Thyristor Module Inspection & Maintenance

Grid Circle:	Division:	Station/Substation:
Date:	Reference File:	Identification No:
Schedule : ☐	Emergency : ☐	Special : ☐

Name of Thyristor Valve Module:

Sl. No.	Item	Condition		Action Taken	Reference
1.	**Visual inspection:**				
(a)	**Bus Connection Bolts:**	☐ OK	☐ Not OK		
(b)	**Contamination:**				
	i) Long rod Surface	☐ OK	☐ Not OK		
	ii) water pipe Insulator	☐ OK	☐ Not OK		
	iii) Grading Capacitor	☐ OK	☐ Not OK		
	iv) Thyristor module Insulator	☐ OK	☐ Not OK		
(c)	**Cooling Circuit Fittings:**				
	(i) Leakage	☐ Yes	☐ No		
	(ii) Tightness	☐ OK	☐ Not OK		
(d)	**Valve reactor:**				
	(i) Epoxy				
	a. Cracks	☐ Yes	☐ No		
	b. Color	☐ OK	☐ Not OK		
	(ii) Continuity	☐ OK	☐ Not OK		
(e)	**Grading Electrode**	☐ OK	☐ Not OK		
2.	**Earth Switch**	☐ OK	☐ Not OK		
3.	**Overall Cleanness**	☐ OK	☐ Not OK		

Remarks:

Sub-Divisional Engineer Date:.....	Sub-Assistant Engineer Date:.....

Reviewed by (CE,T-2)

Approved by(ED)

POWER GRID COMPANY OF BANGLADESH LTD.

CONVERTER TRANSFORMER

Division:			Station:	Identification No:	
Date:			Bay Location:	Reference File:	
Make:	Type:		Sl. No.		Year:
Schedule : ☐			Emergency : ☐	Special : ☐	

CONVERTER TRANSFORMER NUMBER:

Sl. No	Item		R Phase Condition	Y Phase Condition	B Phase Condition	Reference
1.	Overall Cleanliness		☐ Clean ☐ Not Cleaned	☐ Clean ☐ Not Cleaned	☐ Clean ☐ Not Cleaned	
2.	Oil Level :		Low ☐ High ☐ Normal ☐ Defective Indicator ☐	Low ☐ High ☐ Normal ☐ Defective Indicator ☐	Low ☐ High ☐ Normal ☐ Defective Indicator ☐	
	(i) Main Tank		☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
	(ii) OLTC		☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
3.	Oil Leak:		Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	
	Main Tank		☐ ☐	☐ ☐	☐ ☐	
	OLTC		☐ ☐	☐ ☐	☐ ☐	
	Conservator		☐ ☐	☐ ☐	☐ ☐	
	Radiator		☐ ☐	☐ ☐	☐ ☐	
4.	Oil Condition(Visual)		Good ☐ Not Good ☐	Good ☐ Not Good ☐	Good ☐ Not Good ☐	
	Main Tank		Colour: ☐ ☐	Colour: ☐ ☐	Colour: ☐ ☐	
			Odor: ☐ ☐	odor: ☐ ☐	odor: ☐ ☐	
	OLTC		Colour: ☐ ☐	Colour: ☐ ☐	Colour: ☐ ☐	
			odor: ☐ ☐	odor: ☐ ☐	odor: ☐ ☐	
5.	Temperature Meter:		Good ☐ Defective ☐	Good ☐ Defective ☐	Good ☐ Defective ☐	
	(i) Oil		☐ ☐	☐ ☐	☐ ☐	
	(ii) Winding		☐ ☐	☐ ☐	☐ ☐	
6.	Pressure Relief Diaphragm for cracks		☐ OK ☐ Cracked	☐ OK ☐ Cracked	☐ OK ☐ Cracked	
7.	Colour of Silica Gel		☐ OK ☐ Colour Changed	☐ OK ☐ Colour Changed	☐ OK ☐ Colour Changed	
8.	Cooler Fans /Pumps		☐ In operation ☐ Out of operation	☐ In operation ☐ Out of operation	☐ In operation ☐ Out of operation	
9.	Local Control Cubicle:		Clean ☐ Not Cleaned ☐	Clean ☐ Not Cleaned ☐	Clean ☐ Not Cleaned ☐	
	(i) Transformer		☐ ☐	☐ ☐	☐ ☐	
	(ii) OLTC		☐ ☐	☐ ☐	☐ ☐	
10.	OLTC Operation:		Good ☐ Defective ☐	Good ☐ Defective ☐	Good ☐ Defective ☐	
	Manual		☐ ☐	☐ ☐	☐ ☐	
	Electrical	Local	☐ ☐	☐ ☐	☐ ☐	
		Remote	☐ ☐	☐ ☐	☐ ☐	
		SCADA	☐ ☐	☐ ☐	☐ ☐	
11.	Space Heater		☐ OK ☐ Defective	☐ OK ☐ Defective	☐ OK ☐ Defective	
12.	Un-usual Internal Noise		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	
13.	Bushing :		Good Cracked Punctured	Good Cracked Punctured	Good Cracked Punctured	
	(i) HT		☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	
	(ii) LT -Y		☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	
	(iii) LT- Δ		☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	
14.	Wheel Lock		☐ Secured ☐ Unsecured	☐ Secured ☐ Unsecured	☐ Secured ☐ Unsecured	
15.	Buchholz Relay:		Good Defective	Good Defective	Good Defective	
	Main Tank		☐ ☐	☐ ☐	☐ ☐	
	OLTC		☐ ☐	☐ ☐	☐ ☐	
16	Dissolved gas Analyzer		Good Defective	Good Defective	Good Defective	
			☐ ☐	☐ ☐	☐ ☐	

