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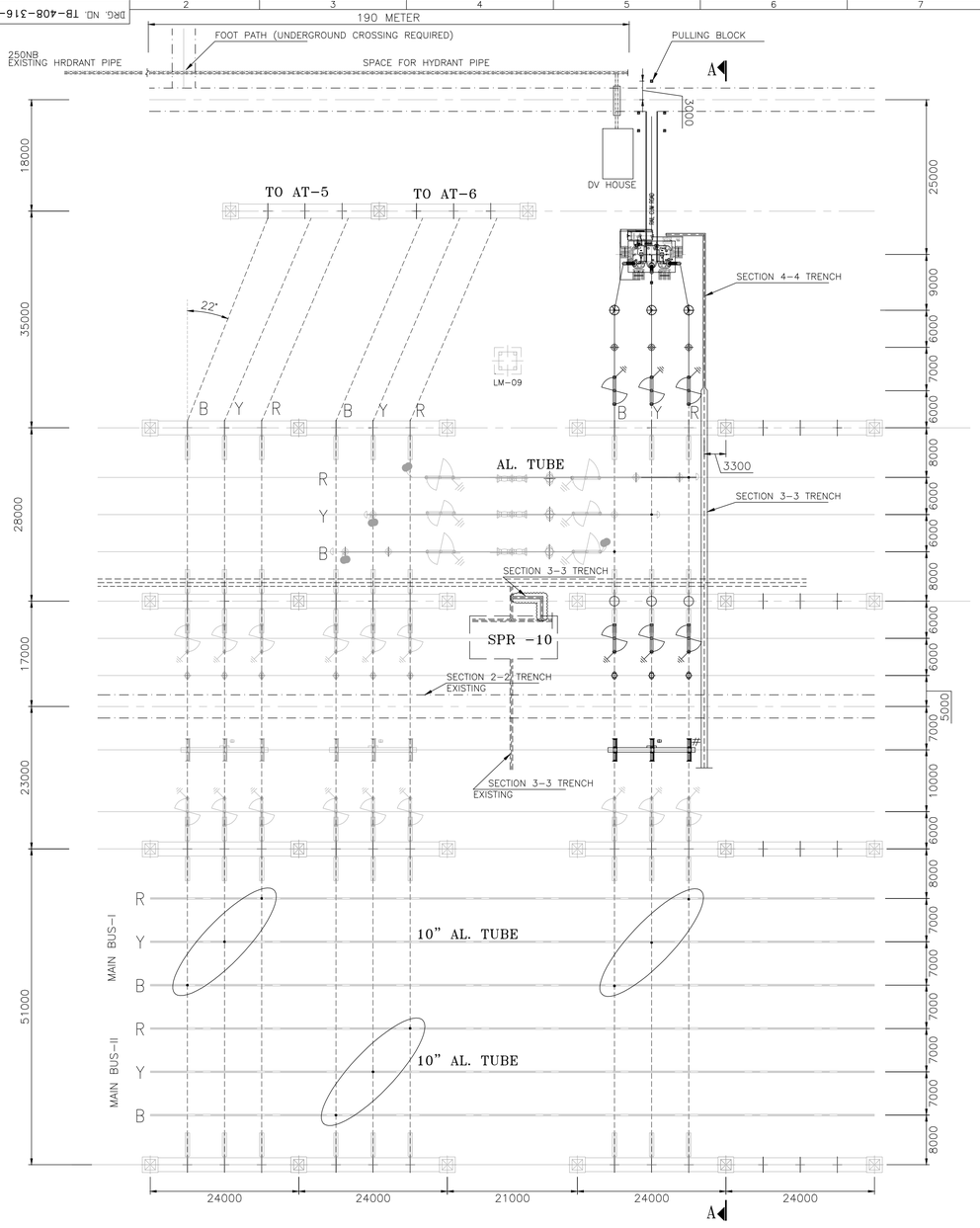

