Maintenance Report

MEDIUM VOLTAGE POWER STATION 500SC-JP / 630SC-JP / 800SC-JP / 1000SC-JP / 1250SC-JP / 1600SC-JP

Project name: **Customer:**

Address, location of the system:

Serial number of the MV Power Station

Production version of the MV Power Station

Content and validity of the maintenance report

In conjunction with the other inverter documentation, the maintenance report assures faultless operation of the MV Power Station and peripheral devices from SMA Solar Technology AG. Maintenance work does not automatically guarantee electrical safety.

The maintenance report contains all necessary maintenance intervals of the individual devices as well as the preventive replacement intervals.

This maintenance report is valid for the MV Power Station in all order options, except order option 17-1 "Seismic and storm qualification." Contact your SMA contact person for the maintenance of the MV Power Station with order option "Seismic and storm qualification."

Maintenance instructions

- All work must be carried out in accordance with the maintenance manual. All safety information must be observed.

Regular data backup

Back up and archive the inverter data at regular intervals. This can be done by remote query or during routine maintenance work.

Storage of the maintenance report

- After maintenance work, keep the maintenance report at hand near the MV Power Station.

No.	Appendix

1 Station Container

No.	Maintenance work	Interval	Date completed
1.	Ensure that there are no foreign materials or objects in or on the MV Power Station and its devices that are flammable or that could otherwise endanger operational safety. If necessary, remove foreign materials and seal any holes to prevent further intrusion.	12 months	
2.	Ensure that there are no objects or other obstacles under the medium-voltage compartment which endanger operational safety in case of arc faults.	12 months	
3.	Ensure that there are no objects or other obstacles under the inverter compartment which prevent the air from circulating.	12 months	
4.	Ensure that no visual defects are present on the walls, the roof and the support feet of the station container (e.g. discoloration, dirt, damage, corrosion, scratches, cracks).	12 months	
5.	Check whether the support feet are securely fixed at the station container and whether the nuts are securely tightened.	12 months	
6.	Check whether the type label of the MV Power Station is present, complete and legible.	12 months	
7.	Check whether the protective grids in front of the transformer compartment are intact.	12 months	
8.	Check the doors and structural components of the door frame for damage. Ensure that the doors and locks function properly.	12 months	
9.	Check whether the warning labels and circuit diagrams are present, complete and legible.	12 months	
10.	Remove dirt, dust and moisture.	12 months	
11.	Check the oil tray and oil drain valves and clean, if necessary. Ensure that the holes in the base of the transformer compartment are free so that oil can drain in case of a leak in the MV transformer.	12 months	

2 Medium-Voltage Compartment

No.	Maintenance work	Interval	Date completed
1.	Clean the medium-voltage compartment.	12 months	
2.	Clean the ventilation shaft and the ventilation grids on the doors.	If required / 12 months	
3.	Check the function of the fans.	12 months	
4.	Make sure that the grounding contacts are securely in place and show no discoloration or corrosion.	12 months	
5.	Check the function of the doors and hinges and lubricate them.	12 months	
6.	Check the function of the lighting.	If required / 12 months	
7.	Check whether the hinges at the service platform of the medium-voltage compartment function properly.	12 months	

3 MV Transformer

No.	Maintenance work	Interval	Date completed
1.	Check the tightness of the MV transformer and slightly retighten the screws, if necessary.	12 months	
2.	Remove any rust patches and repaint.	12 months	
3.	Check and clean the cable entries, protective device, contact thermometer and control elements.	12 months	
4.	Check the contacts of the low-voltage terminals for discoloration. Check whether the protective covers of the low-voltage terminals are present and intact.	12 months	
5.	Check whether the contacts of the medium-voltage terminals are intact.	12 months	
6.	For each tap changer, perform a switching test of ten switching cycles across the entire range under voltage-free conditions.	If required / 12 months	
7.	Clean the insulators.	If required / 12 months	
8.	Check the terminals for warming as a result of transition resistances.	If required / 12 months	
9.	Check the protective devices, contact thermometers, accessories and cabling. Check the function and settings.	12 months	
10.	Check and lubricate the rubber seals on the cable entries.	12 months	
11.	Check the grounding of the transformer.	12 months	
12.	Check the torques of the screws.	12 months	
13.	Check the oil temperature.	If required / 12 months	
14.	Check the MV transformer for operating noise.	If required / 12 months	
15.	Take an oil sample and have it tested.	6 years	
16.	Check the oil level. Refill the oil, if necessary.	If required / 12 months	

