ELECTRICAL DISTRIBUTION SYSTEM AT TALCHER
TALCHER FERTILIZERS LIMITED
NIT NO. : PNPM/PC183/E/4006 DATED 27.03.2021
Amendment – IV dated 07.06.2021

SL. NO.	REFERENCE OF BIDDING DOCUMENT				AMENDMENT TYPE M/D/A	MODIFICATION
	Part/Sec.	Page No.	Clause No.	NIT Description		
1.	Section-VI-3.1 Design Philosophy-Electrical	30 of 97	5.21	HVAC System	M	The substation Switchgear Room, UPS & Battery Charger room, ECMS room, Control Room, Maintenance Room, Engineer Room, and Shift Office shall be fully air conditioned through centralised HVAC with (n+1) system with proper ducting arrangement for uniform cooling , however all the equipment shall be suitable for operation under specified ambient condition even on failure of air conditioning system. The substation shall have HVAC system so that the temperature inside the substation is maintained at 25 Deg.C in all conditions. Provision for remote alarm on failure of air conditioning system shall be provided. Indication of substation and control room temperature shall be provided. Heat load to be calculated on the basis of heat generation in the substation during peak summer period. Fire damper to be provided in the ventilation duct of the HVAC. There should be a separate room for installation of the HVAC Units located at ground floor. ***To be read as…….*** The substation Switchgear Room, UPS & Battery Charger room, ECMS room, Control Room, Maintenance Room, Engineer Room, and Shift Office shall be fully air conditioned through centralised HVAC System (as per Section VI-3.2.2 Design Philosophy – HVAC System) with proper ducting arrangement for uniform cooling , however all the equipment shall be suitable for operation under specified ambient condition even on failure of air conditioning system. The substation shall have HVAC system so that the temperature inside the substation is maintained at 25 Deg.C in all conditions. Provision for remote alarm on failure of air conditioning system shall be provided. Indication of substation and control room temperature shall be provided. Heat load to be calculated on the basis of heat generation in the substation during peak summer period. Fire damper to be provided in the ventilation duct of the HVAC. There should be a separate room for installation of the HVAC Units located at ground floor.
2.	Section-VI-3.14 Design Philosophy-Electrical	32 of 97	5.33	OUSS Substation	A	Following clause has been added at the end of clause : LSTK Contractor shall consider foundation of above additional 6 Nos. 2 MVA Owner's Transformers in OUSS.
3.	Section-VI-3.14 Design Philosophy-Electrical	~~32~~45 of 97	8.3.8	Transformers	M	Nitrogen Injection Fire Prevention and Extinguishing System (NIFPES) shall be considered for transformers having oil capacity more than 2000 Ltrs. Additionally, Auto High Velocity Water Sprinkle System (HVWS) complete with Piping shall also be provided for Grid Transformers. ***To be read as…….***

SL. NO.	REFERENCE OF BIDDING DOCUMENT				AMENDMENT TYPE M/D/A	MODIFICATION
	Part/Sec.	Page No.	Clause No.	NIT Description		
						Both High Velocity Water Spray (HVWS) System and Nitrogen Injection Fire Prevention and Extinguishing System (NIFPES) shall be provided for transformers fire protection of capacity more than 60 MVA. Only Nitrogen Injection Fire Prevention and Extinguishing System (NIFPES) shall be provided for transformers fire protection of capacity more the 20MVA but less than 60 MVA. Only High Velocity Water Spray (HVWS) System shall be provided for transformers fire protection having oil capacity more than 2000 Liters and rating upto 20MVA.
4.	Section-VI-3.1 Design Philosophy-Electrical	65 of 97		8.15.1	M	The estimated & tentative I/O list (I/O counts) required at various substations shall be provided by respective Contractors of Coal Gasification Plant, Ammonia-Urea Plant & Steam Generation Plant, Offsite& Utilities (OSBL) Plant. ***To be read as…….*** The estimated & tentative I/O list (I/O counts) required at various substations of Coal Gasification Plant, Ammonia-Urea Plant & Steam Generation Plant, Offsite& Utilities (OSBL) Plant are as below . 1.Man Receiving Substation : To be decided by LSTK Contractor 2. Offsite & Utilities Substation : To be decided by LSTK Contractor. Additional 400 I/O Counts shall be considered for Owner's equipments in OUSS. 3. Coal Gasification Substation : 1950 Nos. 4. Air Separation Substation : 1180 Nos. 5. Purification Substation : 920 Nos. 6. Cooling Tower Substation : 860 Nos. 7. CMD Substation : 1120 Nos. 8. Ammonia Substation : 1400 Nos. 9. Urea Substation : 1340 Nos. 10. Ammonia Storage Substation : 860 Nos. 11. Ammonia-Urea Cooling Tower Substation : 1050 Nos. 12. Steam Generation Plant Substation : 2450 Nos. 13. RWTP Substation : 1060 Nos. 14. DM + CPU Substation : 1020 Nos. 15. ETP Substation : 920 Nos. 16. Bagging Substation : 960 Nos. 17. Coal Handling Unit Substation : 1300 Nos. 18. Ash Handling Unit Substation : 480 Nos. 19.OSBL Cooling Water Substation :240 Nos.

