pass | ☐ Not Pass | |
| String 7 ____ Panels | Voc 338.0 Vdc | Vmp 287.2 Vdc | Isc 5.80 A. | : | ☑ Pass | ☐ Not Pass | |
| String 8 ____ Panels | Voc ____ Vdc | Vmp ____ Vdc | Isc ____ A. | : | ☐ Pass | ☐ Not Pass | |
| String 9 ____ Panels | Voc ____ Vdc | Vmp ____ Vdc | Isc ____ A. | : | ☐ Pass | ☐ Not Pass | |
| String 10 ____ Panels | Voc ____ Vdc | Vmp ____ Vdc | Isc ____ A. | : | ☐ Pass | ☐ Not Pass | |
| String 11 ____ Panels | Voc ____ Vdc | Vmp ____ Vdc | Isc ____ A. | : | ☐ Pass | ☐ Not Pass | |
| String 12 ____ Panels | Voc ____ Vdc | Vmp ____ Vdc | Isc ____ A. | : | ☐ Pass | ☐ Not Pass | |

| Inverter Inspection | | | | Remark |
|---|---|---|---|---|
| Device | Readings from Smarter Meter | Readings from Inverter Display | Field Measured Readings | |
| Inverter | AC Line Voltage | AC Line Voltage | AC Line Voltage | |
| | Phase L1 to Grd : 236.3 Vac | Phase L1 to Grd : 234.4 Vac | Phase L1 to Grd : 233.9 Vac | |
| | Phase L2 to Grd : 236.7 Vac | Phase L2 to Grd : 236.1 Vac | Phase L2 to Grd : 234.1 Vac | |
| | Phase L3 to Grd : 235.3 Vac | Phase L3 to Grd : 236.1 Vac | Phase L3 to Grd : 236.7 Vac | |
| | AC Line Current | AC Line Current | AC Line Current | |
| | Phase L1 to Grd : 21.00 A | Phase L1 to Grd : 15.7 A | Phase L1 to Grd : 15.67 A | |
| | Phase L2 to Grd : 8.10 A | Phase L2 to Grd : 15.6 A | Phase L2 to Grd : 15.83 A | |
| | Phase L3 to Grd : 9.90 A | Phase L3 to Grd : 15.6 A | Phase L3 to Grd : 15.89 A | |

Comment :

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# Electrical Room Inspection

| Customer Name : | | Date : | |
|---|---|---|---|

| Solar Panel | | | | Inverter | | |
|---|---|---|---|---|---|---|
| Brand | Model | Capacity | Install | Brand | Model | S/N |
| | | Kwp. | Panels | | | |

| Device | Ambient Temperature | Temperature | | | | Remark |
|---|---|---|---|---|---|---|
| Inverter | 41.2 C | Inside : 48.4 C | Outside : 42.5 C | Heatsync : 49.6 C | | |
| AC Cabinet | 36.9 C | MCB Breaker : 80 A. 39.4 C | RCCB Breaker : ___ A. ___ C | AC SPD : 3 Phase 37.8 C | | |
| | | AC Cable : 25 Sq.m. | Smart Meter : 38.4 C | CT Ratio : 300 5 A. | | |
| | | AC Terminal : 37.2 C | 3 Phase | Meter Ratio : 300 A. | | |
| | | String No. | DC Fuse | DC Breaker | DC SPD | MC4 Connector |
| DC Cabinet 1 | 36.5 C | String 1 | 37.3 C ___ A. | 37.8 C ___ Vdc ___ A. | 38.1 C ___ Vdc ___ A. | 38.4 C |
| | | String 2 | 36.9 C ___ A. | 36.4 C ___ Vdc ___ A. | 38.1 C ___ Vdc ___ A. | 38.4 C |
| | | String 3 | 36.9 C ___ A. | 37.3 C ___ Vdc ___ A. | 37.9 C ___ Vdc ___ A. | 38.7 C |
| | | String 4 | 37.4 C ___ A. | 37.1 C ___ Vdc ___ A. | 36.8 C ___ Vdc ___ A. | 38.1 C |
| EE Room | 37.4 C | AC Cable : 80 Sq.m. | Main Breaker : 300 A. | | MCCB Feed : 80 A. | |
| | | Wireway : 38.3 C | MDB / LC : 39.2 C | | 37.9 C | |