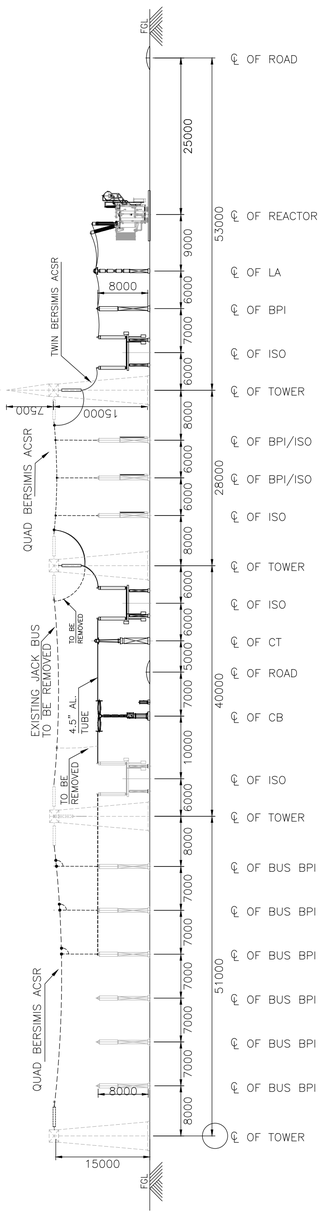

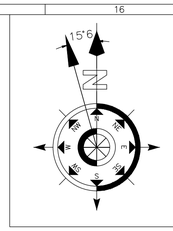

SYSTEM PARAMETERS:

S.NO.	DESCRIPTION	400KV
01	SYSTEM OPERATING VOLTAGE	400kV
02	MAXIMUM OPERATING VOLTAGE OF THE SYSTEM (rms)	420kV
03	RATED FREQUENCY	50Hz
04	FULL WAVE IMPULSE WITHSTAND VOLTAGE (1.2/50 MICROSES.)	1550kVp
05	SWITCHING IMPULSE WITHSTAND VOLTAGE (250/2500 MICRO SEC.) DRY AND WRT	1050kVp
06	ONE MINUTE POWER FREQUENCY DRY WITHSTAND VOLTAGE (rms)	630kV
07	ONE MINUTE POWER FREQUENCY DRY AND WET WITHSTAND VOLTAGE (rms)	--
08	CORONA EXTINCTION VOLTAGE	320kV
09	MAX. RADIO INTERFERENCE VOLRAGE FOR FREQUENCY BETWEEN 0.5 MHz AND 2 MHz	1000µV AT 266kV rms
10	MINIMUM CREEPAGE DISTANCE-FOR EQUIPMENT OTHER THAN INSULATOR STRING	10500mm
11	SYSTEM FAULT LEVEL	50kA FOR 1 SEC
12	MINIMUM CLEARANCE PHASE TO PHASE	4000/4200mm
13	MINIMUM CLEARANCE PHASE TO EARTH	3500mm
14	SECTIONAL CLEARANCES OTHER THAN INSULATOR STRING	6500mm

BILL OF QUANTITIES-400KV (50KA/1SEC):

S.NO.	DECCRIPTION	SYMBOL	QTY. (NOS)
01	125MVAR 400kV, 3-PH BUS REACTOR (NOT IN BHEL SCOPE)		1
02	400KV, 3150A, 3-PH, 50KA FOR 1 SEC, CIRCUIT BREAKER WITHOUT CLOSING RESISTOR		1
03	CONTROLLED SWITCHING DEVICE (SUITABLE FOR 3 PHASE CIRCUIT BREAKER)	--	1
04	400KV, 3150A, 3-PH, 50KA FOR 1 SEC, HORIZONTAL DOUBLE BREAK ISOLATOR WITH 1 E/S		2
05	400KV. 3000A, 1-PH, 50KA FOR 1SEC, CURRENT TRANSFORMER WITH 120% EXT. CURRENT RATING		3
06	336KV, 1-PH, SURGE ARRESTER		3
07	400KV, 1-PH, BUS POST INSULATOR		3

LEGENDS:-

PRESENT SCOPE

EXISTING / FUTURE

BHEL REF. DRAWING:
SLD OF 400KV CHAMPA EXTN. DWG. NO.
TB-408-510-C01 REV 00

PGCIL REF. DRAWING:
400KV LAYOUT PLAN/SECTION DWG. NO.:
5427PS082-CHA-E-SYD-0001-GA REV 04

CONDUCTOR & STRINGING DETAILS -400kV:

SL.NO.	DESCRIPTION	LEVEL FROM PLINTH	SUB-CONDUCTOR	TENSION INSULATOR STRING/PHASE
1.	MAIN BUS-I & II	(AT 8M HEIGHT)	10" IPS AL. TUBE	
2.	JACKBUS	(AT 16M HEIGHT)	QUAD BERSIMIS ACSR CONDUCTOR	
3.	DROPPERS/JUMPERING	_ _	TWIN BERSIMIS ACSR CONDUCTOR WITH 450MM SUB-CONDUCTOR SPACING	SINGLE SUSPENSION STRING-120kN POLYMER STRING INSULATOR
4.	EQUIPMENT INTERCONNECTION	(AT 8M HEIGHT)	4.5" IPS AL. TUBE / TWIN MOOSE ACSR CONDUCTOR WITH 450MM SPACING	

NOTES : -

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
2. 125MVAR, 400KV REACTOR SUPPLY AND ETC IS NOT IN BHEL SCOPE.
3. DRAWINGS IS BASED ON AVAILABLE INPUTS. PLEASE CONFIRM TYPE OF CONDUCTOR/ TUBE AS PER REQUIREMENT.
4. EXISTING JACK BUS AND ASSOCIATED DROPPERS SHALL BE DISMANTLED DURING ERECTION STAGE.

NOA NO. : CC-CS/901-WR2/SS-3931/3/G3/NOA-I/8864 & 8865 DT. 29.07.19

ADDITIONAL INFORMATION
W.O.No. I19TB00001

STATUS OF DRAWING CONTRACT

DISTRIBUTION OF PRINTS

ग्राहक/परियोजना का नाम NAME OF CUSTOMER/PROJECT POWER GRID CORPORATION OF INDIA LIMITED

Substation Package-SS19 for extension of (i) 765kV Solapur S/S; (ii) 765kV Aurangabad S/S; (iii) 765kV Wardha S/S; (iv) 400kV Khandwa S/S; (v) 400kV Rajgarh S/S; (vi) 400kV Champa S/S; (vii) 400/220kV Itarsi S/S & (viii) 400/220kV Jabalpur Substation under WRSS-20.

भारत हेवी इलेक्ट्रिकल्स लिमिटेड
ट्रांसमिशन परियोजना विभाग
BHARAT HEAVY ELECTRICALS LTD.
TRANSMISSION PROJECTS DIVISION

	नाम /NAME	हस्ता./SIGN.	दि./DATE
बनाया DRAWN	DS		16.10.19
जांचा CHECKED	JK		16.10.19
स्वीकृत APPROVED	SKS		16.10.19

विभाग DEPT. TBEM
कोड CODE 422
जनुपात / SCALE NTS
कार्ड कोड CARD CODE

शीर्षक/TITLE
PLAN/ SECTION LAYOUT
FOR EXTN. OF 400KV CHAMPA S/S

ड्रा.क्र./DRAWING NO. TB-408-316-C02
पृष्ठ/REV. 02
पृष्ठ क्र./SHEET No. 01 अगला पृष्ठ/NEXT SHEET --

REV.	DATE	ALTERED / CHECKED / APPROVED	ZONE
02	30.12.19	ALTERED DS / CHECKED JK / APPROVED SKS	1. HOLD ON REACTOR WITHDRAWN. 2. CABLE TRENCH ADDED. 3. SPACE FOR HYDRANT PIPE / DV HOUSE ADDED.
01	13.11.19	ALTERED DS / CHECKED JK / APPROVED SKS	1. DRAWING REVISED AS PER POWERGRID COMMENTS VIDE LETTER NO. VIDE LETTER REF NO. C-ENGG-WR-WRSS-20/BHEL/06 DT. 01.11.19.

COMPUTER FILE NAME: 03810101565308010.DWG
SIGN AND DATE
REF. DRG. NO.
INVENTORY NO

SIZE-A1