SL. NO.	REFERENCE OF BIDDING DOCUMENT				AMENDMENT TYPE M/D/A	MODIFICATION
	Part/Sec.	Page No.	Clause No.	NIT Description		
						20. 132 kV Switchyard Substation : 500 Nos. 21. EDG / Substation 2 : 240 Nos. Actual I/O List shall be finalized during detailed engineering. ECMS Spare Capacity shall be as per NIT over the above minimum requirement. LSTK Contractor shall also consider Ethernet Switches for Relays and MFM for some substations other than MRSS & OUSS. Tentative Nos. of Ports for Ethernet Switches shall be 1300. *Remaining part of clause shall remain unchanged.*
5.	Section-VI-3.14 Design Philosophy-Electrical	70 of 97	9.1.3	Cables	M	All EHV/HV power cables shall be made of stranded aluminium conductor with XLPE insulation, PVC inner sheathed FRLS type, armoured, PVC outer sheathed FRLS type, conductor screen, insulation screen and construction as per IS: 7098 (Part 2). HV cables shall be of unearthed type. Incomer Cables in 220 KV GIS and 33 KV GIS shall be of Single Core. Single core EHV/HV Power cable shall be of copper conductor. The construction of same shall be as per above ***To be read as…….*** All HV power cables shall be made of stranded aluminium conductor with XLPE insulation, PVC inner sheathed FRLS type, armoured, PVC outer sheathed FRLS type, conductor screen, insulation screen and construction as per IS: 7098 (Part 2). HV cables shall be of unearthed type. Incomer Cables in 220 KV GIS and 33 KV GIS shall be of Single Core. Single core EHV/HV Power cable shall be of copper conductor. EHV cables (220 KV Cables) shall be made of electrolytic grade copper stranded compacted circular conductor for size upto 1000mm2 and segmental type for size above 1000mm2,, tapped with high penetration semi conducting water blocking tape, shielded with extruded semi-conducting layer, insulated with dry gas cured cross linked polyethylene (XLPE) insulation, insulation screened with extruded semi- conducting layer, insulated core copper-wire, screened lapped with a combination of semiconducting water swell able and Corrugated Aluminium sheath followed by black extruded PE (Poly-thylene) inner sheath, Corrugated

SL. NO.	REFERENCE OF BIDDING DOCUMENT				AMENDMENT TYPE M/D/A	MODIFICATION
	Part/Sec.	Page No.	Clause No.	NIT Description		
						aluminiumarmoured and graphite coating PVC outer sheathed overall cable, confirming to latest edition of IEC-62067 and IS:7098 (Part-III)/1993.
6.	Section-VI-3.14 Design Philosophy-Electrical	74 of 97	9.1.15	additional Run of Cables	M	Between 220 KV GIS & 220/34.5 KV Transformers, 1 additional Run of Cables per Phase (single core cables) shall be provided as spare. ***To be read as…….*** Between 220 KV GIS & 220/34.5 KV Transformers, 1 additional Run of Cable (single core cable) shall be provided as spare.
7.	Section-VI-3.14 Design Philosophy-Electrical	74 0f 97			A	Following clause has been added: 9.1.17 Deration factor, group laying factor etc. as per Technical Catalogue of Cable Manufacturer (of whose cables shall be supplied) shall also be considered while sizing the cables.
8.	Section-VI-3.14 Design Philosophy-Electrical	89 0f 97			A	Following clause has been added: 11.1.23 All the equipments to be installed like ECMS Equipments etc. in Substations other than MRSS and OUSS shall also be earthed with dedicated Earth Pits as per Earthing Calculation subject to Minimum 2 Nos. Earth Pits in each substation.
9.	Section-VI-3.1 Design Philosophy-Electrical Attachment Technical Specification – Power Transformers (PC183	9 of 36	6.10		Losses	The losses under the full load condition, at the rated voltage and frequency shall be indicated by the vendor at 75^{O}C. These shall be guaranteed within the tolerable limits specified in IS:2026 at principal tap position. The purchaser has the right to impose penalty charges or reject the transformer in case of any difference in the test and guaranteed values. ***To be read as…….*** The losses under the full load condition, at the rated voltage and frequency shall be indicated by the vendor at 75^{O}C. These shall be guaranteed within the tolerable limits specified in IS:2026 at principal tap position. The Owner has the right to impose penalty charges or reject the transformer in case of any difference in the test and guaranteed values. Maximum value of the below-mentioned losses of Main Power Transformers at normal tap shall be as follows :

SL. NO.	REFERENCE OF BIDDING DOCUMENT				AMENDMENT TYPE M/D/A	MODIFICATION
	Part/Sec.	Page No.	Clause No.	NIT Description		
						125/150 MVA Transformers • No Load Losses at rated voltage & rated frequency: 50 kW • Load Losses at rated output: 380 kW • Auxiliary losses at rated output: 5kW • Total losses including auxiliary losses at rated Output, rated voltage & rated frequency : 435 kW 45/50 MVA Transformers • No Load Losses at rated voltage & rated frequency : 25 kW • Load Losses at rated output : 160 kW • Auxiliary losses at rated output: 3kW • Total losses including auxiliary losses at rated Output, rated voltage & rated frequency : 188 kW 6 MVA Transformers • No Load Losses at rated voltage & rated frequency : 4 kW • Load Losses at rated output : 46 kW Other Transformers shall be of Energy Efficient Level 3 as per IS ;1180. The losses in kilowatts (including IS tolerance) at rated voltage and rated frequency and the total load losses in kilowatts at rated output, rated voltage and rated frequency at 75°C shall be guaranteed.
10.	Section-VI-3.1 Design Philosophy-Electrical Attachment Technical Specification – Power Transformers (PC183-TS-0802)	23 of 36	10.3	Special Tests	M	c) Short-circuit test (IEC 60076-5) ***To be read as…….*** c) Short-circuit test (IEC 60076-5) shall be performed on 1 No. 220/34.5 kV 125/150 MVA Transformer. . *Remaining part of clause shall remain unchanged.*
11.	Section-VI-3.1 Design	5 of 41	3.2.1	Rated dynamic withstand	M	All other parameters shall Rated dynamic withstand current : 128 kA