Observation and Action taken:

Sub-Divisional Engineer Date:.....	Sub- Assistant Engineer Date: .....

Reviewed by (CE,T-2) Approved by(ED)

POWER GRID COMPANY OF BANGLADESH LTD.

SMOOTHING REACTOR INSPECTION CHECK SHEET

Grid Circle:	**Division:**	**Station:**
Date:	**Reference File:**	**Identification No:**
Schedule : ☐	**Emergency :** ☐	**Special :** ☐

SMOOTHING REACTOR:

Sl. No.	Visual Inspection	Observation			Action Taken	Remarks
1	Winding condition	Ok ☐	Not Ok ☐			
2	Outer Insulation	Ok ☐	Not Ok ☐			
3	Insulator Cleanliness	No ☐	Yes ☐			
4	Insulator Crack	No ☐	Yes ☐			
5	Reactor Cleanliness	No ☐	Yes ☐			
6	Grounding Connection	Ok ☐	Not Ok ☐			
7	Tightness of Bus Connection	No ☐	Yes ☐			
8	Overall Cleanliness	No ☐	Yes ☐			

Remarks:

Sub-Divisional Engineer Date:	Sub-Assistant Engineer Date:

Reviewed by (CE,T-2)

Approved by(ED)

POWER GRID COMPANY OF BANGLADESH LTD.

VALVE COOLING SYSTEM
Monthly Maintenance

Grid Circle:	Division:	Station/Substation:
Date:	Reference File:	Identification No:
Schedule : ☐	Emergency : ☐	Special : ☐

Item	Observation	Condition	Action Taken	Remarks
Circulating Water Pump-01	Abnormal Sound	No ☐ Yes ☐		
	Smooth operation	Ok ☐ Not ok ☐		
	Housing temperature.	Normal ☐ Hi ☐		
Circulating Water Pump-02	Abnormal Sound	No ☐ Yes ☐		
	Smooth operation	Ok ☐ Not ok ☐		
	Housing temperature.	Normal ☐ Hi ☐		
Dozing Pump	Abnormal Sound	No ☐ Yes ☐		
	Smooth operation	Ok ☐ Not ok ☐		
	Housing temperature.	Normal ☐ Hi ☐		
Entire system	Any Leakage of the system.	No ☐ Yes ☐		
Expansion tank	Level (As DC HMI trend)	Norma ☐ Low ☐ Hi ☐		
	Behaviors of the trend.	Normal ☐ Abnormal ☐		

Comments:

Sub-Divisional Engineer Assistant Engineer Sub-Assistant Engineer

Reviewed by (CE,T-2): Approved by (ED) :