4 Medium-Voltage Switchgear

No.	Maintenance work	Interval	Date completed
1.	Check the level of the SF6 gas holders.	Prior to each use	
2.	Carry out the visual inspection of the general condition (cleanliness, no corrosion, etc.). If required, clean the enclosure and repair corroded surfaces.	If required / 12 months	
3.	Check whether accessories (detachable levers, etc.) are available and in acceptable state.	If required / 12 months	
4.	For order option "Cascade connection": check the LEDs on the device Easergy T200I and ensure that no errors are present.	If required / 12 months	
5.	For order option "Cascade connection": read out the event report from the user interface of the device Easergy T200I and ensure that no errors are present.	If required / 2 years	
6.	Check the cable connections and tighten again, if necessary.	24 months	
7.	Check the fuses or circuit breakers.	24 months	
8.	Check the interlocking function.	24 months	
9.	Check the motor-drive function.	24 months	
10.	Clean the external elements with a clean, dry cloth.	6 years	
11.	Check that the position indicators (OFF and ON) are aligned.	6 years	
12.	Check the function of the mechanical drive with various electronic circuits.	6 years	
13.	Check the general condition of the electrical connections.	6 years	
14.	Replace the HV/HRC fuse.	10 years	
15.	Replace the voltage indicator.	10 years	

5 Inverter

5.1 Maintenance Work

No.	Maintenance work	Interval	Date completed
1.	Read off error messages and warnings.	24 months	
2.	Check the DC switchgear.	24 months	
3.	Check the AC disconnection unit.	24 months	
4.	Perform an optical inspection.	24 months	
5.	Evaluate the temperature indicators.	24 months	
6.	Clean the air duct and the ventilation grids.	24 months	
7.	Clean the ventilation plate.	24 months	
8.	Check the seals.	24 months	
9.	Check the latches, door stops and hinges.	24 months	
10.	Check the inverter surface for corrosion.	24 months	
11.	Check the interior and clean, if necessary.	24 months	
12.	Check the fuses/disconnection blades.	24 months	
13.	Check the bolted connections.	24 months	
14.	Check the surge arrester.	24 months	
15.	Check the labels.	24 months	
16.	Inverter with low-temperature option: clean the heating elements.	24 months	
17.	Check the fans.	24 months	
18.	Check the heating element and hygrostat.	24 months	
19.	Inverter with low-temperature option: check the heating elements.	24 months	
20.	Check the function of the uninterruptible power supply.	24 months	

5.2 Repair Work

No.	Repair work	Interval	Date completed
1.	Replacing the 24 V power supply units	Every 10 years	
2.	Exterior key switch, front element and label	Every 10 years	
3.	Replacing the fans of the inverter bridge	Every 13 years	
4.	Replacing the interior fan	Every 13 years	

No.	Repair work	Interval	Date completed
5.	Surge arrester	If tripped	
6.	GFDI / ABB high-performance circuit breaker	After 100 trippings due to short circuit or after 7,000 switching cycles	
7.	Remote Switch Unit of the GFDI	After 7,000 switching cycles	
8.	Key switch	If badly worn	
9.	Label	If illegible, defective or missing	

6 Station Subdistribution

No.	Maintenance work	Interval	Date completed
1.	Check the residual-current device.	Prior to each use of the outlet	
2.	Check the inside of the enclosure.	24 months	
3.	Check that the protective covers of the fuses are securely in place and correct, if necessary.	12 months	
4.	Check the function of the relay in the safety loop.	12 months	

7 Low-Voltage Meter

No.	Maintenance work	Interval	Date completed
1.	For order option "Low-voltage meter": replace the battery of the meter UMG 604E from Janitza and check the function of the meter.	5 years	
2.	Check the optical test output.*	24 months / as per national regulations and standards	
3.	Carry out creep test.	If required / as per national regulations and standards	
4.	Check the active power measurement.	As per national regulations and standards	
5.	Check the reactive power measurement.	As per national regulations and standards	

* Execution only by SMA Service or trained service providers

Your signature confirms that the work listed above has been carried out.

Customer or contractor company*	Last name, first name*	Date	Signature

* in block letters