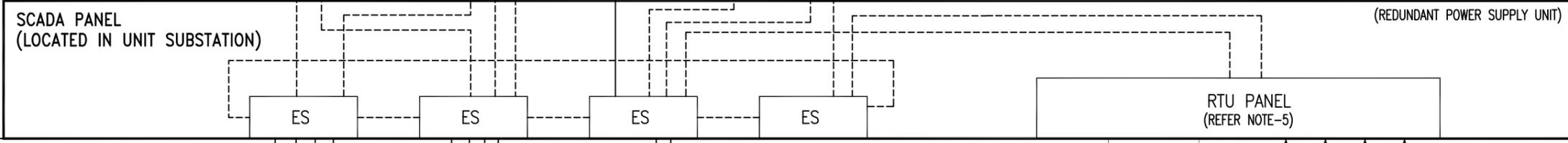


TO SCADA EQUIPMENT IN NEW 11kV SWITCHGEAR BUILDING (500)

SINGLE MODE FIBRE OPTIC CABLE (IEC61850)



LSTK12-220kV SWITCHYARD & ASSOCIATED FACILITIES SCOPE

LSTK12-220kV SWITCHYARD & ASSOCIATED FACILITIES SCOPE

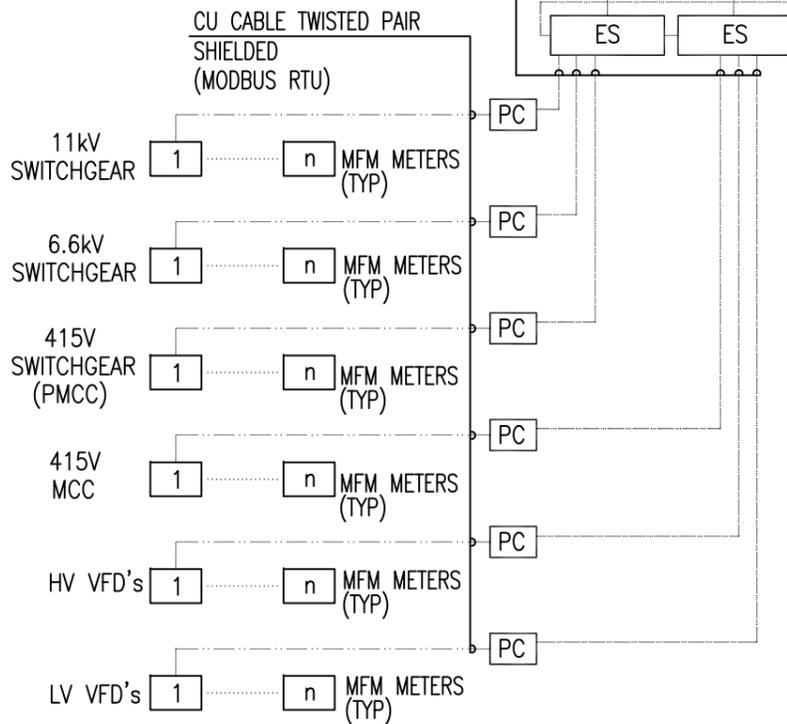
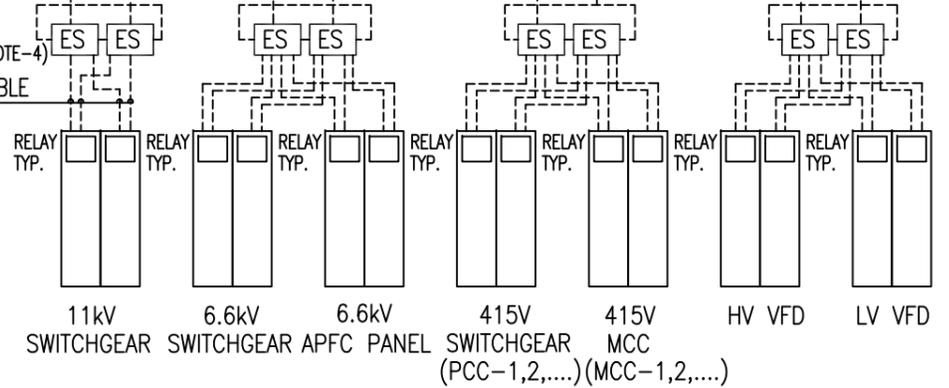
LSTK CONTRACTOR/EPCM SCOPE

LSTK CONTRACTOR/EPCM SCOPE

CAT6 ETHERNET CABLE (IEC 61850) (TYP)

(REFER NOTE-4)

