

TD-201 Rev No. 00	Form No.	 	PRODUCT STANDARD PROJECT ENGINEERING & SYSTEMS DIVISION, HYDERABAD	ANNEXURE-04 to PY55223
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ANNEXURE-4 TO PY55223

**INPUT/OUTPUT
SIGNALS LIST
OF LT SWITCHBOARDS**

FOR INTERFACE WITH DCS & ECP

PROJECT

40MW CDQ WASTE HEAT RECOVERY
CO-GENERATION POWER PLANT

CUSTOMER

M/S TATA STEEL LIMITED,
JAMSHEDPUR

CONSULTANT

TATA CONSULTING ENGINEERS,
KOLKATA

1.0 GENERAL NOTE

- 1.0.1 Signal Type is identified as SOFT (digital data transferred over LAN) or HARD (voltage/ current routed via Potential Free Contacts). INPUT or OUTPUT designation is with respect to upstream system (HMI/ DCS/ ECS/ SCADA/ Control Panel/ PLC as applicable).
- 1.0.2 The Vendor is required to provide the *Address Details in case of SOFT Signals* and *Terminal Details in case of HARD Signals* for each of the list items during Detailed Engineering Stage.

2.0 DCS IO LIST

- 2.0.1 The Drive Control Philosophy (attached in Annexure - 2B) shall be followed. The IO Signals for DCS are given below.
- 2.0.2 Wherever Ethernet Switch has been provided, the signals mentioned below shall also be provided over Soft Link.

415V TG PMCC/ MCC Incomer

AI	R phase current (4-20mA)			Hardwired
AI	Y phase current (4-20mA)			Hardwired
AI	B phase current (4-20mA)			Hardwired
AI	3-phase real power (4-20mA)			Hardwired
AI	3-phase reactive power (4-20mA)			Hardwired
DI	CB in service &	Closed	Not closed	Hardwired
DI	CB in service &	Open	Not open	Hardwired (for SOE)
DI	Relay 86 (Bker protective relay optd)	Operated	Reset	Hardwired (for SOE)
DI	Relay 95	Operated	Reset	Hardwired (for SOE)
DI	SAT Transformer Trouble	Operated	Reset	Hardwired
DI	Trip on under voltage	Activated	Reset	Hardwired
DI	Numerical Relay	Unhealthy	Healthy	Hardwired
DO	Breaker Open command			Hardwired (for SOE)
DO	Breaker Close command			Hardwired (for SOE)
DI	CB in test position	Activated	Reset	Hardwired
DI	CB spring charged	Activated	Reset	Hardwired

415V TG PMCC/ MCC Bus Coupler

AI	R phase current (4-20mA)			
AI	Y phase current (4-20mA)			
AI	B phase current (4-20mA)			
AI	3-phase Real power (4-20mA)			
DI	CB in service &	Closed	Not closed	Hardwired
DI	CB in service &	Open	Not open	Hardwired (for SOE)
DI	Relay 86 (Bker U/V lock out)	Operated	Reset	Hardwired (for SOE)

AI	Y phase current			Hardwired
AI	B phase current			Hardwired
AI	Real power			Hardwired
AI	Reactive power			Hardwired
DI	CB in service &	Closed	Not closed	Hardwired
DI	CB in service &	Open	Not open	Hardwired
DI	CB in test position	Activated	Reset	Hardwired
DI	CB spring charged	Activated	Reset	Hardwired
DI	Local/Remote selection	Activated	Reset	Hardwired
DI	Relay 86	Activated	Reset	Hardwired
DI	Relay 95	Activated	Reset	Hardwired
DI	Transformer trouble	Activated	Reset	Hardwired

DC DB

Following indications/alarms will be provided for further taking to DCS in the control room.

- (i) Incomer, bus coupler, ties - ON & OFF
- (ii) Incomer current and voltage
- (iii) Alarm module supply failed
- (iv) Outgoing feeder fault
- (v) Incomer alarm supply fail
- (vi) Bus under voltage
- (vii) Bus earth fault
- (viii) Bus voltage
- (ix) DC motor current

3.0 ECP IO LIST

3.0.1 ECP IOs shall be same as those indicated for DCS above, except for Als.