

- NOTES:-**
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
 2. MAIN EARTHING CONDUCTOR WILL BE LAID 600MM BELOW FROM THE FINISHED GROUND LEVEL.
 3. EARTHING CONDUCTOR RUNNING BELOW CABLE TRENCHES, DRAWS, ROADS & RAIL WILL BE LAID 300MM BELOW THEM.
 4. EARTHING CONDUCTOR WILL BE LAID 150MM BELOW FROM THE FINISHED GROUND LEVEL.
 5. FOUNDATION IN CONSULTATION WITH POWERGRID SITE INCHARGE.
 6. IN CASE OF BOUNDARY WALL EARTHING WILL BE LAID AS SHOWN IN DWG. RUN ALONG THE CABLE TRENCH AND SHALL BE WELDED TO EACH ROCK/SUPPORTERS AS PER SPECIFICATION. EARTH FLAT OF CABLE TRENCH WILL BE CONNECTED TO THE MAIN EARTHING AT 20M INTERVAL & AT BOTH ENDS.
 7. EQUIPMENT EARTHING CONNECTIONS ARE DIAGRAMATIC ONLY AND WILL BE DONE AS PER SITE CONDITION.
 8. ALL EARTHINGS WILL BE DONE IN ACCORDANCE WITH IS:3043 UNLESS OTHERWISE SPECIFIED IN THE TECHNICAL SPECIFICATION.
 9. AT BOTH ENDS OF 300MM FROM GROUND LEVEL OPERATING HANDLES OF MAIN/FEED BOX OF THE SUBSTATION SHALL BE WELDED TO THE MAIN EARTHING AS PER THE ACTUAL LOCATION OF MAIN & FEED BOX AT SITE.
 10. GRAVEL FILLING WILL BE TROWN FROM THE FGL AS PER THE TECHNICAL SPECIFICATION AREA TO BE GRAVELLED.
 11. FOR EQUIPMENTS WHICH ARE IN ABB SCOPE ONLY EARTHINGS SHALL BE DONE BY ABB. FOR BALANCE EQUIPMENTS SHALL BE MARKED IN THE DRAWING SEPARATELY.
 12. WHETHER SPECIFICALLY SHOWN IN THE DRAWINGS OR NOT, ALL STEEL/RCC COLUMNS, METALLIC STAIRS E.T.C. SHALL BE CONNECTED TO THE MAIN BY EARTHING GRID CONDUCTOR BY TWO EARTHING LEADS, ELECTRICAL CONTINUITY SHALL BE ENSURED BY BONDING LAND PLATS & METALLIC STAIRS.
 13. DRAWINGS ENCLOSED ALONG WITH TECHNICAL SPECIFICATION, SECTION SWITCHYARD DETAILS, PLEASE REFER TO STANDARD DRAWINGS ENCLOSED ALONG WITH TECHNICAL SPECIFICATION, SECTION SWITCHYARD.
 14. FOR OTHER GENERAL DETAILS, PLEASE REFER TECHNICAL SPECIFICATION.

LEGEND:-

- MAIN EARTHING 40mm DIA MS ROD
- BELOW GROUND RISER (TAPERED FROM MAIN MS) 40MM DIA MS ROD
- 40MM DIA MS ROD ELECTRODE
- 4.5" & 6" CT'S SHALL HAVE ROD ELECTRODE WITH TEST LINK & COVER
- TOWER WITH PEAK SHALL HAVE ROD ELECTRODE WITH TEST LINK & COVER

EARTH ELECTRODE REQUIREMENT DETAILS (DIRECTLY BURIED ROD ELECTRODE)

FOR 765 kV TOWER WITH PEAK	: 25 NOS.
FOR 400 kV TOWER WITHOUT PEAK	: 08 NOS. (MAIN BUS)
CONTROL ROOM	: 23 NOS.
FOR 400 kV TOWER WITH PEAK	: 04 NOS.
00 SET	: 02 NOS.
FOR 765kV CVT	: 09 NOS.
FOR 400kV CVT	: 12 NOS.
FOR 400kV LA	: 16 NOS.
CORNERS OF SWITCHYARD	: 08 NOS.
4.50MM LT TRANSFORMER	: 04 NOS.