VALVE COOLING SYSTEM
QUARTERLY MAINTENANCE

Grid Circle: HVDC Circle	Division: BIPTC Maintenance	Station:
Date:	Reference File:	Identification No:
Schedule : ☐	Emergency : ☐	Special : ☐

Item	Observation	Condition	Action Taken	Remarks
Overall System	Valves Position	Ok ☐ Not ok ☐		
	Valves Leakage	No ☐ Yes ☐		
	Line Leakage	No ☐ Yes ☐		
Circulating Water Pump-01	Coupling House			(if required, refill as per Vogel pump manual chapter 6.5,7.4)
	i) Lubricant color	Ok ☐ Not ok ☐		
	ii) Lubricant Level	Normal ☐ Low ☐		
	Vibration	Normal ☐ Hi ☐		
Circulating Water Pump-02	Coupling House			(if required, refill as per Vogel pump manual chapter 6.5,7.4)
	i) Lubricant color	Ok ☐ Not ok ☐		
	ii) Lubricant Level	Normal ☐ Low ☐		
	Vibration	Normal ☐ Hi ☐		
AHU-01	Primary Filter	Ok ☐ Not ok ☐ Dirty ☐		
	Hepa Filter	Ok ☐ Not ok ☐ Dirty ☐		
	Fine Filter	Ok ☐ Not ok ☐ Dirty ☐		
AHU-02	Primary Filter	Ok ☐ Not ok ☐ Dirty ☐		
	Hepa Filter	Ok ☐ Not ok ☐ Dirty ☐		
	Fine Filter	Ok ☐ Not ok ☐ Dirty ☐		
Dozing Pump	Clogged	No ☐ Yes ☐		
	Position	Ok ☐ Not ok ☐		
Entire system	Pressure Gauge	Ok ☐ Not ok ☐		
	Temperature Gauge	Ok ☐ Not ok ☐		
Expansion tank Level	Level as DC HMI trend and Physical	Same ☐ Not Same ☐		

Comments:

Sub-Divisional Engineer Assistant Engineer Sub-Assistant Engineer.

Reviewed by (CE,T-2): Approved by (ED) :

POWER GRID COMPANY OF BANGLADESH LTD.

VALVE COOLING SYSTEM
Yearly Maintenance

Grid Circle:	Division:	Station/Substation:
Date:	Reference File:	Identification No:
Schedule : ☐	Emergency : ☐	Special : ☐

Item	Observation	Condition	Action Taken	Remarks
Overall System	Rusted	No ☐ Yes ☐		
Racine	Color	Ok ☐ Not ok ☐		
	Necessary to Replace	No ☐ Yes ☐		
Circulating Water Pump-01	Floating ring seals	Ok ☐ Not ok ☐		
	Bearings.	Ok ☐ Not ok ☐		
	Preventively replace	No ☐ Yes ☐		
Circulating Water Pump-02	Floating ring seals	Ok ☐ Not ok ☐		
	Bearings.	Ok ☐ Not ok ☐		
	Preventively replace	No ☐ Yes ☐		
VCS Radiator fans Motor and MCB	111 (1-14)	Ok ☐ Not ok ☐		
	112 (1-14)	Ok ☐ Not ok ☐		
	113 (1-14)	Ok ☐ Not ok ☐		
	114 (1-14)	Ok ☐ Not ok ☐		
Entire system	Pressure sensor	Ok ☐ Not ok ☐		
	Temperature sensor	Ok ☐ Not ok ☐		
Expansion tank Physical Condition	Leakage	No ☐ Yes ☐		
	Rusted	No ☐ Yes ☐		

Comments:

Sub-Divisional Engineer Assistant Engineer Sub-Assistant Engineer

Reviewed by (CE,T-2): Approved by (ED) :

POWER GRID COMPANY OF BANGLADESH LTD.

