Analog_Signals

Devtyp	Analog
FEEDER_BAY (15 Signals)	**MW**
	MVAR
	MVA
	KV_RY
	KV_YB
	KV_BR
	KV (AVG)
	I_R
	I_Y
	I_B
	PF
	HZ
	MWHE
	MWHI
	MXHE
	MXHI

Devtyp	Analog
BUS COUPLER_BAY (11 Signals)	**MW**
	MVAR
	MVA
	KV_RY
	KV_YB
	KV_BR
	KV (AVG)
	I_R
	I_Y
	I_B
	PF
	HZ

Devtyp	Analog
BUS_BAY (2 Signals)	**KV_RY**
	KV_YB
	KV_BR
	KV (AVG)
	HZ

Devtyp	Analog
TRANSFORMER_BAY (16 Signals)	**MW**
	MVAR
	MVA
	KV_RY
	KV_YB
	KV_BR
	KV (AVG)
	I_R
	I_Y
	I_B
	PF
	HZ
	TPI
	MWHE
	MWHI
	MXHE
	MXHI

Devtyp	Analog
BUS SECTION BAY (11 Signals)	**MW**
	MVAR
	MVA
	KV_RY
	KV_YB
	KV_BR
	KV (AVG)
	I_R
	I_Y
	I_B
	PF
	HZ

Devtyp	Analog
SHUNT REACTOR BAY (09 Signals)	**MVAR**
	KV_RY
	KV_YB
	KV_BR
	KV (AVG)
	I_R
	I_Y
	I_B
	PF

NOTE:

1. **These are the required typical Analog signal list. The list sh**
2. **First starting address should be from 35840**
3. **Signal addressing should be done as per your Bay arrangment**

Single Point Status

FDR (37Signals)	**IOCR**	INSTANTANEOUS OVER CURRENT RELAY OPERATED		
	IEFR	INSTANTANEOUS EARTH FAULT RELAY OPERATED		
	DPRO	Distance Protection Relay Optd		
	M1Z1	MAIN1 ZONE 1 OPERATED		
	M1Z2	MAIN1 ZONE 2 OPERATED		
	M1Z3	MAIN1 ZONE 3 OPERATED		
	M1Z4	MAIN1 ZONE 4 OPERATED		
	M1Z5	MAIN1 ZONE 5 OPERATED		
	M2Z1	MAIN2 ZONE 1 OPERATED		
	M2Z2	MAIN2 ZONE 2 OPERATED		
	M2Z3	MAIN3 ZONE 3 OPERATED		
	M2Z4	MAIN4 ZONE 4 OPERATED		
	M2Z5	MAIN5 ZONE 5 OPERATED		
	SOTF	SWITCH ON TO FAULT OPERATED		
	PSD	POWER SWING DETECTED		
	BCD	BROKEN CONDUCTOR DETECTED		
	DEFN	Directional Earth Fault Optd-N	**NEFN**	Non Directional Earth Fault Optd-
	DOCR	Directional Over Current Optd-R-Ph	**NOCR**	Non Directional Over Current
	DOCY	Directional Over Current Optd-Y-Ph	**NOCY**	Non Directional Over Current
	DOCB	Directional Over Current Optd-B-Ph	**NOCB**	Non Directional Over Current
	OV	OVER VOLTAGE OPERATED		
	UV	Under Voltage Optd		
	CBL	CB SF6/Air Pressure Lockout		
	CBD1	CB Pole Discrepancy-1 (47T) OPERATED		
	CBD2	CB Pole Discrepancy-2 (47T) OPERATED		
	TRO1	TRIP RELAY-1 OPERATED		
	TRO2	TRIP RELAY-2 OPERATED		
	TCF1	Trip Circuit Faulty-1		
	TCF2	Trip Circuit Faulty-2		
	TRF1	86-1_TRIP RELAY FAULTY		
	TRF2	86-2_TRIP RELAY FAULTY		
	TRR1	TRIP RELAY RESET-1		
	TRR2	TRIP RELAY RESET-2		
	CBAT	CB AUTO TRIP		
	LRCB	LOCAL/REMOTE SWITCH FOR CB		
	ARO	AUTO RECLOSE OPERATED		
	ARL	Auto Reclose Lockout		

Transformer (32 Signals)	**IOCR**	INSTANTANEOUS OVER CURRENT RELAY operated
	IEFR	INSTANTANEOUS EARTH FAULT RELAY operated
	DFO	Differential PROTECTION Optd
	CBL	CB SF6/Air Pressure Lockout
	CBD1	CB Pole Discrepancy-1 (47T) OPERATED
	CBD2	CB Pole Discrepancy-2 (47T) OPERATED
	REF	REF Optd
	OET	Over Exciation Trip
	TOT	Thermal over load Trip
	WITH	Winding Temperature Indicator Trip_HV
	WITM	Winding Temperature Indicator Trip_MV
	WITL	Winding Temperature Indicator Trip_LV
	OTT	OIL TEMPERATURE TRIP
	BT	Bucholz Trip
	TRT	Transformer Trouble Trip (PRV)
	ARO	Auto Reclose Optd
	ARL	Auto Reclose Lockout
	TRO1	Trip Relay 1 Optd
	TRO2	Trip Relay 2 Optd
	TCF1	Trip Circuit Faulty-1
	TCF2	Trip Circuit Faulty-2
	TRF1	86-1_TRIP RELAY FAULTY
	TRF2	86-2_TRIP RELAY FAULTY
	TRR1	TRIP RELAY RESET-1
	TRR2	TRIP RELAY RESET-2
	CBAT	CB AUTO TRIP
	LRCB	Local / remote switch for CB
	TAP	Tap changer Auto/Manual XFMR
	TCA	Tap changer alarm
	TCT	Tap changer trip
	TCP	TAP CHANGER POSITION
	LRTC	LOCAL/REMOTE SWITCH FOR Tap changer

