

INDEX

VOLUME I – Tender Invitation

Part I: Invitation for Tender

Part II: Instructions to Bidders

VOLUME II – Conditions of Contract

Part I - General Conditions of Contract

(GCC) Part II – Particular Conditions of Contract (PCC)

VOLUME III - Technical Specification

Section A

1. Schedule of Requirements (SOR)
2. Qualification Requirement (QR)
3. Salient Features and Project Schedule
4. General Technical Requirements (GTR)

Section B

1. Technical Specification- Turbine & Auxiliaries
2. Technical Specification – Main Inlet Valve
3. Technical Specification- Fire Protection System
4. Technical Specification- HVAC
5. Technical Specification- EOT Crane
6. Technical Specification- Workshop Equipments

Section C

1. Technical Specification - Generator & Excitation System
2. Technical Specification - Generator Transformer & other Auxiliary Transformers
3. Technical Specification - Medium Voltage switchgear
4. Technical Specification - 415V Low Voltage Switchgear
5. Technical Specification - Control & Protection System
6. Technical Specification - Control and Monitoring System (Automation, SCADA)
7. Technical Specification - DC System
8. Technical Specification - Power and Control Cables and Cable Trays

9. Technical Specification - Illumination System
10. Technical Specification - Earthing System
11. Technical Specification - Emergency Diesel Generator Set
12. Technical Specification - Communication System (CCTV, EPBAX, and PASystem)
13. Technical Specification - 33 kV Switchyard
14. Technical Specification - Electrical Workshop

VOLUME IV- Technical and Financial Proposal

Envelope No.1- Technical Proposal

1. Guaranteed Technical Particulars (GTP) / Technical Datasheets (TDS)
 - I. Mechanical
 - II. Electrical
2. Bid Forms and Schedule of Supplementary Information (Including Bid Security and un-priced Bid Forms for Supply & Services)
3. Cash Flow Requirements

Envelope No 2. - Financial Proposal

1. Price Schedule (Including priced Bid Forms for Supply & Works)

VOLUME V – Drawings

Electro-Mechanical Drawings.



**ASSAM POWER GENERATION
CORPORATION LIMITED**

BIDDING DOCUMENTS

(NATIONAL COMPETITIVE BIDDING)

FOR

**ELECTROMECHANICAL WORKS
CONTRACT PACKAGE FOR KARBI
LANGPI MIDDLE-II HYDRO POWER
PROJECT (24 MW)**

(ASSAM, INDIA)