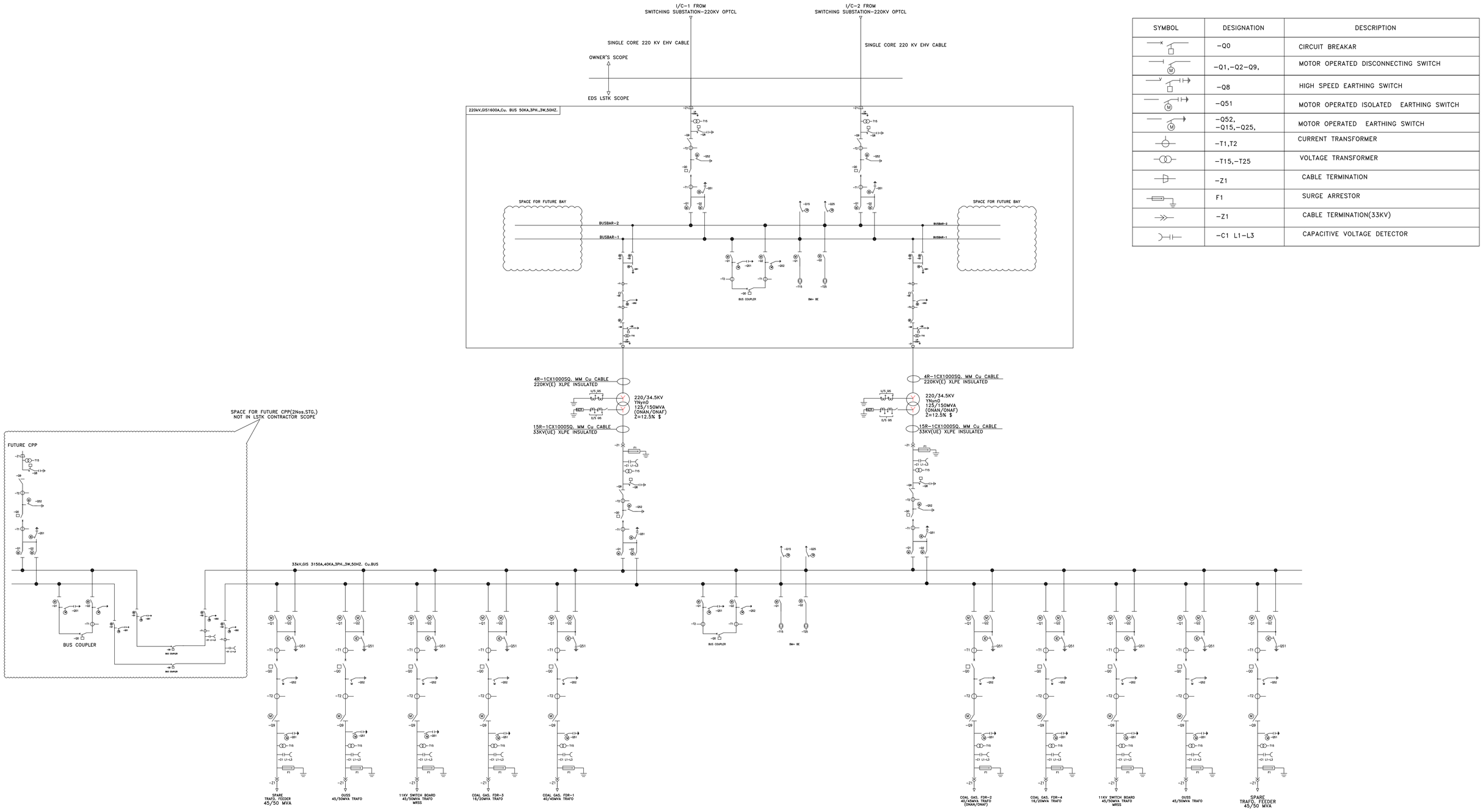
SL. NO.	REFERENCE OF BIDDING DOCUMENT				AMENDMENT TYPE M/D/A	MODIFICATION
	Part/Sec.	Page No.	Clause No.	NIT Description		
	Philosophy-Electrical Attachment Technical Specification – 220 kV GIS (PC183-TS-0832A)			current		***To be read as…….*** Rated dynamic withstand current : 125 kA *All other parameters shall remain unchanged.*
12.	Section-VI-3.1 Design Philosophy-Electrical Attachment Technical Specification – 220 kV GIS (PC183-TS-0832A)	22 of 41	6.10 II	surge arrester	M	The surge arrester shall be of heavy duty station class hermetically sealed, Gapless, ZnO, Surge arrestor, suitable for use with GIS, for each phase, at the 220 kV line underground cable entry terminals of GIS shall be provided for Line Bays. ***To be read as…….*** The surge arrester shall be of heavy duty station class hermetically sealed, Gapless, ZnO, Surge arrestor, suitable for use with GIS, for each phase, at the 220 kV cable entry terminals for all Line Bays and all Transformer Bays of GIS shall be provided.
13.	Section-VI-3.1 Design Philosophy-Electrical Attachment Technical Specification – 33 kV GIS (PC183-TS-0832B)	4 of 42	3.2.1	Incomer / Buscoupler Current Rating	M	Incomer / Buscoupler Current Rating at 50 deg C Amp 3150 ***To be read as…….*** Incomer / Buscoupler Current Rating at 40 deg C Amp 3150 All other parameters shall remain unchanged.
14.	Section-VI-3.1 Design Philosophy-Electrical Attachment Technical	25 of 42	6.10 II	Surge Arrester	M	The surge arrester shall be of heavy duty Distribution Class hermetically sealed, Gapless, ZnO, Surge arrestor, suitable for use with GIS, for each phase, at the 33 kVline underground cable entry terminals of GIS shall be provided for Line Bays. ***To be read as…….*** The surge arrester shall be of heavy duty Distribution Class / DH class hermetically sealed,

SL. NO.	REFERENCE OF BIDDING DOCUMENT				AMENDMENT TYPE M/D/A	MODIFICATION
	Part/Sec.	Page No.	Clause No.	NIT Description		
	Specification – 33 kV GIS (PC183-TS-0832B)					Gapless, ZnO, Surge arrestor, suitable for use with GIS, for each phase, at the 33 kV cable entry terminals of GIS for all Line Bays and all Transformer Bays shall be provided .
15.	Section-VI-3.1 Design Philosophy-Electrical Technical Specification – Electrical Control And Monitoring System (ECMS) (PC183-TS-0833)		4.15			1 (two) A4 printers. ***To be read as…….*** 1 (One) A4 printers. Remaining part of clause shall remain unchanged.
16.	PC183-7411-0985A			220kV & 33 kV GIS Single Line Diagram	M	Revised Single Line Diagram is attached
17.	PC183-7411-0985B			11 KV Single Line Diagram (OUSS)	M	Revised Single Line Diagram is attached
18.						O&UMSS shall be read as OUSS, in complete Section 3.1 – Design Philosophy Electrical.
19.	Section VI-10.0 Vendor List	3 of 44		33 kV GIS	M	ABB Power Products and System India Ltd ***To be read as…….*** ABB India Limited
20.	Section : VI – 3.2.1, Fire Fighting System	2 of 8	-	TABLE OF CONTENT	D	Section Number -14.0 Fire Alarm System, Detection System & Manual Call Points Above stands deleted.

