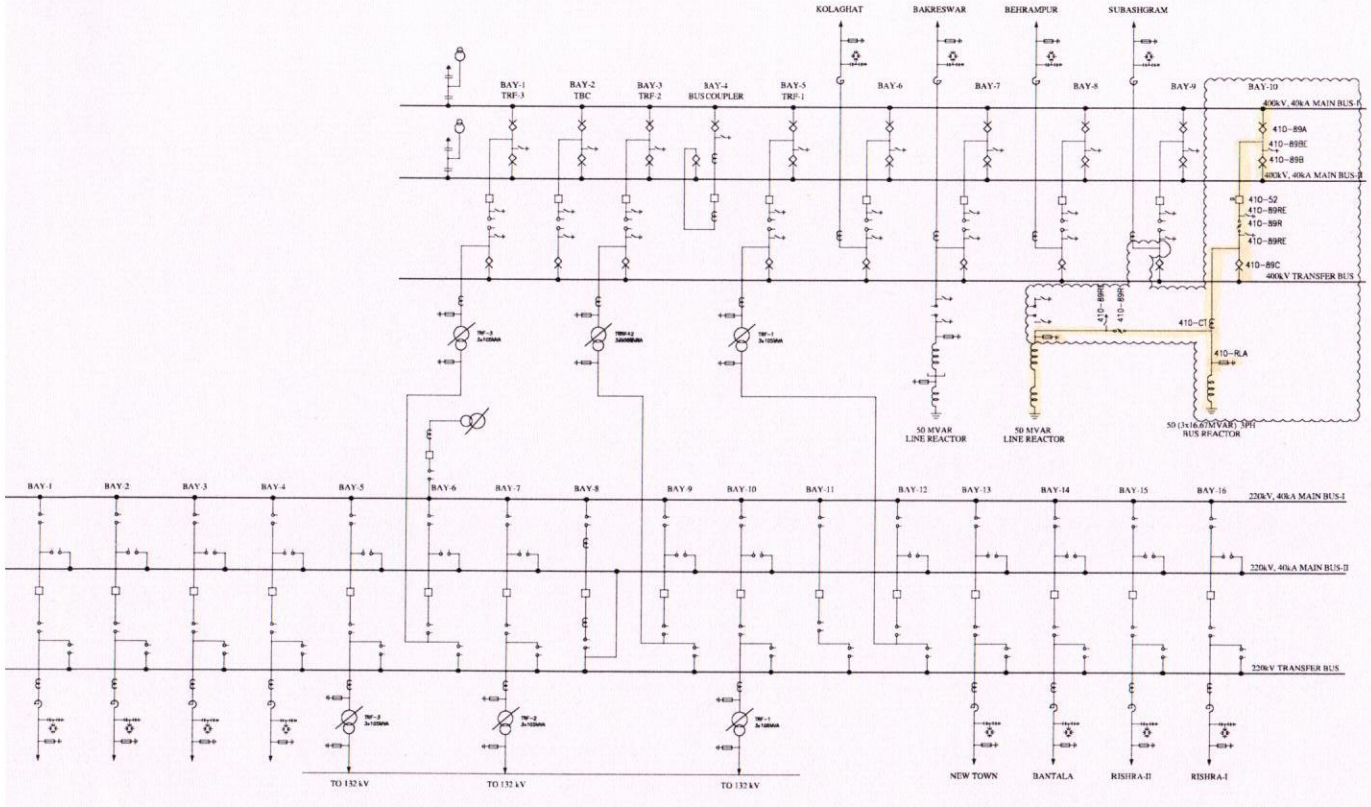
DRAWING No. 5427PS079-JER-E-SYD-



SYSTEM PARAMETERS

Sl.No.	DESCRIPTION	400kV SYSTEM	220kV SYSTEM
1	SYSTEM OPERATING VOLTAGE	400kV	220kV
2	MAX. OPERATING VOLTAGE OF THE SYSTEM (rms)	420kV	245kV
3	RATED FREQUENCY	50Hz	50Hz
4	NO. OF PHASES	3	3
5	RATED INSULATION LEVELS i) FULL WAVE IMPULSE WITHSTAND VOLTAGE (1.2/50microsec.) ii) SWITCHING IMPULSE WITHSTAND VOLTAGE (250/2500microsec.) DRY & WET iii) ONE MINUTE POWER FREQUENCY DRY & WET WITHSTAND VOLTAGE (rms)	1425Wp 1050Wp 630kV	1050Wp - 460kV
6	CORONA EXTINCTION VOLTAGE	320kV	208kV
7	MAX. RADIO INTERFERENCE VOLTAGE FOR FREQUENCY BETWEEN 0.5MHz & 2MHz AT 266kV rms FOR 400kV SYSTEM	1000 microV	1000 microV
8	MIN. CREEPAGE DISTANCE	25MM/kV (10500MM)	25MM/kV (6125MM)
9	MIN. CLEARANCE i) PHASE TO PHASE ii) PHASE TO EARTH iii) SECTIONAL CLEARANCE	4000MM 3500MM 6500MM	2100MM 2100MM 5000MM
10	RATED SHORT CIRCUIT CURRENT FOR 1 SEC. DURATION	40kA	40kA
11	SYSTEM NEUTRAL EARTHING	EFFECT. EARTHED	EFFECT. EARTHED

