

SOR – BENEX CCR

EQUIPMENT	CATEGORY	DESCRIPTION	NEED CODE
BUILDING			
	Mechanical measurements		
		Outside temperature	M
Generation facilities			
	Total output		
		Total reactive power output	M
		Total active power output	M
SVC			
	Control and signaling		
		MBPSS ACTIVE	S
		AUTO MODE ON/OFF	S
	Electrical measurements		
		CURRENT PHA SVCnn	M
		GAIN SVCnn	M, m
		MVAR SVCnn	M, m
		B-REF SVCnn	M, m

EQUIPMENT	CATEGORY	DESCRIPTION	CODE BESOIN	
Synchronous Compensator	Control and signaling	MAN/AUTO excitation	S, s	
		Multifunctional stabilizer ON/OFF mode MBPSS	S, s	
	Electrical measurements	Vars	M, m	
		Voltage (\emptyset AB)	M, m	
		Reference voltage	M, m	
	CXC	Control and signaling	Automatic reinsertion system A ON/OFF	S
			Backup bypass device	S
			Automatic reinsertion system B ON/OFF	S
		Electrical measurements	Capacitor current \emptyset A, protection system A or B	M
			Capacitor current \emptyset B, protection system A or B	M
Capacitor current \emptyset C, protection system A or B			M	

EQUIPMENT	CATEGORY	DESCRIPTION	CODE BESOIN
		Capacitor current ϕC	M
		Capacitor current ϕB	M
		Capacitor current ϕA	M, m
	Mechanical measurements		
		Reconnection delay for protection system A	M
		Reconnection delay for protection system B	M
CIRCUIT BREAKER			
	Control and signaling		
		Circuit breaker closed	S, s
Wind			
	Electrical measurements		
		Total available capacity from wind farm, 10-minute minimum	M
		Available capacity from wind turbines, 10-minute minimum	M
		Available capacity from wind turbines, 10-minute maximum	M
		Available capacity from substation, 10-minute average	M
		Available capacity from substation, 10-minute minimum	M
		Total available capacity from substation, 10-minute average	M

EQUIPMENT	CATEGORY	DESCRIPTION	CODE BESOIN
		Total available capacity from wind farm, 10-minute maximum	M
		Available capacity from wind turbines, 10-minute average	M
		Active power generated by wind turbine, 10-minute average	M
		Available capacity from substation, 10-minute maximum	M
		Medium-voltage line	M
		Active power generated by wind turbine, 10-minute minimum	M
		Active power generated by wind turbine, 10-minute maximum	M
		High-voltage line voltage	M
		High-voltage line current	M
		Medium-voltage line reactive power	M
		High-voltage line reactive power	M
		Medium-voltage line current	M
		Active power generated, 10-minute average	M
		Active power generated, 10-minute standard deviation	M
		Active power generated, 10-minute minimum	M
		Active power generated, 10-minute maximum	M

EQUIPMENT	CATEGORY	DESCRIPTION	CODE BESOIN
		Active power generated by wind turbine, 10-minute standard deviation	M
		High-voltage line active power	M
		Medium-voltage line active power	M
	Mechanical measurements		
		Meteorological mast #n, horizontal wind speed at xx metres, 10-minute maximum	M
		Meteorological mast #n, barometric pressure at xx metres, 10-minute standard deviation	M
		Meteorological mast #n, relative humidity at xx metres, 10-minute maximum	M
		Meteorological mast #n, relative humidity at xx metres, 10-minute minimum	M
		Meteorological mast #n, relative humidity at xx metres, 10-minute standard deviation	M
		Meteorological mast #n, relative humidity at xx metres, 10-minute average	M
		Meteorological mast #n, horizontal wind speed at xx metres, 10-minute minimum	M
		Meteorological mast #n, horizontal wind speed at xx metres, 10-minute standard deviation	M
		Meteorological mast #n, horizontal wind speed at xx metres, 10-minute average	M
		Meteorological mast #n, temperature at xx metres, 10-minute maximum	M
		Meteorological mast #n, temperature at xx metres, 10-minute minimum	M
		Meteorological mast #n, temperature at xx metres, 10-minute average	M