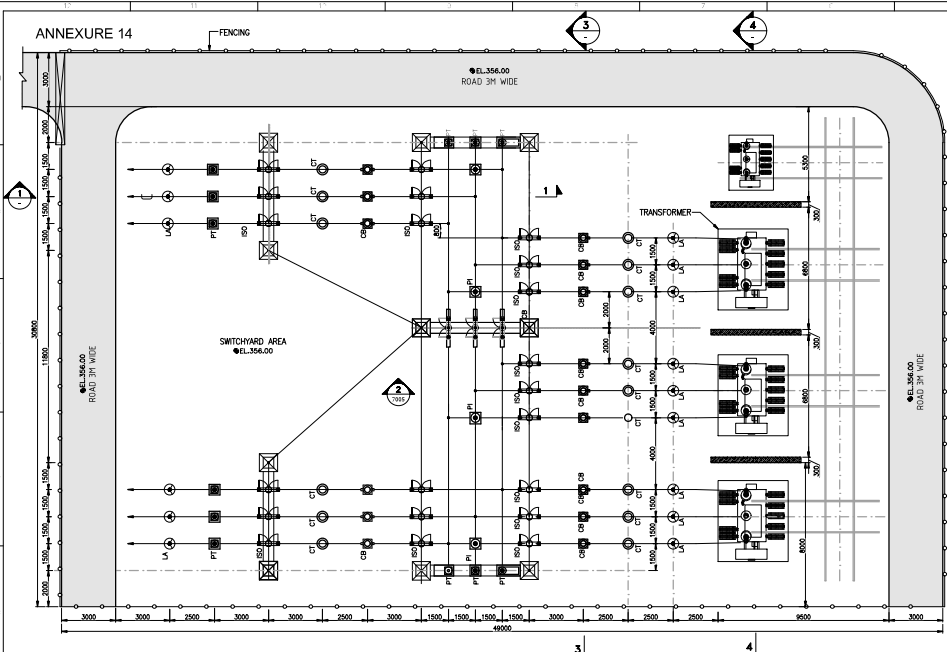
Bid No: KLM-II-HPP/PKG-3

VOLUME-V

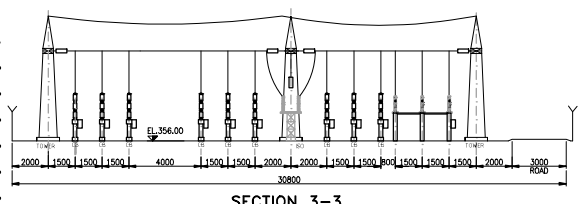
DRAWINGS

May 2026

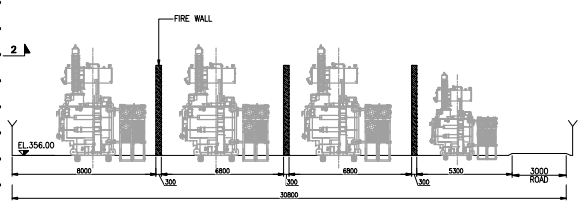
ANNEXURE 14



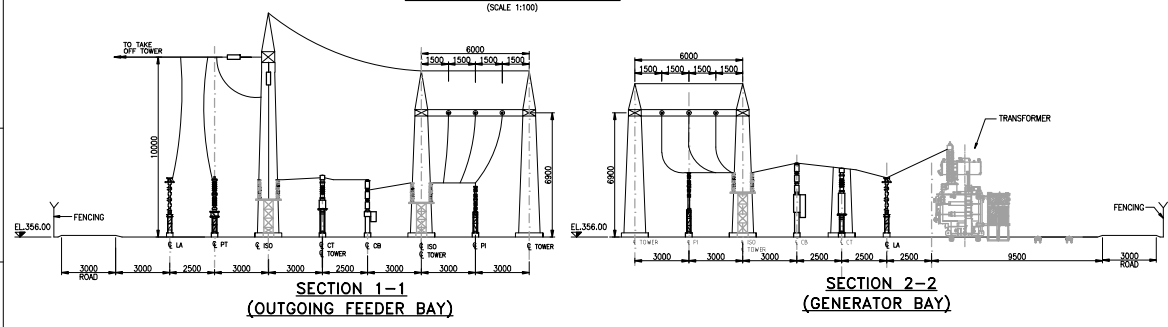
33KV SWITCHYARD PLAN
(SCALE 1:100)



SECTION 3-3



SECTION 4-4



SECTION 1-1
(OUTGOING FEEDER BAY)

SECTION 2-2
(GENERATOR BAY)

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETER AND ELEVATIONS ARE IN METERS.
2. NO DIMENSION SHALL BE SCALED FROM THE DRAWING, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.

BASED ON DRAWING / DOCUMENTS	
DRG / DOCUMENT NO.	SUBJECT
REFERENCE DRAWING	
DRG. NO.	SUBJECT



1	15.04.2024	HS	AK	HKD	BSS	GENERAL REVISION
0	15-07-2023	HS	AK	HKD	BSS	FOR APPROVAL
DRG. NO.	DATE	DRAWN	DESIGNED	CHECKED	APPROVED	SUBJECT OF REVISION