CAT6 ETHERNET CABLE (IEC 61850) (TYP)



HARD WIRED I/O'S FOR

11kV I/C, B/C, TRAF0, VFD, ON/OFF/TRIP/ RELAY UNHEALTHY/TCS(95) UNHEALTHY

11kV TRAF0 ALARM/TRIP FOR OTI,WTI,BUCHHOLZ, PRV, MOG

6.6kV I/C, B/C, VFD, APFC ON/OFF/TRIP/ RELAY UNHEALTHY

415V SWITCHGEAR I/C, B/C ON/OFF/TRIP/RELAY UNHEALTHY

GENERAL FAILURE/ALARM CONDITIONS FOR UPS, BATTERY CHARGER, FA, HVAC ETC.

LOAD SHEDDING COMMANDS

LEGEND

----- IEC 61850

----- MODBUS RTU

----- MODBUS TCP/IP

ES ETHERNET SWITCH (LAYER2)

PC PROTOCOL CONVERTER (SERIAL TO ETHERNET)

RTU REMOTE TERMINAL UNIT

PSU POWER SUPPLY UNIT

- NOTES:**
- FOR DETAILED HARD & SOFT SIGNALS REFER TYPICAL I/O LIST FOR SCADA.
 - EWS (ENGINEERING WORK STATION) AND OWS (OPERATING WORK STATION) SHALL BE LOCATED IN CONTROL ROOM OF EACH UNIT SUBSTATION.
 - HV(11/6.6kV)/LV(415V) MOTORS ON, OFF, TRIP STATUS, LOCAL/REMOTE SELECTION AND START COMMAND SHALL BE WIRED TO LOCAL PLC UNDER DCS NETWORK THESE SHALL NOT BE WIRED TO ELECTRICAL SCADA.
 - NO. OF ETHERNET SWITCHES IN EACH LOOP SHALL BE DECIDED BY LSTK CONTRACTOR BASED ON THE NO. OF PORTS REQUIRED FOR RELAYS/PC. 20% SPARE PORTS SHALL BE CONSIDERED IN EACH LOOP.
 - PROCESSOR ALONG WITH MODBUS TCP/IP INTERFACE CARDS & IEC 61850 INTERFACE CARDS SHALL BE HOT REDUNDANT.

REFERENCE DOCUMENTS:

DOC NO: 6695-ELT-G00-FS-0001 : TYPICAL I/O LIST FOR SCADA.

tkIS India / Owner/Client

Category Codes (Submission purpose)

- 1 For Approval
- 2 For Review / Comments
- 3 For Information
- 4 For Engineering
- 5 For Enquiry
- 6 For Order Placement
- 7 Final & Approved
- 8 Released for Construction

Acceptance Codes (Approval Codes)

- 1 Approved
- 2 Approved for Manufacturing/ Fabrication With Comments as Marked
- 3 Not Approved/Resubmit
- 4 Retained for Information/Records
- 5 Reviewed
- 6 Reviewed as Noted/Resubmit

Date : ___ / ___ / ___ Name : _____

2	18.12.18	BTK	BTK	18.12.18	MSD	18.12.18	MSD	REVISED AS PER ADDENDUM, REVISED AS MARKED & ISSUED FOR ENGINEERING
1	14.02.18	RDK	BTK	14.02.18	MSD	14.02.18	MSD	FINALIZED AFTER NALCO'S REVIEW & ISSUED FOR TENDER
0	27.12.17	RDK	BTK	27.12.17	MSD	27.12.17	MSD	

Rev.	Date	Name	Date	Name	Date	Name	Description	Acc. Code	Contract No.	Document ID	Part	Rev.
		Drawn/Prepared		Checked		Approved			66-6695	6695-ELT-G00-FA-0004		02
Pro. Unit	TON		Group	Cat. Code	Acc. Code	Status	Date	Name				
Con. Unit	Type of Document	Order No.	Scale	Sheet								
			N.T.S.	1 OF 1								
Drawn	27.12.17	RDK										
Prepared	27.12.17	BTK										
Checked	27.12.17	MSD										
Approved	27.12.17	MSD										

Store Location: Server/Share 66-6695-Ada\Acad Store Location: Folder Lascl\Drq\Electrical\Block_diagram Store Name 6695-ELT-G00-FA-0004_01

thysenkruupp

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TYPICAL SCADA BLOCK DIAGRAM FOR UNIT SUBSTATION LEVEL NETWORKING

UH_BO_ISO_A3_L_E_tklIndia.dwg / AG03_UH_BO_ISO_A3_L.dwg / 19.12.2016

50 mm

ISO A3