SL. NO.	REFERENCE OF BIDDING DOCUMENT				AMENDMENT TYPE M/D/A	MODIFICATION
	Part/Sec.	Page No.	Clause No.	NIT Description		
21.	Section : VI – 3.2.1, Fire Fighting System	6 of 8	7.5		M	Automatic fixed water spray system, designed in accordance with NFPA 15, with automatically pneumatically operated deluge valve having manual by-pass valve system & detectors, shall be installed to the following locations: ***To be read as…….*** Automatic fixed water spray system, designed in accordance with NFPA 15, with automatically hydraulically operated deluge valve having manual by-pass valve system & detectors, shall be installed to the following locations:
22.	Section : VI – 3.2.1, Fire Fighting System	6 of 8	8.1		M	Clean Agent (Inergen or Argonite) System shall be provided to : Rack Room, Panel room, Switch gear room, Computer rack room and Control Room, as applicable. ***To be read as…….*** Clean Agent (Inergen or Argonite) System shall be provided to : Rack Room, Panel room, Computer rack room and Control Room, as applicable. However, as per applicable codes / standards adequate fire protection shall be provided for Switch gear room.
23.	Section : VI – 3.2.1, Fire Fighting System	6 of 8	8.2		A	CO2 gas flooding system shall also be provided in cable cellar.
24.	Section : VI – 3.2.1, Fire Fighting System				A	Conceptual Fire Water Facility for OSBL (Drg. No. PC183–0000–0011)
25.	PC183/E/8001 /SECVI-3.3	General	2.3.1	RCC paving to be done for entire battery limit and extend up to the adjacent roads around the unit. The contractor's scope is limited	M	RCC paving shall be done on entire plant area having various equipment and facilities and up to 3 m all around beyond that region also. (it means area should be paved in totality as a unit as well as all around 3 m and not in parts where equipment are placed) After that, landscaping works with water sprinklers has to be maintained. Similarly, for buildings and structures, RCC paving shall be provided up to 3 m all around the buildings/structures. Approach roads, exit roads and drains are to be provided within/between all units/roads and structures along with their tie-in connections with Main peripheral roads and drains (which are in Owner's scope). If required, heavy duty paving shall be designed for heavy vehicular traffic movement as per IRC Loading.

SL. NO.	REFERENCE OF BIDDING DOCUMENT				AMENDMENT TYPE M/D/A	MODIFICATION
	Part/Sec.	Page No.	Clause No.	NIT Description		
				to all round the peripheral roads. Heavy duty paving shall be designed for heavy vehicular traffic movement as per IRC Loading.		
26.	PC183/E/8001 /SECVI-3.3	Design philosophy for scope of work - civil & structural work	1.0	Parking shed for Substation Buildings etc of appropriate size	M	Parking Shed (of approx. Size 20 m x 10 m for MRSS and 10 m x 5 m for OUSS) for both Substation Yards (MRSS and OUSS).

LEGEND : M: MODIFICATION, A: ADDITION, D: DELETION



SYMBOL	DESIGNATION	DESCRIPTION
	-Q0	CIRCUIT BREAKAR
	-Q1,-Q2-Q9,	MOTOR OPERATED DISCONNECTING SWITCH
	-Q8	HIGH SPEED EARTHING SWITCH
	-Q51	MOTOR OPERATED ISOLATED EARTHING SWITCH
	-Q52, -Q15,-Q25,	MOTOR OPERATED EARTHING SWITCH
	-T1,T2	CURRENT TRANSFORMER
	-T15,-T25	VOLTAGE TRANSFORMER
	-Z1	CABLE TERMINATION
	F1	SURGE ARRESTOR
	-Z1	CABLE TERMINATION(33KV)
	-C1 L1-L3	CAPACITIVE VOLTAGE DETECTOR

GENERAL NOTES:

1. THIS SLD IS INDICATIVE AND IS INTENDED TO HIGH LIGHT THE 220KV POWER DISTRIBUTION PHILOSOPHY OF TFL COMPLEX
2. RATED SHORT CIRCUIT WITHSTAND - CAPACITY (MIN.)
   220KV- 50KA, 3 SEC
   33KV- 40KA, 3 SEC
   11KV- 40KA, 3 SEC
3. RATIO & ACC. CLASS OF CT,VT & METER AS PER OPTCL / TPCODL REQUIREMENTS & MAKE & MODEL NO. OF METER AS PER OPTCL
4. VECTOR GROUP INDICATED IS TENTATIVE SAME SHALL BE FINALIZED AS PER ELECTRICAL SYSTEM STUDY
5. PROTECTION & DETAIL SLD WILL BE PROPOSED BY BIDDER AS PER NIT AND APPROVED BY PDIL/TFL
6. LOAD SHALL BE FINALIZED DURING DETAILED ENGINEERING
7. POWER QUALITY METER SHALL BE PROVIDED FOR MEASUREMENT AND METERING OF HARMONICS. METER SHALL COMPLY TO IEC 61000-4-30 CLASS AND SHALL HAVE FACILITY FOR WAVEFORM AND TREND LOG.
8. DISTURBANCE RECORDER AND EVENT LOGGING FACILITY SHALL PROVIDED WITH TIME SYNCHRONIZING FACILITY.
9. DETAILS(FOR LILO,METERING & BUS COUPLER) i.e CT RATIO, SPECIFICATION, BREAKER RATING,OFC DETAILS, ETC TO BE CONFIRMED BY OPTCL
10. $ IMPEDANCE OF TRANSFORMER SHALL BE FINALIZED AFTER SYSTEM STUDY.
11. OLTC RANGE OF TRANSFORMER TO BE CONFIRMED BY OPTCL
12. ALL NUMERICAL RELAYS SHALL BE WITH IEC61850 PROTOCOL WITH GRAPHIC DISPLAY
13. TRANSFORMERS ARE PROVIDED WITH ONLINE DEHYDRATION FACILITY,OFFLINE DGA KIT. 220/34.5KV

REV.	DATE	DESCRIPTION	PPD.	CKD.	APPD.
1	07.06.21	ISSUED FOR ENQUIRY	SS	RK	SKB
0	26.03.21	ISSUED FOR ENQUIRY	SS	RK	SKB

Talcher Fertilizers

CLIENT:- TALCHER FERTILIZER LIMITED

REV. 0 1

SHEET 1 OF 3

SCALE: N.T.S.