TOTAL 128 NOS.

TOTAL QUANTITY:-

S. NO.	DESCRIPTION	TOTAL
1	MAIN EARTHING 40mm DIA. WID. STEEL ROD	31700 METERS

THIS DRAWING IS MADE BASED ON PCELL ISSUED MAIN EARTHING LAYOUT DATED 20.10.2011

DETAIL OF EARTHING SYSTEM

S. NO.	DESCRIPTION
1	MAIN EARTHING CONDUCTOR TO BE BURIED IN GROUND
2	RISE R BELOW GROUND 40mm DIA MS ROD
3	75x12mm GS FLAT
4	50x6mm GS FLAT
5	50x6mm MS PLAT

- REFERENCE DRAWINGS:-**
1. POWER GRID SUBSTATION (INDORE NEW) SUBSTATION & EXTN OF 400KV INDORE (MPP) SS
 2. POWER GRID SUBSTATION (INDORE NEW) SUBSTATION & EXTN OF 400KV INDORE (MPP) SS
 3. POWER GRID SUBSTATION (INDORE NEW) SUBSTATION & EXTN OF 400KV INDORE (MPP) SS
 4. POWER GRID SUBSTATION (INDORE NEW) SUBSTATION & EXTN OF 400KV INDORE (MPP) SS
 5. POWER GRID SUBSTATION (INDORE NEW) SUBSTATION & EXTN OF 400KV INDORE (MPP) SS
 6. POWER GRID SUBSTATION (INDORE NEW) SUBSTATION & EXTN OF 400KV INDORE (MPP) SS
 7. POWER GRID SUBSTATION (INDORE NEW) SUBSTATION & EXTN OF 400KV INDORE (MPP) SS
 8. POWER GRID SUBSTATION (INDORE NEW) SUBSTATION & EXTN OF 400KV INDORE (MPP) SS
 9. POWER GRID SUBSTATION (INDORE NEW) SUBSTATION & EXTN OF 400KV INDORE (MPP) SS
 10. POWER GRID SUBSTATION (INDORE NEW) SUBSTATION & EXTN OF 400KV INDORE (MPP) SS

1. REVISION NO DRAWING IS APPROVED IN CAT BY PCELL DATED: 11.11.2012

2. THIS DRAWING TO BE REFERRED FOR MAIN EARTHING & RISERS ONLY

3. GRAVEL AREA WILL SHOWN SEPARATELY.

AS BUILT

Power Grid Corporation Of India Ltd.
(A Govt of India Enterprise)