Bus_Coupler (18 Signals)	**IOCR**	INSTANTANEOUS OVER CURRENT RELAY operated
	IEFR	INSTANTANEOUS EARTH FAULT RELAY operated
	DFO	Differential PROTECTION Optd
	CBL	CB SF6/Air Pressure Lockout
	CBD1	CB Pole Discrepancy-1 (47T) OPERATED
	CBD2	CB Pole Discrepancy-2 (47T) OPERATED
	ARO	Auto Reclose Optd
	ARL	Auto Reclose Lockout
	TRO1	Trip Relay 1 Optd
	TRO2	Trip Relay 2 Optd
	TCF1	Trip Circuit Faulty-1
	TCF2	Trip Circuit Faulty-2
	TRF1	86-1_TRIP RELAY FAULTY
	TRF2	86-2_TRIP RELAY FAULTY
	TRR1	TRIP RELAY RESET-1
	TRR2	TRIP RELAY RESET-2
	CBAT	CB AUTO TRIP
	LRCB	Local / remote switch for CB

Bus_Section (CB)(18 Signals)	**IOCR**	INSTANTANEOUS OVER CURRENT RELAY operated
	IEFR	INSTANTANEOUS EARTH FAULT RELAY operated
	DFO	Differential PROTECTION Optd
	CBL	CB SF6/Air Pressure Lockout
	CBD1	CB Pole Discrepancy-1 (47T) OPERATED
	CBD2	CB Pole Discrepancy-2 (47T) OPERATED
	ARO	Auto Reclose Optd
	ARL	Auto Reclose Lockout
	TRO1	Trip Relay 1 Optd
	TRO2	Trip Relay 2 Optd
	TCF1	Trip Circuit Faulty-1
	TCF2	Trip Circuit Faulty-2
	TRF1	86-1_TRIP RELAY FAULTY
	TRF2	86-2_TRIP RELAY FAULTY
	TRR1	TRIP RELAY RESET-1
	TRR2	TRIP RELAY RESET-2
	CBAT	CB AUTO TRIP
	LRCB	Local / remote switch for CB

BUS (6 Siganls)	**BPO**	Bus Bar Protection Optd		
	LBB	LOCAL BREAKER BACKUP OPTD		
	VTF1	BUS 1 VT FAIL	**CVT1**	BUS 1 CVT FAIL
	VTF2	BUS 2 VT FAIL	**CVT2**	BUS 2 CVT FAIL
	VTF3	BUS 3 VT FAIL	**CVT3**	BUS 3 CVT FAIL

COMMON	**DCFL**	DC FAIL

NOTE:

1.The given signals are example of typical single status signals. Please submit the single status signals available separately for all the bays depending on the protection system used at site.

2. Mention the protection system used for each bay

3. First starting address should be from 512

4. Signal addressing should be done as per your Bay arrangment

Double Point Status

CB (Circuit Breaker)	**STTS**
BIS (Bus Isolator)	**STTS**
LIS (Line Isolator)	**STTS**
EIS (Earth Isolator)	**STTS**
IS (By_Pass Isolator or Isolator)	**STTS**
Transformer Isolator	**STTS**

NOTE:

1. These are the required typical Double Point Status signal list.The list should be submitted separately for all the 66kV & above bays.

2. First starting address should be from 30720

3. Signal addressing should be done as per your Bay arrangment

Command Signals

CB (Circuit Breaker)	**OPEN**
	CLOSE
BIS (Bus Isolator)	**OPEN**
	CLOSE
LIS (Line Isolator)	**OPEN**
	CLOSE
EIS (Earth Isolator)	**OPEN**
	CLOSE
IS (By_Pass Isolator or Isolator)	**OPEN**
	CLOSE
Transformer Isolator	**OPEN**
	CLOSE
Trip Relay	**RESET**
Transformer Tap	**RAISE**
	LOWER

NOTE:

1. These are the required typical Command Signal list.The list should be submitted separately for all the 66kV & above bays.

2. First starting address should be from 46080

3. Signal addressing should be done as per your Bay arrangment

Other data

Sl.No	Bay type	Parameters required
1	Transmission line	Line length
		conductor type
		connected CT ratio
2	Transformer	Tap Type (TAP limits)
		Nominal Tap position
		Nominal MVA rating
		R%, X%
		% Z own base
		connected CT ratio
3	Generator (Unit)	Capability curve
		Nominal MVA rating
		short circuit Data
4	Bus Coupler	connected CT ratio
5	Shunt Reactor	Nominal MVAR rating
		connected CT ratio

NOTE: Single Line Diagram needs to be provided to BPSO