PROJECT:- COAL BASED FERTILIZER PROJECT

DRG. NO.- PC183-7411-0985A

TITLE:- 220KV&33KV GIS SINGLE LINE DIAGRAM

FILE:

पी डी आई एल PDIL

PROJECTS & DEVELOPMENT INDIA LTD.-NOIDA

220KV CT DATA

BAY	REFERENCE DESIGNATE	TYPE	RATIO	RATED OUTPUT (VA)	CLASS
LINE & OUTGOING FEEDERS	–T1 & –T2	METERING	500–400–300/1	*	0.2S
		PROTECTION	500–400–300/1	*	PS
		PROTECTION	500–400–300/1	*	PS
		PROTECTION	500–400–300/1	*	PS
		PROTECTION	500–400–300/1	*	5P20
		PROTECTION	500–400–300/1	*	PS
BUS COUPLER	–T1 & –T2	PROTECTION	500–400–300/1	*	PS
		PROTECTION	500–400–300/1	*	PS
		PROTECTION	500–400–300/1	*	PS
		PROTECTION	500–400–300/1	*	5P20
		METERING	500–400–300/1	*	0.2S
		PROTECTION	500–400–300/1	*	PS

33KV CT DATA

BAY	REFERENCE DESIGNATE	TYPE	RATIO	RATED OUTPUT (VA)	CLASS
LINE FEEDERS	–T1 & –T2	METERING	3000–2000/1	*	0.2S
		PROTECTION	3000–2000/1	*	PS
		PROTECTION	3000–2000/1	*	PS
		PROTECTION	3000–2000/1	*	5P20
		PROTECTION	3000–2000/1	*	PS
BUS COUPLER	–T1 & –T2	PROTECTION	3000–2000/1	*	PS
		PROTECTION	3000–2000/1	*	PS
		PROTECTION	3000–2000/1	*	PS
		PROTECTION	3000–2000/1	*	5P20
		METERING	3000–2000/1	*	0.2S
OUTGOING FEEDERS	–T1 & –T2	METERING	1000–500/1	*	0.2S
		PROTECTION	1000–500/1	*	PS
		PROTECTION	1000–500/1	*	PS
		PROTECTION	1000–500/1	*	5P20
		PROTECTION	1000–500/1	*	PS

220KV VOLTAGE TRANSFORMER DATA TABLE

BAY	REFERENCE DESIGNATE	RATIO	CLASS	RATED OUTPUT (VA)	WINDING
LINE & OUTGOING FEEDERS	–T5 –T15,–T25	220:/√3/0.11:/√3	0.2	50	1
		220:/√3/0.11:/√3	3P	50	2
		220:/√3/0.11:/√3	3P	50	3

33KV VOLTAGE TRANSFORMER DATA TABLE

BAY	REFERENCE DESIGNATE	RATIO	CLASS	RATED OUTPUT (VA)	WINDING
LINE & OUTGOING FEEDERS	–T5 –T15,–T25	33:/√3/0.11:/√3	0.2	50	1
		33:/√3/0.11:/√3	3P	50	2
		33:/√3/0.11:/√3	3P	50	3

REV.	DATE	DESCRIPTION	PPD.	CKD.	APPD.
1	07.06.21	ISSUED FOR ENQUIRY	SS	RK	SKB
0	26.03.21	ISSUED FOR ENQUIRY	SS	RK	SKB

CLIENT:–
TALCHER FERTILIZER LIMITED

PROJECT:– COAL BASED FERTILIZER PROJECT

TITLE:– 220KV&33KV GIS SINGLE LINE DIAGRAM

REV. 0 1

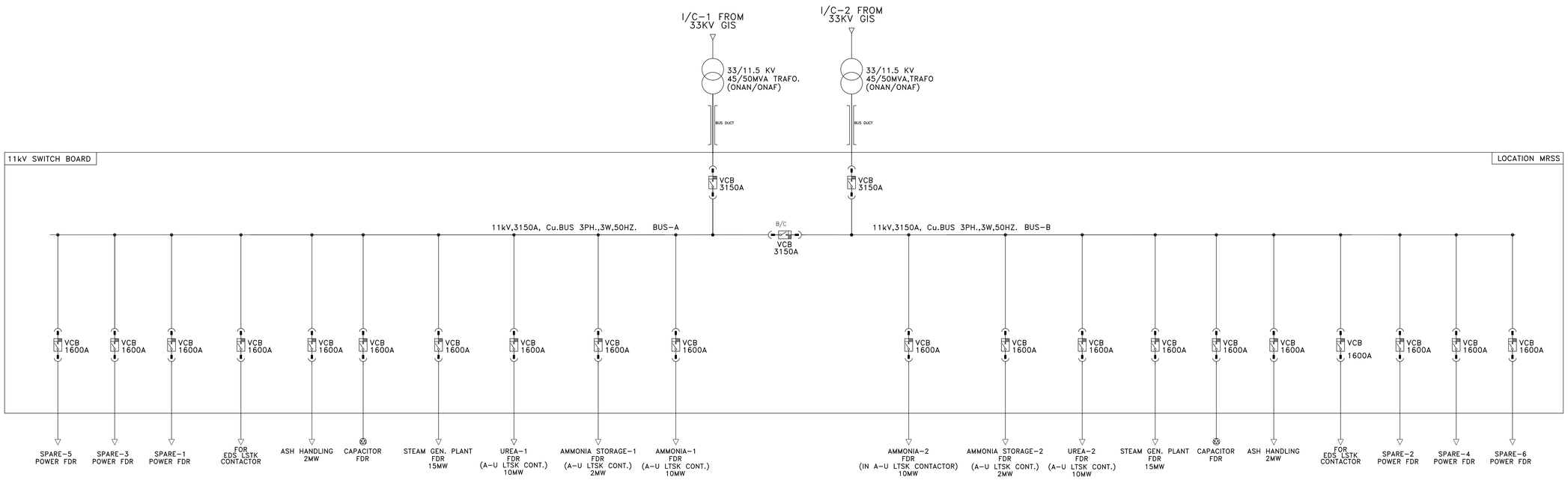
SHEET 2 OF 3

SCALE: N.T.S.

