

Item	Description	Unit	Qty	Remark
A	SCOPE OF WORK FOR HV SWITCHGEAR	Set	1	
1	General inspection - Inspection for physical damage of panel & components - General cleaning by vacuum cleaner & alcohol	Lot	1	
2	Operational check - Perform trip & close test (both electrically & mechanically)	Lot	1	
3	Check isolating contact if draw-out type - Clean, examine and re-greasing	Lot	1	
4	Check cable & cable termination - Perform inspection, cleaning & re-tightening.	Lot	1	
5	Check busbar - Perform inspection, cleaning & re-tightening. - Insulation test by megger	Lot	1	
6	Check mechanism - Perform inspection, clean & re-lubricate. - Check for wear & tear	Lot	1	
7	Check earth connection - Check for tightness of joints. - Check the continuity to main earthing	Lot	1	
8	Check auxiliary switches and interlocking - Check indicating devices and interlocks for correct operation.	Lot	1	
9	Check earth Switch Mechanism - Check interlocking function between breaker, disconnecter, door and earth switch.	Lot	1	
10	Check sepam relays - O/C and E/F relay calibration by performing secondary current injection test. - Check the tripping circuit - Check the function of inputs & outputs with drawings.	No	1	
11	Check circuit breaker - Perform inspection, cleaning & re-greasing. - Contact resistance check. - Insulation resistance check. - Record number of operation if any	No	1	
12	Check voltage Transformer - Insulation resistance checks of windings - Resistance value check of windings by VOM	Set	1	
14	Check fuse - Check continuity of all fuses.	Set	1	
12	Check switchroom - Clean up of switchroom.	Lot	1	
13	Report - Furnish official service report with Hai Nam endorsement.	Lot	1	

B	SCOPE OF WORK FOR TRANSFORMER	Set	1	
1	Operation check	Set	1	
2	Re-tighning bus terminals MV-LV;	Set	1	
3	Checking gasket,	Set	1	
4	Checking insulation;	Set	1	
5	Re-tighning cable termials MV, LV	Set	1	
6	Cleaning transformer	Set	1	
C	SCOPE OF WORK FOR LVMSB PANEL	Sets	1	
I	Thermal Scan MSB PANEL (Scan at least 3 point / Module)			
	Thermal scan before shutdown			
1	The connections of busbar of the LV switchgear.	Set	1	
2	The connection between power cable & busbar of the LV switchgear.	Set	1	
3	The connection of ACB/MCCB of the LV switchgear.	Set	1	
4	Furnish official service report with Hai Nam endorsement.	Set	1	
5	Thermal scan again the points unusual of the first thermal scan	Set	1	
II	Maintenance Main Switchgear Board			
	Shutdown Request			
1	Inspect physical and mechanical condition.			
	- Clean the unit			
2	Operation check	Set	1	
	- Perform both electrically & mechanically trip and close function.			
2	Check isolating contacts and Arc chute	Set	1	
	- Inspect condition, clean & re-greasing			
	- Inspect condition of clusters.			
	- Check for wear and tear of fixed and moving contacts.			
3	Mechanism	Set	1	
	- Perform inspection, cleaning & re-lubricate.			
	- Check for wear & tear.			
3	Check racking screw (for draw-out type)	Set	1	
	- Cleaning & re-lubricate.			
5	Check main circuit path	Set	1	
	- Perform contact resistance test (for rating $\geq 630A$)			
4	Check Busbar	Set	1	
	- Perform inspection, cleaning, tightening			

C	SCOPE OF WORK FOR LVMSB PANEL	Sets	1	
	- Perform insulation test by megger	Set	1	
	- Verify tightness of accessible bolted electrical connections by calibrated torque wrench method			
5	Chassis (for draw-out type)	Set	1	
	- Check safety shutters for proper operation.			
	- Check racking-in and withdrawing of ACB.			
	- Check all interlocking mechanism.			
6	Check control circuit	Set	1	
	- Checking and testing of ATS electrical control circuit			
	- Checking of mechanical and electrical interlocking system.			
7	Testing protection relay	Set	1	
	- O/C and E/F relay calibration by performing secondary current injection test.			
	- Check the tripping circuit			
	- Check the function of inputs & outputs with drawings.			
8	Check circuit breaker (ACB)	Set	1	
	- Perform inspection, cleaning & re-greasing.			
	- Contact resistance check.			
	- Insulation resistance check.			
	- Record number of operation if any			
	- Testing trip unit			
	- Operation check (Perform trip, open & close test (both electrically & mechanically)			
	- Mechanical interlock check			
9	Verification of Measuring Power (if request)			
10	Report	Lot	1	
	- Furnish official service report with Hai Nam endorsement.			

C	SCOPE OF WORK FOR LVMSB PANEL	Sets	1	
III	LV Capacitor Maintenance			
1	Inspect all components at front panels for defects.	Set	1	
2	General cleaning by vacuum cleaner & alcohol.	Set	1	
3	Verify operation of cooling fans	Set	1	
	- Perform inspection & cleaning.			
	- Re-tighten by torque wrench.			
4	Verify APFC			
	- Verify desired cosφ preset at APFC	Set	1	
	- Verify operating voltage, current, cosphi and Output contact of APFC			
5	Function check of the compensation: contactor, reactor	Set	1	
6	Verify tightness of accessible bolted electrical connections by calibrated torque wrench method			
7	Capacitor Bank			
	- Perform insulation-resistance test from the phase terminal to case			
	- Measure the capacitance of all terminal combinations			
8	Report	Lot	1	
	- Furnish official service report with Hai Nam endorsement.			
IV	Maintenance for DB PANEL			
1	General inspection	Set	1	
	- Inspect all components at front panels for defects.			
2	General cleaning	Set	1	
	- General cleaning by vacuum cleaner & alcohol.			
3	Check Power cable & cable termination	Set	1	
	- Perform inspection & cleaning.			
	- Re-tighten by torque wrench.			
4	Check Auxiliaries control cables	Set	1	
	- Check indicating devices and terminations.			
5	Check Busbar	Set	1	
	- Perform inspection, cleaning, tightening			
	- Perform insulation test by megger			
6	Check earth connection	Set	1	
	- Check for tightness of joints.			
7	Fuses & control circuit	Set	1	
	- Check for continuity.			
8	Controller test	Set	1	
9	Report	Lot	1	
	- Furnish official service report with Hai Nam endorsement.			