Comment :

st 5 37.4 37.2 38.4 37.9

st 6 36.8 36.9 37.7 38.6

st 7 37.1 37.5 38.8 37.6

Inspection By : _____

( Bunharn Libnoy )
Project Engineer

Date : ____/____/____

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# Preventive Maintenance Solar System

| Item | Solar System Inspection | Inspection | | Remark |
|---|---|---|---|---|
| 1 | Clean the Solar panel ( Use clean water )<br>ทำความสะอาดแผงโซล่า เซลล์ ( ใช้น้ำสะอาด ) | ☑ Pass | ☐ Not Pass | |
| 2 | Check to see if the solar panel's condition<br>ตรวจสอบการแตกร้าวของแผงโซล่า เซลล์ | ☑ Pass | ☐ Not Pass | |
| 3 | Inspect the mounting points of the roof mounting support legs for the risk of water leaking. (Use water Proof , Polyurethane PU,Sika MultiSeal AP to prevent water leakage)<br>ตรวจสอบจุดยึดของ Support ที่ยึดกับหลังคา ว่ามีจุดเสี่ยงที่จะทำให้เกิดน้ำรั่วได้หรือไม่<br>( ใช้ water proof , สิริโครน PU , แผ่นซิก้าป้องกันน้ำ ) | ☑ Pass | ☐ Not Pass | |
| 4 | Inspect the mounting parts of the solar cell.<br>ตรวจสอบสภาพโครงสร้างทั้งหมด เพื่อดูว่า PV. Mounting และอุปกรณ์ประกอบอื่นๆ ไม่หลวม | ☑ Pass | ☐ Not Pass | |
| 5 | Inspect the condition of all cables to make sure The cables does not sag down to the roof.<br>ตรวจสอบสภาพของสายทั้งหมดเพื่อให้แน่ใจว่า สายไม่หย่อนลงไปที่หลังคา | ☑ Pass | ☐ Not Pass | |
| 6 | Inspect the tightness of the wire terminals.<br>ตรวจสอบความแน่นของขั้วสายไฟ | | | |
| 6.1 | -AC - Grid in Inverter | ☑ Pass | ☐ Not Pass | |
| 6.2 | -Back - up in Inverter ( Specific model Hybrid ) | ☐ Pass | ☐ Not Pass | |
| 6.3 | -Battery ( Specific model Hybrid ) | ☐ Pass | ☐ Not Pass | |
| 6.4 | -AC Breaker | ☑ Pass | ☐ Not Pass | |
| 6.5 | -DC Breaker | ☑ Pass | ☐ Not Pass | |
| 6.6 | -Fuse Holder | ☑ Pass | ☐ Not Pass | |
| 6.7 | -Surge Protection | ☑ Pass | ☐ Not Pass | |
| 6.8 | - Smarter Meter & CT ( Current Transformer ) | ☑ Pass | ☐ Not Pass | |
| 7 | Check whether the SISO Switch is defective<br>ตรวจสอบ SISO Switch ว่าชำรุดหรือไม่ | ☑ Pass | ☐ Not Pass | |
| 8 | Inspect for malfunctions of the inverter and other related electrical equipment.<br>ตรวจสอบความผิดปกติของอินเวอร์เตอร์และอุปกรณ์ไฟฟ้าอื่น ๆ ที่เกี่ยวข้อง | ☑ Pass | ☐ Not Pass | |
| 9 | Insapect heat of the solar panel whether there is an abnormal heat point or not (checked by using a thermal camera)<br>การตรวจสอบความร้อนของแผงโซลาร์เซลล์ว่ามีจุดความร้อนผิดปกติหรือไม่ (ตรวจสอบโดยใช้กล้องถ่ายภาพความร้อน) | ☑ Pass | ☐ Not Pass | |

Comment : _____

Inspection By : _____

( Bunharn Libnoy )
Project Engineer

Date : _____/_____/_____