DRG. NO.– PC183–7411–0985A

FILE:

PROJECTS & DEVELOPMENT INDIA LTD.–NOIDA



REV.	DATE	DESCRIPTION	PPD.	CKD.	APPD.
1	07.06.21	ISSUED FOR ENQUIRY	SS	RK	SKB
0	26.03.21	ISSUED FOR ENQUIRY	SS	RK	SKB

Talcher Fertilizers

CLIENT:- TALCHER FERTILIZER LIMITED

REV. 0/1

SHEET 3 OF 3

SCALE: N.T.S.

PROJECT:- COAL BASED FERTILIZER PROJECT

DRG. NO.- PC183-7411-0985A

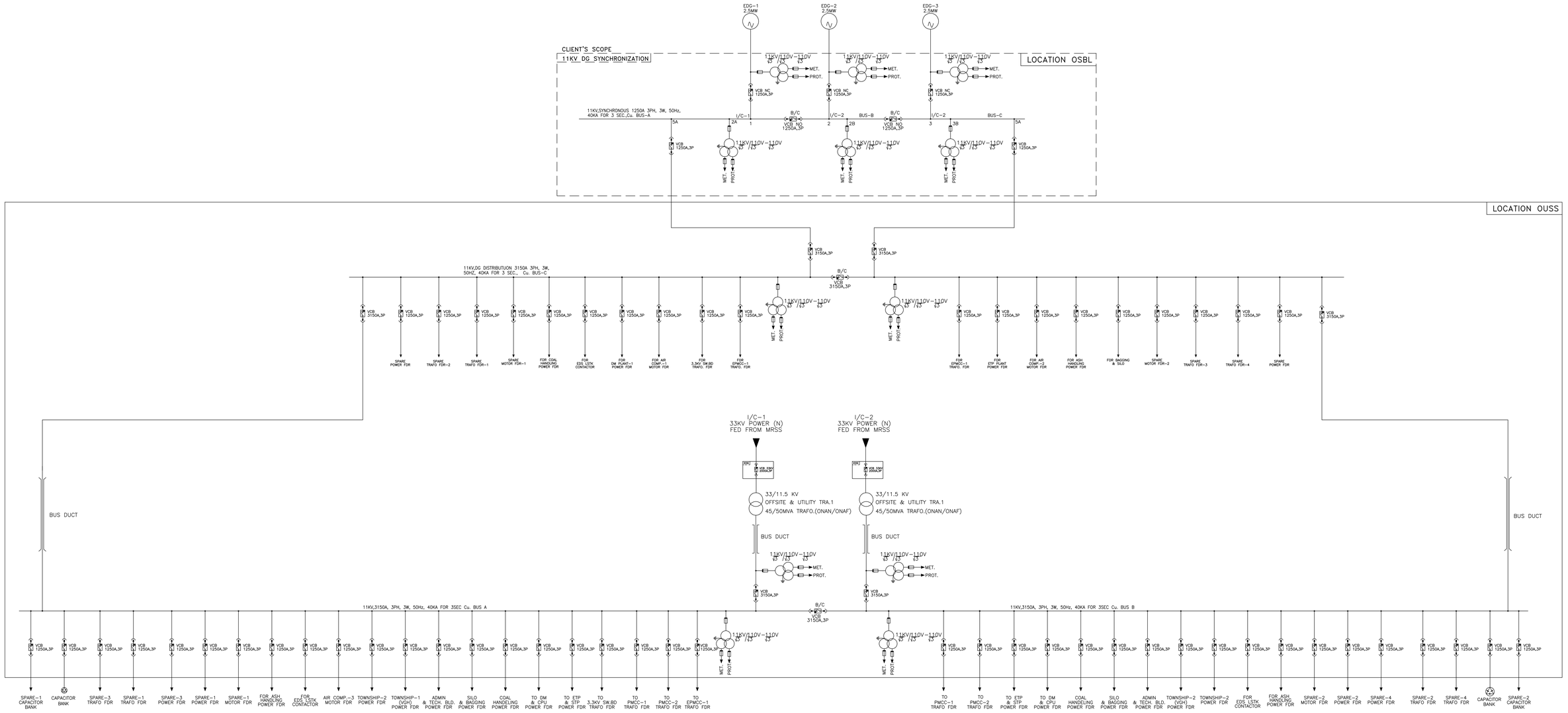
TITLE:- 11KV SINGLE LINE DIAGRAM MRSS

FILE:

PDIL

प्रोजेक्ट्स एंड डेवलपमेंट इंडिया लिमिटेड नोएडा

PROJECTS & DEVELOPMENT INDIA LTD.-NOIDA



GENERAL NOTES:

1. THIS SLD IS INDICATIVE ONLY & BROADLY DEFINE SCOPE
2. ALL NUMERICAL RELAYS SHALL BE WITH IEC61850 PROTOCOL WITH GRAPHIC DISPLAY
3. TRANSFORMERS ARE PROVIDED WITH NIFPS.
4. LOAD SHALL BE FINALIZED DURING DETAILED ENGINEERING
5. CT, PT DETAILS SHALL BE FINALIZED DURING DETAILED ENGINEERING
6. PROTECTION & DETAIL SLD WILL BE PROPOSED BY BIDDER AS PER NIT AND APPROVED BY PDIL/TFL
7. VECTOR GROUP INDICATED IS TENTATIVE SAME SHALL BE FINALIZED AS PER ELECTRICAL SYSTEM STUDY

REV.	DATE	DESCRIPTION	PPD.	CKD.	APPD.
1	07.06.21	ISSUED FOR ENQUIRY	SS	RK	SKB
0	26.03.21	ISSUED FOR ENQUIRY	SS	RK	SKB

CLIENT:– TALCHER FERTILIZER LIMITED

REV. 0 / 1

SHEET 1 OF 2

SCALE: N.T.S.