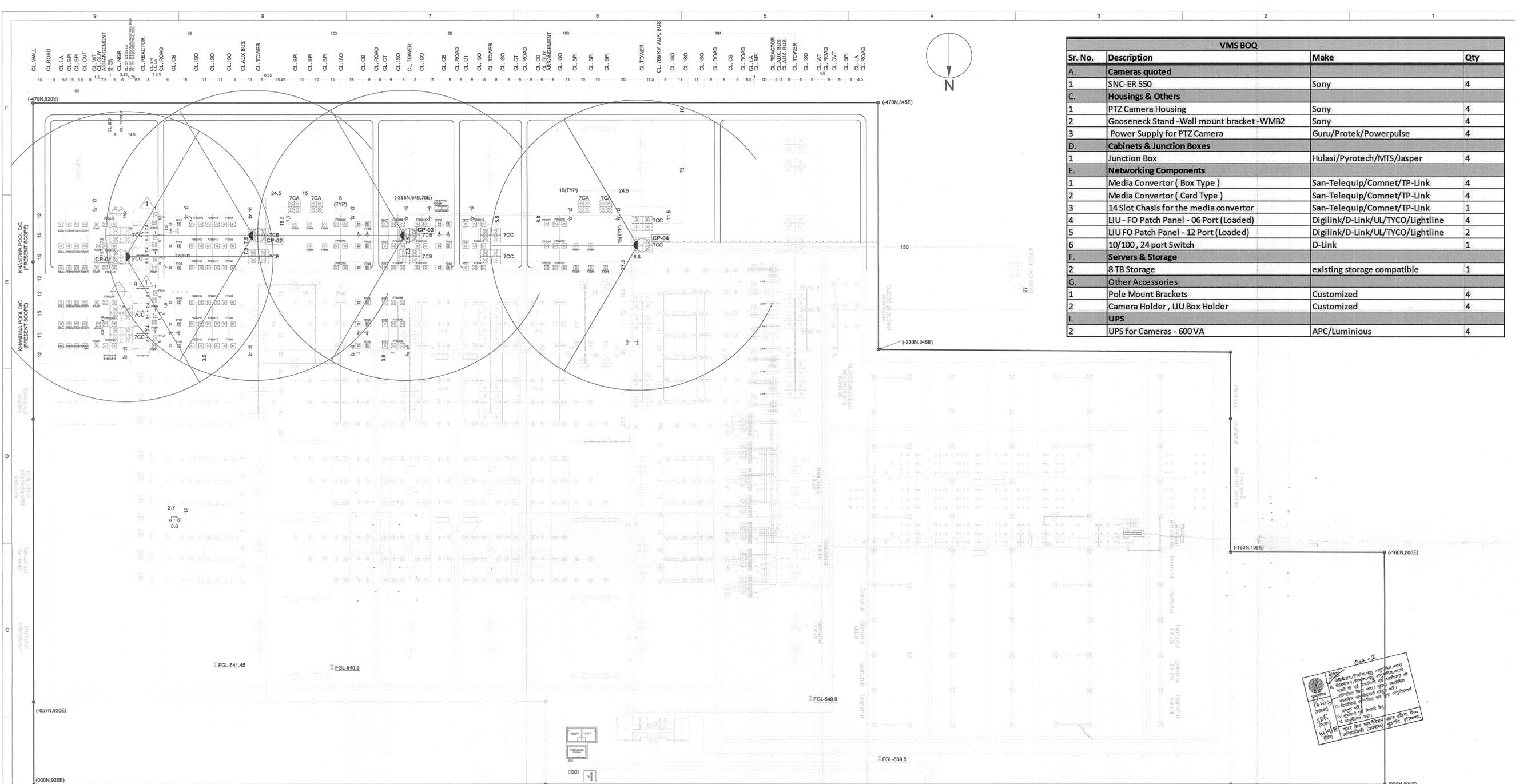
765/400KV INDORE (NEW) SUBSTATION & EXTN OF 400KV INDORE (MPP) SS
ASSO. WITH WF FOR SASAN UMP

765/400KV INDORE SWITCHYARD
EARTHING LAYOUT

3V1N100469T0041

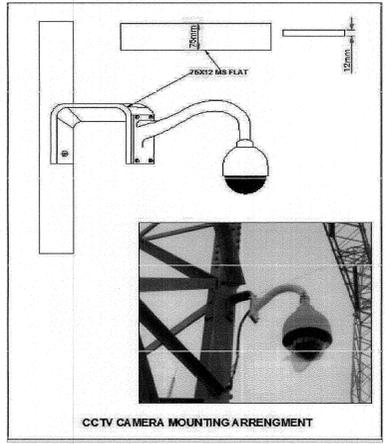
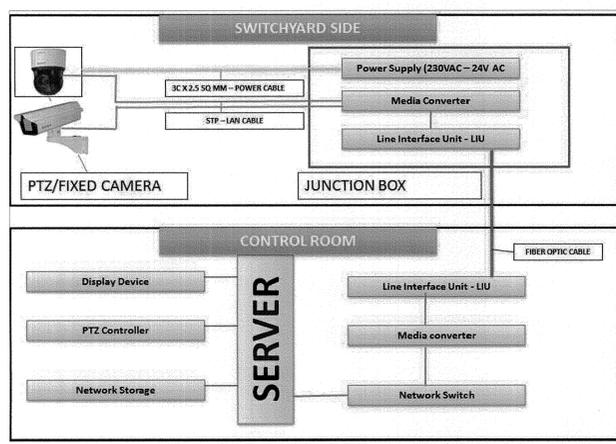
Scale: 1:1000