BILL OF QUANTITY--400kV

SL.NO.	SYMBOL	ABR.	ITEM DESCRIPTION	QTY. AS PER NOA	ACTUAL QTY.(NOS)	MAKE
1		52	400kV CIRCUIT BREAKER WITHOUT CR (3-PH) 2000A, 40kA, 1SEC.(WITH CONTROLLED SWITCHING DEVICE	01	01	ALSTOM
2		89E 89	400kV, 2000A ISOLATOR WITH 1 EARTH SWITCH (3-PH) (PANTOGRAPH)	01	01	SIEMENS
3		89	400kV, 2000A ISOLATOR WITHOUT EARTH SWITCH (3-PH) (PANTOGRAPH)	02	02	SIEMENS
4		89E 89 89E	400kV ISOLATOR WITH 2 EARTH SWITCH (3-PH) DOUBLE BREAK 2000A, 40kA, 1SEC.	01	01	S&S
5		89 89E	400kV ISOLATOR WITH 1 EARTH SWITCH (3-PH) DOUBLE BREAK 2000A, 40kA, 1SEC.	01	01	S&S
6		CT	400kV, 3000-2000-1000/1A, 40kA, 1SEC, 5 CORE CT (1-PH) (WITH 120% EXTENDED CURRENT RATING)	03	03	ALSTOM
7		LA	336kV SURGE ARRESTER (1-PH)	06	06	CGL
8		CSD	CONTROL SWITCHING DEVICE	01	01	ALSTOM

EQUIPMENT DESIGNATION FOR SLD

4	01	-	89	A/B/L/T/BR/LR	E

- EQUIPMENT ID
  - A, B-SIMILAR EQUIPMENT ON SAME BAY
  - L-DEVICE CONNECTED TO LINE SIDE
  - T-EQUIPMENT CONNECTED TO TRANSFORMER
  - R-DEVICE CONNECTED TO REACTOR
- STANDARD EQUIPMENT NO
  - 89- ISOLATOR
  - 52- CIRCUIT BREAKER
  - CT- CURRENT TRANSFORMER
  - CVT- CAPACITIVE VOLATAGE TRANSFORMER
  - LA- LIGHTNING ARRESTER
  - WT- WAVE TRAP
- EARTH SWITCH
- BAY NO. : 01, 02...N, B REPRESENTS BUS
- VOLTAGE LEVEL :-
  - 4:- 400kV SYSTEM
  - 2:- 220kV SYSTEM

NOTES:-

1) PRESENT SCOPE OF WORK IS SHOWN IN CLOUDED REGION.

REV.No.	DESCRIPTION	DATE	DRAWN	REVIEW	CHECKED ELE.	CHECKED CIVIL	CHECKED MECH.	APPROVED	STATUS
		Name							
		Date							
		Sign.							
		Name							
		Date							
		Sign.							
2	REVISED AS PER LAYOUT	Name	ANH		BKL			KNG	
		Date	01.08.16		01.08.16			01.08.16	FOR APPROVAL
		Sign.							
1	REVISED AS PER CUSTOMER COMMENT	Name	ANH		VAG			KNG	
		Date	26.11.14		26.11.14			26.11.14	FOR APPROVAL
		Sign.							
0	FIRST ISSUE	Name	SKC	PSH	PSH			KNG	
		Date	02.07.14	02.07.14	02.07.14			02.07.14	FOR APPROVAL
		Sign.							

CLIENT: POWER GRID CORPORATION OF INDIA LIMITED. (A Government of India Enterprise)

2nd FLOOR, PLOT No.-2 SECTOR-29 GURGAON-122 001 (HARYANA).

PROJECT: TRANSFORMER PACKAGE-TR01 FOR (i) REPLACEMENT OF 2X315MVA ICT WITH 2X500MVA, 400/220kV EACH AT PATNA, PUSAULI & PURNEA, (ii) 1X500MVA, 400/220kV ICT AT BARIPADA SUBSTATION, (iii) REPLACEMENT OF 1X100MVA ICT WITH 1X160MVA EACH AT PURNEA, SILIGURI & BIRNAIRA, (iv) INSTALLATION OF 315MVA, 400/220kV ICT (OWNER SUPPLIED) AT JAMSHEDPUR & FARAKKA ALONG WITH BAYS & (v) EXTENSION OF JEERAT SUBSTATION RELATED TO REACTOR SHIFTING & INSTALLATION UNDER EASTERN REGION STRENGTHENING SCHEME-XII, UP GRADATION OF BAY FROM 2000A TO 3150A RATING AT MALDA & FARAKKA UNDER EASTERN REGION STRENGTHENING SCHEME-XIII AND EXTENSION OF 220kV A/S SUBSTATION AT PATNA & 132kV A/S SUBSTATION AT BANKA UNDER CONSULTANCY SERVICES TO BIHAR STATE POWER TRANSMISSION COMPANY LIMITED (BSPTCL)

LOA No. CC-CS/447-ER2/TR-2421/3/G2/NOA-I/4989,CC-CS/447-ER2/TR-2421/3/G2/NOA-II/4990

TITLE: SINGLE LINE DIAGRAM FOR 400/220kV JEERAT(WBSETCL) S/S EXTN UNDER ERSS-XII

ALSTOM T&D INDIA LTD A 7, SECTOR-65 NOIDA - 201301 UTTAR PRADESH (INDIA).

DRAWING No. 5427PS079-JER-E-SYD-SYS-0407-SLD

TOTAL SH. 001 | Sl.No. 001 | REV. 2

SCALE NTS

A1

C/ER/ERSS-XII/JEERAT/SLD/01

400/220kV JEERAT(WBSETCL) KV S/STN (EXTN.)