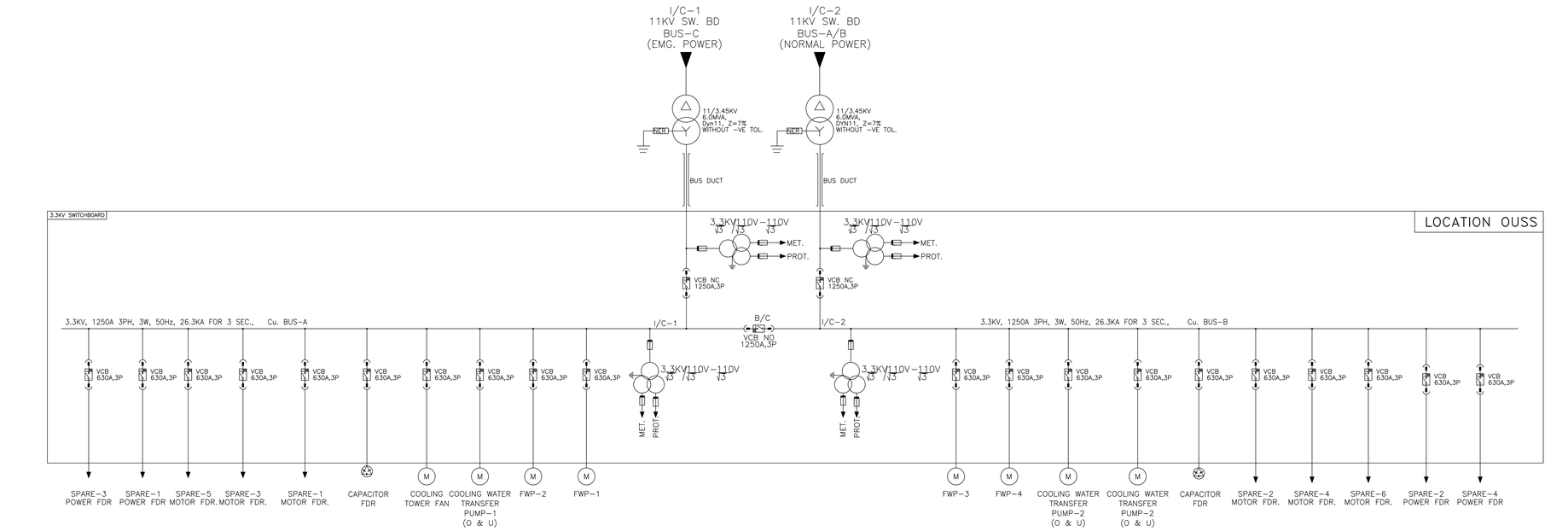
PROJECT:– COAL BASED FERTILIZER PROJECT

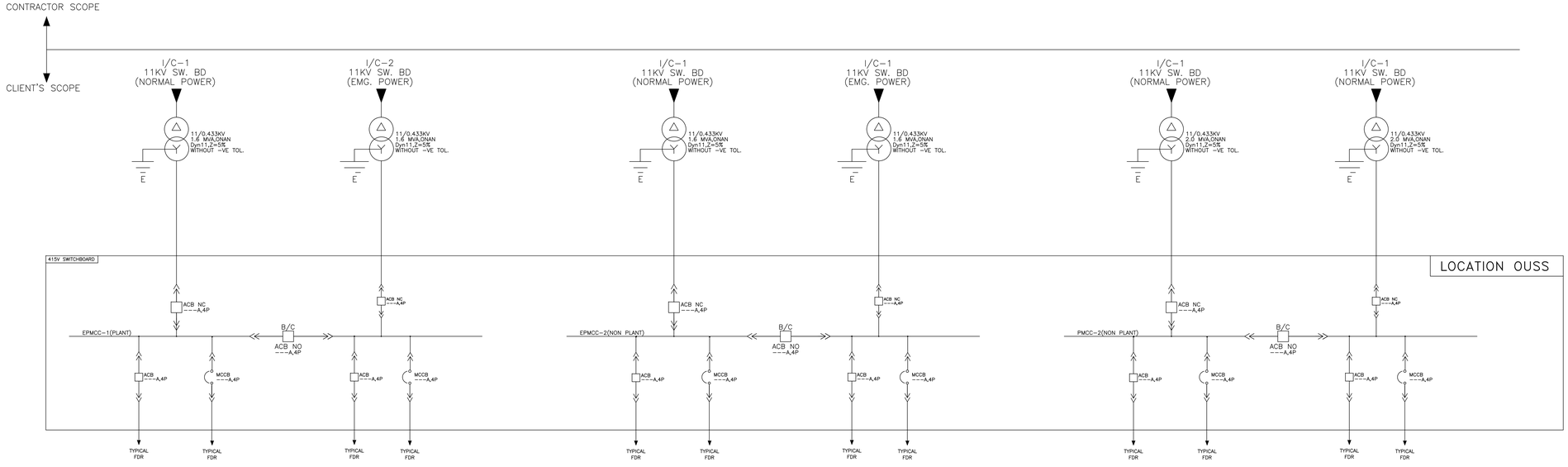
DRG. NO.– PC183-7411-0985B

TITLE:– 11KV SINGLE LINE DIAGRAM

FILE:

प्रोजेक्ट्स एंड डेवलपमेंट इंडिया लिमिटेड नोएडा
PROJECTS & DEVELOPMENT INDIA LTD.–NOIDA





REV.	DATE	DESCRIPTION	PPD.	CKD.	APPD.
1	07.06.21	ISSUED FOR ENQUIRY	SS	RK	SKB
0	26.03.21	ISSUED FOR ENQUIRY	SS	RK	SKB

Talcher Fertilizers

CLIENT:– TALCHER FERTILIZER LIMITED

REV. 0 1

SHEET 2 OF 2

SCALE: N.T.S.

PROJECT:– COAL BASED FERTILIZER PROJECT

DRG. NO.– PC183-7411-0985B

TITLE:– 3.3KV SINGLE LINE DIAGRAM

FILE:

PDIL

प्रोजेक्ट्स एंड डेवलपमेंट इंडिया लिमिटेड नोएडा
PROJECTS & DEVELOPMENT INDIA LTD.–NOIDA

THIS DRAWING IS THE PROPERTY OF PROJECTS & DEVELOPMENT INDIA LIMITED [PDIL] AND NOT TO BE COPIED OR REPRODUCED OR SHOWN TO THIRD PARTIES WITHOUT THE WRITTEN PERMISSION OF PDIL.