Sheet: 1



VMS BOQ			
Sr. No.	Description	Make	Qty
A. Cameras quoted			
1	SNC-ER 550	Sony	4
C. Housings & Others			
1	PTZ Camera Housing	Sony	4
2	Gooseneck Stand -Wall mount bracket -WMBZ	Sony	4
3	Power Supply for PTZ Camera	Guru/Protek/Powerpulse	4
D. Cabinets & Junction Boxes			
1	Junction Box	Hulasi/Pyrotech/MTS/Jasper	4
E. Networking Components			
1	Media Converter (Box Type)	San-Telequip/Comnet/TP-Link	4
2	Media Converter (Card Type)	San-Telequip/Comnet/TP-Link	4
3	14 Slot Chassis for the media converter	San-Telequip/Comnet/TP-Link	1
4	LIU - FO Patch Panel - 06 Port (Loaded)	Digilink/D-Link/UL/TYCO/Lightline	4
5	LIU FO Patch Panel - 12 Port (Loaded)	Digilink/D-Link/UL/TYCO/Lightline	2
6	10/100, 24 port Switch	D-Link	1
F. Servers & Storage			
2	8 TB Storage	existing storage compatible	1
G. Other Accessories			
1	Pole Mount Brackets	Customized	4
2	Camera Holder , LIU Box Holder	Customized	4
I. UPS			
2	UPS for Cameras - 600 VA	APC/Luminious	4

Handwritten note in Hindi:
 1. इस योजना में दिखाए गए सभी कामों का अंतिम निर्माण कार्य 07.07.18 तक पूर्ण होना चाहिए।
 2. सभी उपकरणों का ब्रांड और मॉडल निर्माता द्वारा निर्धारित होना चाहिए।
 3. सभी कामों का अंतिम निर्माण कार्य 07.07.18 तक पूर्ण होना चाहिए।
 4. सभी उपकरणों का ब्रांड और मॉडल निर्माता द्वारा निर्धारित होना चाहिए।
 5. सभी कामों का अंतिम निर्माण कार्य 07.07.18 तक पूर्ण होना चाहिए।
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 9. सभी कामों का अंतिम निर्माण कार्य 07.07.18 तक पूर्ण होना चाहिए।
 10. सभी उपकरणों का ब्रांड और मॉडल निर्माता द्वारा निर्धारित होना चाहिए।



LEGENDS:

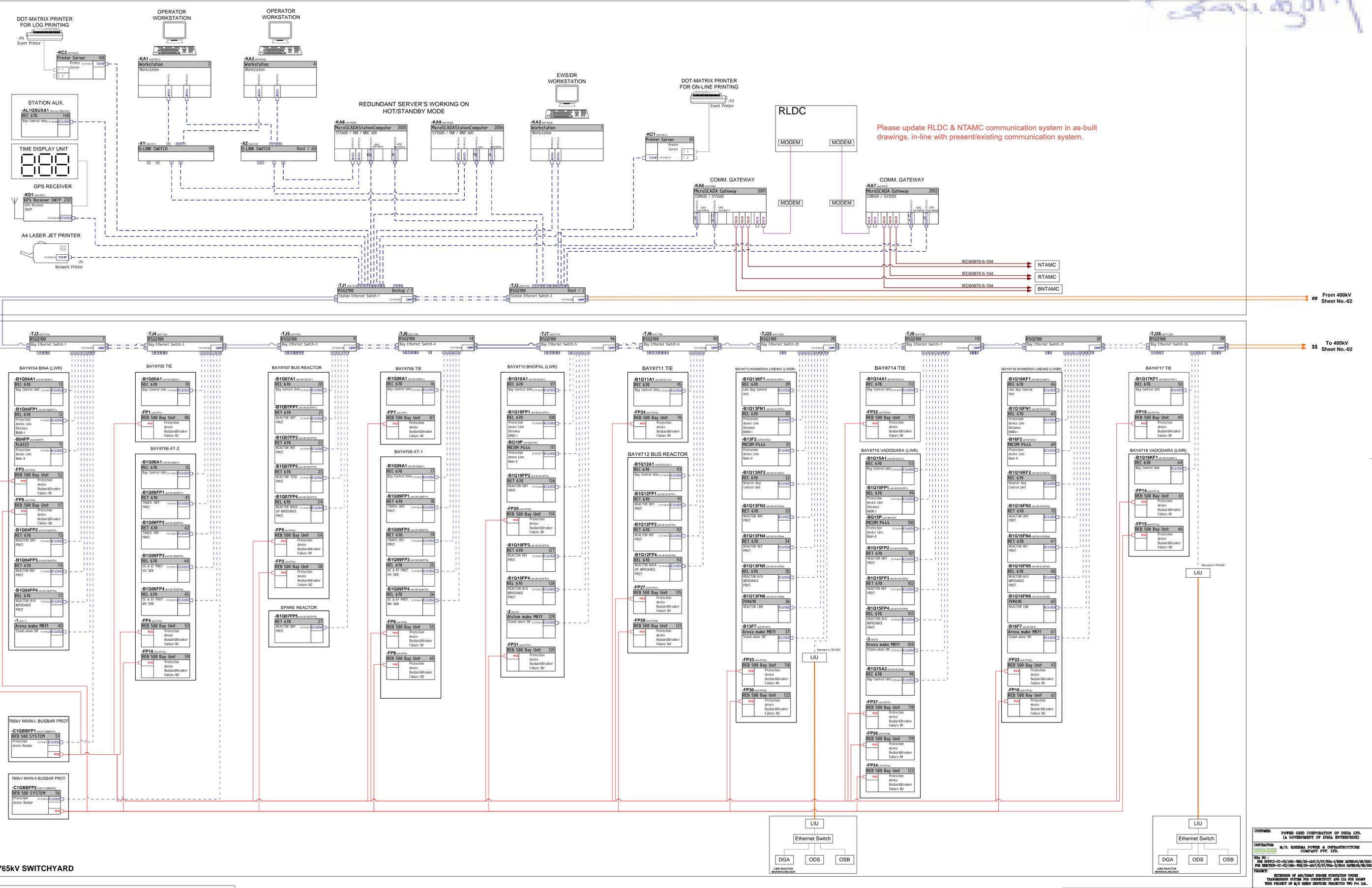


0	FIRST SUBMISSION FOR APPROVAL	D.S	P.S	A.S	09.07.18
REV.	DESCRIPTION	PREP.	CHKD.	APPD.	DATE
CUSTOMER	POWER GRID CORPORATION OF INDIA LTD.				
NOA NO.	SUPPLY	CC-CS/732-WR/1/SS-3383/3/G7/NOA-I/7188, DATED: 07.03.17			
PROJECT	ERECTION	CC-CS/732-WR/1/SS-3383/3/G7/NOA-II/7189, DATED: 07.03.17			
SUBSTATION	EXTENSION OF 765 KV INDORE SUB STATION				
DRG. TITLE	VMS LAYOUT FOR 765 KV INDORE SUB STATION				
DRG. NO. :	DET-TPL-INDORE-VMS-01				
SCALE :	NTS	JOB NO:	0727IN	SHEET	1 OF 1



765/400/220KV INDORE SUBSTATION - POWERGRID CORPORATION OF INDIA LTD. COMMUNICATION CONNECTIVITY DIAGRAM

Handwritten signature/initials



Please update RLDC & NTAMC communication system in as-built drawings, in-line with present/existing communication system.

From 400kV Sheet No.02

To 400kV Sheet No.02

LEGEND:

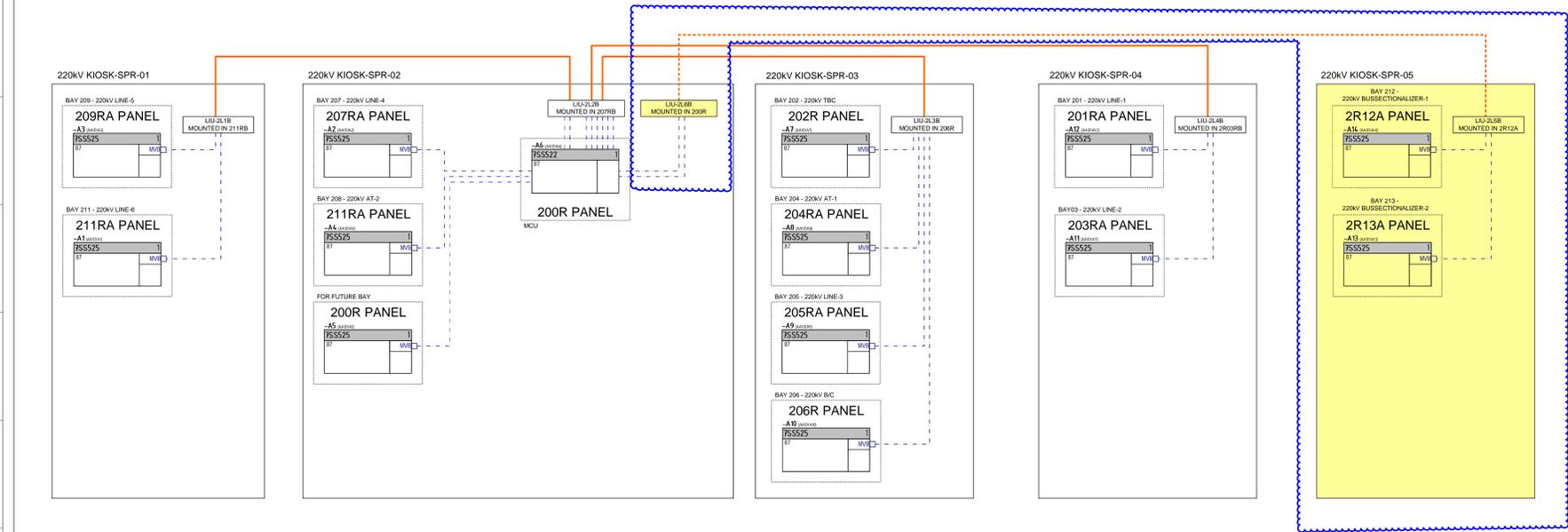
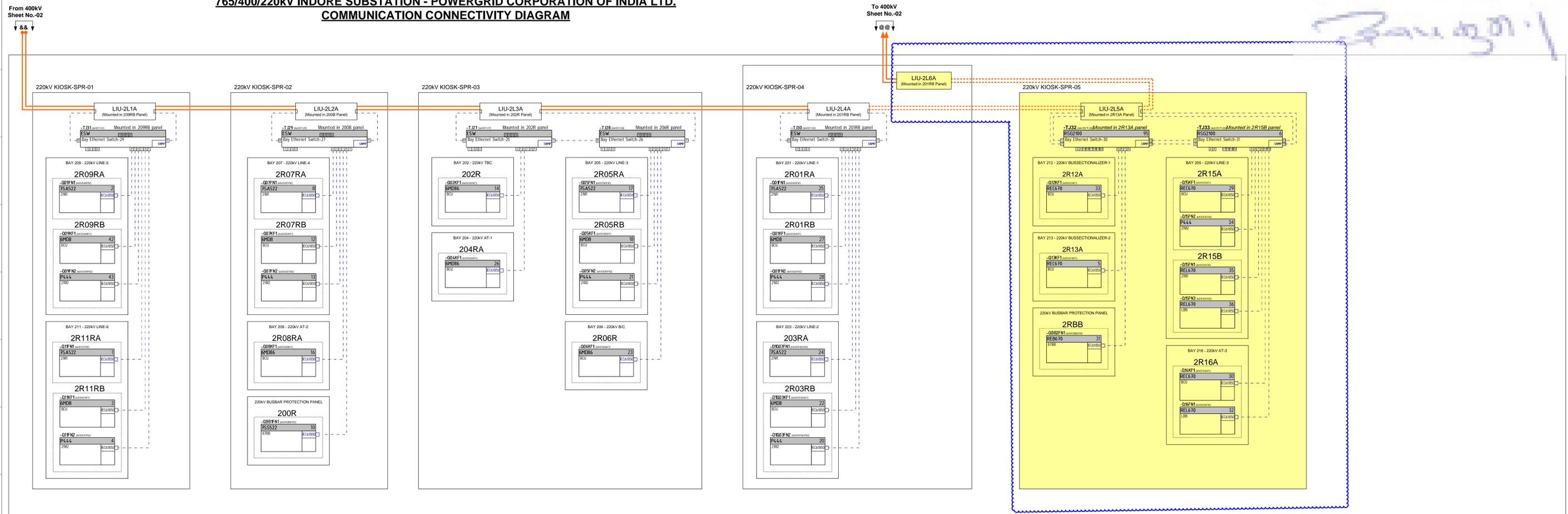
	ARMoured FO CABLE (Existing)
	UNARMoured FO CABLE
	CAT-5 CABLE