UN-INTERRUPTED POWER SUPPLY SYSTEM (UPSS) INSPECTION AND MAINTENANCE

Division:	Station/Substation:	Identification No:
Date:	Set No:	Reference File:
Schedule : ☐	Emergency : ☐	Special : ☐

Sl. No	Item		Condition		Action Taken	Reference
1	Battery	Cleanliness	Yes No	☐ ☐		
2		Electrolyte Level	Ok Low	☐ ☐		
3		Cell Leakage	Ok Low	☐ ☐		
4		Inter-cell Connection	Ok Loose	☐ ☐		
5	UPS	Cleanliness	Yes No	☐ ☐		
6		AC Main	On Off	☐ ☐		
7		Alarm	Yes No	☐ ☐		
		ATS	Ok Not ok	☐ ☐		

Time	AC Main (Ph – Ph) (V)				Battery Output				Load % on UPS
	Condition	RY	YB	BR	Voltage		Current		
	On								
	Off								
	On Just after off								

Comments(If any):

Sub-Divisional Engineer
Date:.....

Assistant Engineer
Date:.....

Sub-Assistant Engineer
Date:.....

Reviewed by (CE,T-2) 2/02/26

Approved by(ED)

MESSAGE BOOK

Grid Circle:	Division:	Station/Substation:
Date:	Reference File:	Identification No:
Schedule : ☐	Emergency : ☐	Special : ☐

Message No:	Date	Time	From	To	Message Content	Ramp Details	Remarks

Reviewed by (CE,T-2)

Approved by(ED)

QUALITY MANAGEMENT SYSTEM	POWER GRID COMPANY OF BANGLADESH LTD.					QUALITY FORMS			
	TITLE: DAILY OPERATION LOG FOR HVDC								
DOCUMENT NO:	QF-HVDC-12	REVISION NO.	01	EFFECTIVE DATE:		PAGE	1	OF	1

DAILY OPERATION LOG FOR HVDC

STATION: **DATE:**

Time	220V BATTERY CHARGER SET																	
	CHARGER No.1						CHARGER No.2						CHARGER No.3					
	ON / OFF	Auto/ Manual	Float/ Boost	Input Current AC	Output		ON / OFF	Auto/ Manual	Float/ Boost	Input Current AC	Output		ON / OFF	Auto/ Manual	Float/ Boost	Input Current AC	Output	
					Volts	Amp					Volts	Amp					Volts	Amp
00:00																		
09:00																		
17:00																		

Time	48 V BATTERY CHARGER SET																	
	CHARGER No.1						CHARGER No.2						CHARGER No.3					
	ON / OFF	Auto/ Manual	Float/ Boost	Input Current AC	Output		ON / OFF	Auto/ Manual	Float/ Boost	Input Current AC	Output		ON / OFF	Auto/ Manual	Float/ Boost	Input Current AC	Output	
					Volts	Amp					Volts	Amp					Volts	Amp
00:00																		
09:00																		
17:00																		

Time	VALVE COOLING SYSTEM																	
	Ambient temp. (°C)	Reference power (MW)	Converter Inlet Temp. (°C)		Pump running	Pump Outlet Press. (In Bar)	Filter Diff. Press. (In Bar)	Coolers		Main System conductivity In µS		De-ionizer Ckt. conductivity In µS		Flow in Main Ckt.	Flow in Main System (DI ckt)	Expansion Vessel Level	Refill Tank Level
			1	2	1 or 2			In Serv	Fans Running	701	702	703	704	L/Min	L/Hr.	%	%
00:00																		
09:00																		
17:00																		

Time	AC BUSES AND FILTERS																	
	400kV Side								230kV Side									
	kV (RY)	Hz	Reactor 10CF11 MVA	Reactor 10CF12 MVA	Filter 10CF13 MVA	Filter 10CF14 MVA	Filter 10CF15 MVA	Filter 10CF16 MVA	kV (RY)	Hz	Filter 20DF11 MVA	Filter 20DF12 MVA	Reactor 20DF13 MVA	Filter 20DF23 MVA	Filter 20DF22 MVA	Filter 20DF21 MVA	Reactor 20DF24 MVA	
00:00																		
09:00																		
17:00																		

Time	415 VOLT AUXILIARY SUPPLY											
	Incomer I (33/0.415 KV)						Incomer II (11/0.415 KV)					
	Voltage			Current			Voltage			Current		
	RY	YB	BR	R	Y	B	RY	YB	BR	R	Y	B
00:00												
09:00												
17:00												

SHIFT	Sub-Assistant Engineer	Assistant Engineer	Shift in Charge
C			
A			
B			

Reviewed By (CE, T-2)