EQUIPMENT	CATEGORY	DESCRIPTION	CODE BESOIN
		Meteorological mast #n, barometric pressure at xx metres, 10-minute minimum	M
		Meteorological mast #n, barometric pressure at xx metres, 10-minute maximum	M
		Meteorological mast #n, temperature at xx metres, 10-minute standard deviation	M
		Meteorological mast #n, barometric pressure at xx metres, 10-minute average	M
	Signaling		
		Status of substation disconnect switches	S
		Status of centralized control system	S
		Status of power factor/voltage control mode	S
		Status of substation circuit breakers	S
	Statistics		
		Number of available wind turbines, 10-minute average	M
		Number of wind turbines stopped due to light wind conditions, 10-minute maximum	M
		Number of wind turbines stopped due to strong wind conditions, 10-minute average	M
		Number of wind turbines stopped due to strong wind conditions, 10-minute minimum	M
		Number of wind turbines stopped due to strong wind conditions, 10-minute maximum	M
		Number of wind turbines stopped due to low temperature, 10-minute average	M

EQUIPMENT	CATEGORY	DESCRIPTION	CODE BESOIN
		Number of wind turbines stopped due to low temperature, 10-minute minimum	M
		Number of wind turbines stopped due to low temperature, 10-minute maximum	M
		Number of wind turbines stopped due to light wind conditions, 10-minute average	M
		Number of available wind turbines, 10-minute maximum	M
		Number of wind turbines stopped due to light wind conditions, 10-minute minimum	M
		Number of available wind turbines, 10-minute minimum	M
Converter unit			
	Control and signaling		
		STOP/START	S
		RPC "Q" mode	S
		RPC "U" mode	S
		RPC "AUTO" mode	S
		READY TO START	S
		Capacity reduction	S
		IMPORT/EXPORT MODE	S
		RAMPING/STOP RUN	S
	Electrical measurements		

EQUIPMENT	CATEGORY	DESCRIPTION	CODE BESOIN
		Q_{Ref}	M
		Gamma	M
		Reactive power	M
		V_{Ref}	M
		Overload capacity	M
		Power set point	M
		DC current	M
		Active power	M
		Available power	M
		DC voltage	M
		Power ramp rate	M
	Signaling ready (energized)		
		Converter unit energized on HQ side	S
		HQ filters OFF	S
		Converter unit ready on HQ side	S
	Signaling ready to start		

EQUIPMENT	CATEGORY	DESCRIPTION	CODE BESOIN
		RPC ready for operation on HQ side	S
		CPC ready for operation on HQ side	S
		AC voltage present on HQ side	S
		Converter unit energized	S
	Transformer		
		Frequency	M
		Transformer primary voltage	M
Generating unit			
	Generator		
		Energy	M
		Reactive power	M
		Active power	M
		Current (ϕA)	M
		Voltage (ϕAB)	M
	Excitation and field circuit breaker		
		Manual/Auto excitation	S
		Voltage stabilizer ON/OFF	S

EQUIPMENT	CATEGORY	DESCRIPTION	CODE BESOIN
	Speed governor		
		Control setting for gate ON/OFF MODE	S
Line			
	Control and signaling		
		Voltage present	S, s
	Electrical measurements		
		Active power (MW)	M, m
		Voltage (kV, ØAB)	M, m
		Current (Ø A)	M, m
		Reactive power (MX)	M, m
Disconnecting switch			
	Remote-controlled motorized disconnect switch		
		Disconnect switch control setting	S
		Disconnect switch in closed position	S, s
		Distance ON/OFF	S
		Disconnect switch in open position	S, s
Transformer			

EQUIPMENT	CATEGORY	DESCRIPTION	CODE BESOIN
	Mechanical measurements		
		Socket indication	S, s
	≥ 44kV transformer or generator transformer		
		Active power (MW)	M, m
		Energy, generator transformer	M
		Voltage (kV, ØAB)	M, m
		Reactive power (MX)	M, m
		Current (Ø A)	M
Xc Shunt			
	Electrical measurements		
		Current (A)	M
XL			
	Electrical measurements		
		A-phase current	M