CUSTOMER: POWER GRID CORPORATION OF INDIA LTD. (A GOVERNMENT OF INDIA ENTERPRISE)
CONTRACTOR: M/S. KSHEMA POWER & INFRASTRUCTURE COMPANY PVT. LTD.
PROJ. NO.: PG SUPPLY-CC-03/001-102/19-047/3/07/004-1/000 14783-03/04/2001
PROJ. NAME: PG INDORE-CC-03/001-102/19-047/3/07/004-1/000 14783-03/04/2001
PROJECT: EXTENSION OF 400KV INDORE SUBSTATION UNDER TRANSMISSION SYSTEM FOR CONNECTIVITY AND IFA FOR 500 KV VED PROJECT OF M/S SEBS SERVICES PROJECTED TPO PVI 144.

Based on: 110064199	Prepared: DPS	Approved: PSX	Title: COMMUNICATION CONNECTIVITY DIAGRAM-765KV
Project: 765/400/220KV INDORE SUBSTATION EXTENSION POWERGRID CORPORATION OF INDIA LTD.	Doc. dis:	Ref. dis:	
KSHEMA POWER & INFRASTRUCTURE COMPANY PVT. LTD.	Resp. dpt: PG-GASE	Rev. ind: 00	Lang: English
ABB Hitachi ABB Powergrids Limited	Doc. No: 11NNS500700-ZAAA	Sheet: 01	No. of sh: 03

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765/400/220kV INDORE SUBSTATION - POWERGRID CORPORATION OF INDIA LTD.
COMMUNICATION CONNECTIVITY DIAGRAM



Spare Port availability in Each Switch shall be ensured as per TS.

220kV SWITCHYARD ROOM

LEGEND:

	ARMoured FO CABLE (Existing)
	ARMoured FO CABLE (Present)
	UNARMoured FO CABLE
	CAT-5 CABLE

Note:
 1. Supply, splicing & laying of Armoured Fibre Optic Cable for Extension bays is in scope of M/s. KSHEMA POWER & INFRASTRUCTURE COMPANY PVT. LTD.

PRESENT SCOPE OF SUPPLY OF ABB POWER PRODUCTS AND SYSTEMS INDIA LIMITED

CUSTOMER:	POWER GRID CORPORATION OF INDIA LTD. (A GOVERNMENT OF INDIA ENTERPRISE)
CONTRACTOR:	M/S. KSHEMA POWER & INFRASTRUCTURE COMPANY PVT. LTD.
DATE:	16/03/2021
PROJECT:	EXTENSION OF 400/220KV INDORE SUBSTATION UNDER TRANSMISSION SYSTEM FOR CONNECTIVITY AND IFA FOR SHARDA TRIP PROJECT OF M/S. KSHEMA POWER & INFRASTRUCTURE COMPANY PVT. LTD.

Based on:	Prepared: DPS	Approved: PSX	Title:	COMMUNICATION CONNECTIVITY DIAGRAM-220KV
Project:	765/400/220KV INDORE SUBSTATION EXTENSION POWERGRID CORPORATION OF INDIA LTD.	Doc. dis:	Ref. dis:	
Responsible:	PG-GASE	Rev. ind. 00	Lang:	English
Doc. No.:	1MNS500700-ZAAA	Sheet:	03	No. of sh. 03



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