Approved By (ED)

QAULITY MANAGEMENT SYSTEM	POWER GRID COMPANY OF BANGLADESH LTD				QUALITY FORMS			
	TITLE: LOG SHEET FOR BMS AND FIRE FIGHTING SYSTEM							
DOCUMENT NO:	QF-HVDC-13	REVISION NO:	01	EFECTIVE DATE:	PAGE:	1	of	1

Log Sheet for BMS and Fire Fighting System

Date	time	Chiller and AHU						Valve hall					Fire fighting				Signature	
		1st floor			GND Floor			Temp	RH	Pa	Fan	Exhaust	Pressure		Pumps	VESDA	AE	SDE
		Pump	Chiller	AHU	Pump	Chiller	AHU	◦ C	%	Kpa	1/2	1/2	Hydrant	Spray	Running	Reset		
	00:00																	
	09:00																	
	17:00																	
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Reviewed By (CE, T-2)

Approved By (ED)

QAULITY MANAGEMENT SYSTEM	POWER GRID COMPANY OF BANGLADESH LTD					QUALITY FORMS			
	TITLE: DIESEL GENERATOR SERVICE REPORT								
DOCUMENT NO:	QF-HVDC-14	REVISION NO:	01	EFFECTIVE DATE:		PAGE:	1	of	1

CIRCLE:	STATION:	
DATE:	DIVISION:	REF:

DIESEL GENERATOR SERVICE REPORT

Outage time (HH:MM)		DG start time	DG phase current (A)				Restore time (HH:MM)		DG stop time	DG running total time	Fuel consumption (L)	Fuel consumption rate (L/H)
33 kV	11 kV	HH:MM	Time	R	Y	B	33 KV	11 KV	HH:MM	HH:MM		

REPORTED BY

CHECKED BY

Reviewed By (CE, T-2)

Approved By (ED)

QUALITY MANAGEMENT SYSTEM	POWER GRID COMPANY OF BANGLADESH LIMITED					QUALITY FORMS			
	TITLE: DIESEL GENERATOR MONTHLY CONSUMPTION REPORT								
DOCUMENT NO.	QF-HVDC-15	REVISION NO.	01	EFFECTIVE DATE		PAGE	1	OF	1

DIESEL GENERATOR MONTHLY CONSUMPTION REPORT

Station: Month:

Previous month Diesel balance (L):

S.L. No.	Date	Consumed fuel (In liter)	DG Running Time (Hour:Minute)	Consumption per hour	**Diesel Purchase (If any in L)**	**Reserve Diesel**	Cause of DG Running	Remarks
								Load/offload
	Total							

Prepared By
SDE/AE

Checked By
Executive Engineer

Approved by
Superintending Engineer

Copy to:
1. Executive Engineer (Maintenance)
2. Control Room (File)
3. Store
4. Master File

2/10/17

Reviewed By (CE, T-2)

Approved By (ED)

POWER GRID COMPANY OF BANGLADESH (PGCB) LTD.
WORK REQUEST FORM

CIRCLE : HVDC	STATION: BANGLADESH- INDIA POWER TRANSMISSION CENTER	STATION IDENTIFICATION NO:
DATE:	WORK REQUEST NO:	

Defects Observed:

VISUAL INSPECTION/ACTION has been done : ☐ YES/ ☐ NO/ ☐ NA

Source: DC HMI/ AC HMI/ Physical/ .....

....

Signature with name and designation

_____

Executive Engineer(Operation)
Forward to Superintending Engineer

Superintending Engineer
Forward to Executive Engineer (P&U/S&L)

Executive Engineer (P&U/S&L)
Please take necessary action PROTECTION /GENERAL UTILITY/STATION UTILITY /S. YARD 400KV/S.YARD 230 KV/ TRANSMISSION LINE MAINTENANCE IN-CHARGE

Action taken :

Maintenance officer **Shift in-charge on duty**

Executive Engineer (P&U/S&L)

Superintending Engineer

Executive Engineer(Operation)

*P&U: protection and utility, S&L: switchyard and line maintenance

Reviewed by (CE,T-2)

Approved by (ED)

03.09.2020