TABLE FOR FACILITIES/UNITS

SL.NO.	BLOCK DESCRIPTION	SIZE IN METRE	REMARKS
1.	AMMONIA PLANT	100 M x 120 M	
2.	UREA PLANT	200 M x 160 M	
3.	PETCOKE/FLUXANT STORAGE	200 M x 100 M	
4.	BAGGING PLANT	150 M x 30 M	
5.	WAGON LOADING PLATFORM	650 M x 20 M	
6.	COOLING TOWER FOR AMMONIA & UREA	-	
7.	FUEL OIL UNLOADING, STORAGE & FORWARDING AREA	70 M x 55 M	
8.	ADMIN. / TECHNICAL BUILDING (EXIST.)	60M X 40 M	
9.	DM WATER PLANT	170 M x 80 M	
10.	WATER TREATMENT PLANT	190 M x 100 M	
11.	AMM. STORGE TANK(2 Nos) WITH FLARE STACK	170 M x 100 M	
12	INST. AIR / PLANT AIR	50 M x 40 M	
13.	COVERED STORAGE SHED (ROM COAL)	290 M x 85 M	
14.	STEAM GENERATION PLANT	320 M x 240 M	
15.	FLARE STACK	R 100M	
16.	TRUCK/ LORRY WEIGH BRIDGE	20 M x 16 M	
17.	ELECTRICAL DISTRIBUTION SYSTEM & EDG	70 M x 240 M	
18.	TRUCK PARKING	170 M x 100 M	
19.	MECHANICAL/ELECT. WORKSHOP (EXIST.)	70 M x 40 M	

TABLE FOR FACILITIES/UNITS

SL.NO.	BLOCK DESCRIPTION	SIZE IN METRE	REMARKS
20.	UREA SILO (EXIST.)	238 M x 42 M	
21.	GAS CLEANING & PURIFICATION PLANT	330 M x 200 M	
22.	RAW WATER STORAGE	280 M X 270 M	
23.	CMD & COAL GASIFICATION PLANT	300 M X 200 M	
24.	HOLDING POND FOR ETP	27000 M2	
25.	ETP	110 M x 70 M	
26.	ASH /SLAG POND	300 M X 225 M	
27.	COOLING TOWER FOR CGP	-	
28.	AIR SEPARATION UNIT	215 M x 120 M	
29.	CENTRAL STORE (EXIST.)	60 M x 40 M	
30.	PLANT MAINT. OFFICE	60 M x 40 M	
31.	FIRE WATER STORAGE	85 M x 65 M	
32.	WAGON TIPPLER FOR COAL/PETCOKE/FLUXANT	20 M X 10 M	
33.	SUB-STATION	65 M X 35 M	
34.	SULPHUR STORAGE	50 M X 30 M	
35.	CANTEEN	60 M X 20 M	
36.	LAB. TECH. BUILDING	30 M X 18 M	
37.	FIRE WATER PUMP HOUSE	65 M X 15 M	
38.	FIRE BRIGADE VEHICLE PARKING		
39.	FIRE STATION (NEW)		

NOTES:-

1. ALL DIMENSIONS AND COORDINATES ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. REFRENCE BENCH MARK (⌖) POINTS IS W.R.T GLOBAL CO-ORDINATES HAVING N-2312910.151 & E-308680.833 (GRID COORDINATES N-000.0M, E-000.0M)
3. EQUIPMENT SIZES AND LOCATIONS ARE TENTATIVE.
4. BLOCK SIZE OF FACALITIES ARE TO BE FINALIZED AFTER GETTING VENDOR INFO.
5. PIPE RACK LOCATION & SIZES MARKED ARE SCHEMATIC.
6. CENTER LINE OF EXISTING ROAD & PERIPHERAL ROAD TO BE MAINTAINED WITH MINOR ADJUSTMENT & SAME SHALL BE ALIGNED WITH EXISTING BOUNDARY WALL.
7. IT IS ASSUMED THAT 220 KV EXTERNAL POWER SUPPLY TIE-IN SHALL BE AT THE BOUNDARY WALL CLOSE TO THE LOCATION OF ELECTRICAL DISTRIBUTION SYSTEM BLOCK.
8. BATTERY LIMIT IS TENTATIVE AND SHALL BE FINALISED DURING DETAILED ENGG.

LEGEND :~

- PROPOSED FACILITIES
- EXISTING FACILITIES
- NEW RAILWAY TRACKS
- ROAD FACILITIES [TO BE USED]
- GREEN BELT AREA

TOTAL PLANT AREA = 490.7 ACRE (APPROX.)
AREA FOR NEW PLANT = 326.8 ACRE (APPROX.)
TOTAL GREENBELT AREA = 163.9 ACRE (APPROX.)

S.NO.	REFERENCE DRAWINGS	NUMBERS
07.	WATER SUPPLY AND DRAINAGE SYSTEM	17125-361000-WSXX_REVOA
06.	WATER SUPPLY AND DRAINAGE SYSTEM	17269-362000-WSXX_REVOB
05.	TOPOGRAPHICAL & CONTOUR SURVEY DRAWING	SA/RCF/TALCHER/2017/TOPO-DWG
04.	MASTER PLAN OF MINING	FURNISHED BY CLIENT
03.	MASTER PLAN [FCI, TALCHER UNIT].	DRG. NO. 501
02.	INDEX PLAN [FCI, TALCHER UNIT].	DRG. NO. 635
01.	PLANTS LAYOUT [FCI, TALCHER UNIT].	TFU-M-GN-6341

REV.	DATE	DESCRIPTION	PPD.	CKD.	APPD.
P3_OP	24.05.21	PRELIMINARY ISSUED	AM	DR	AMAR
P2	26.02.21	PRELIMINARY ISSUED	AM	DR	AMAR
P1	22.01.21	PRELIMINARY ISSUED	AM	DR	AMAR
P	15.01.21	PRELIMINARY ISSUED	AM	DR	AMAR

CLIENT : M/s. TALCHER FERTILIZER LIMITED

LOCATION : TALCHER, ANGUL DISTRICT, ODISHA(INDIA)

TITLE : CONCEPTUAL FIRE WATER LAYOUT OF OSBL FACILITY FOR INTEGRATED COAL BASED FERTILIZER AND CHEMICALS COMPLEX

REV. P1 P2 P3_OP

SHEET 1 OF 1

SCALE :~ 1 : 2200

DRG. No.:~ PC183-0000-0011

FILE :~ PC183-0000-0011_RP3_OP

PROJECTS & DEVELOPMENT INDIA LTD.
NOIDA