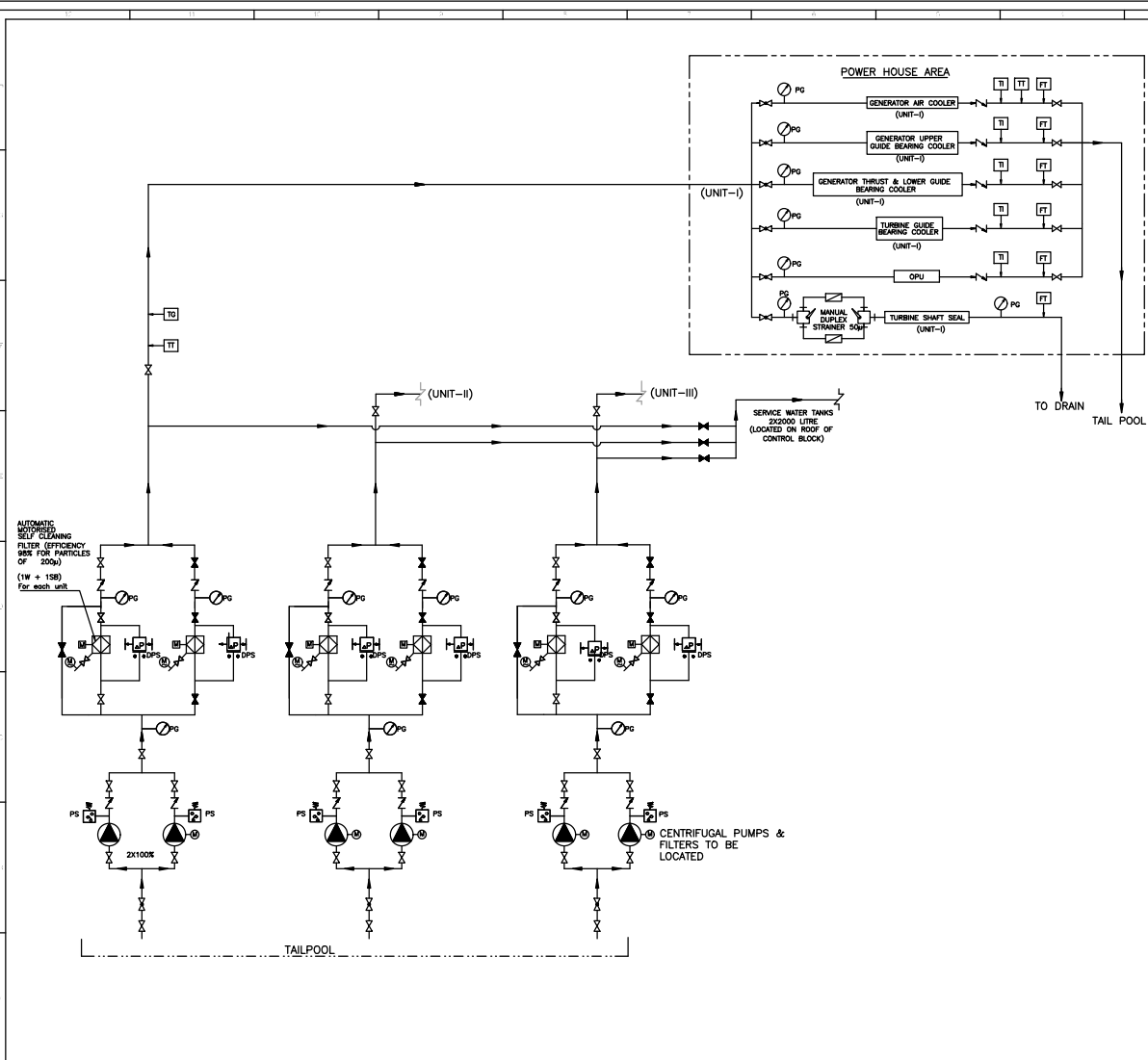
OWNER: **ASSAM POWER GENERATION CORPORATION LTD.**

PROJECT: **KARBH-LANGPHI MIDDLE-II (3X8 MW) ASSAM, INDIA**

TITLE: **33KV SWITCHYARD PLAN & SECTION**

TRACTEBEL AS | AS SHOWN | 1 OF 1 | 1

TRACTEBEL Engineering pvt. Ltd. P.020318 | TE-E&M-GAD | 9758



NOTES:
 1. THE DRAWING DEPICTS THE COOLING WATER SCHEME PROPOSED FOR PROJECT ONLY.
 2. NECESSARY PROVISION FOR OPERATION OF CW SYSTEM FROM PLANT SCADA SHALL BE KEPT.

LEGEND:-

VALVES & INSTRUMENTS	
SYMBOL	DESCRIPTION
	PUMP
	GATE VALVE (N.O.)
	GATE VALVE (N.C.)
	GATE VALVE (N.O.) GENERAL ANGLE
	BUTTERFLY VALVE (N.O.)
	BUTTERFLY VALVE (N.C.)
	BALL VALVE (N.O.)
	BALL VALVE (N.C.)
	GLOBE VALVE (N.O.)
	GLOBE VALVE (N.C.)
	CHECK VALVE (NRV)
	DRAIN VALVE
	AIR RELEASE VALVE
	PRESSURE REDUCING VALVE
	MOTORIZED VALVE
	THREE WAY VALVE
	ECCENTRIC VALVE
	FLOAT VALVE
	SAFETY VALVE
	SOLENOID VALVE - WATER DRAIN
	SOLENOID VALVE - LINE AIR
	PRESSURE GAUGE
	TEMPERATURE INDICATOR
	DIFFERENTIAL PRESSURE GAUGE
	LEVEL INDICATOR
	LEVEL SWITCH
	TEMPERATURE SWITCH
	FLOW SWITCH
	PRESSURE SWITCH
	DIFFERENTIAL PR. SWITCH
	MOTOR
	PRESSURE TRANSMITTER
	FLOW TRANSMITTER & SWITCH
	TEMPERATURE TRANSMITTER

FOR TENDER PURPOSE ONLY

REV.	DATE	DRAWN	DESIGNED	CHECKED	APPROVED	FOR APPROVAL	SUBJECT OF REVISION

OWNER: ASSAM POWER GENERATION CORPORATION LTD.

PROJECT: KARBI-LANGPI MIDDLE-II (3X8 MW) ASSAM INDIA

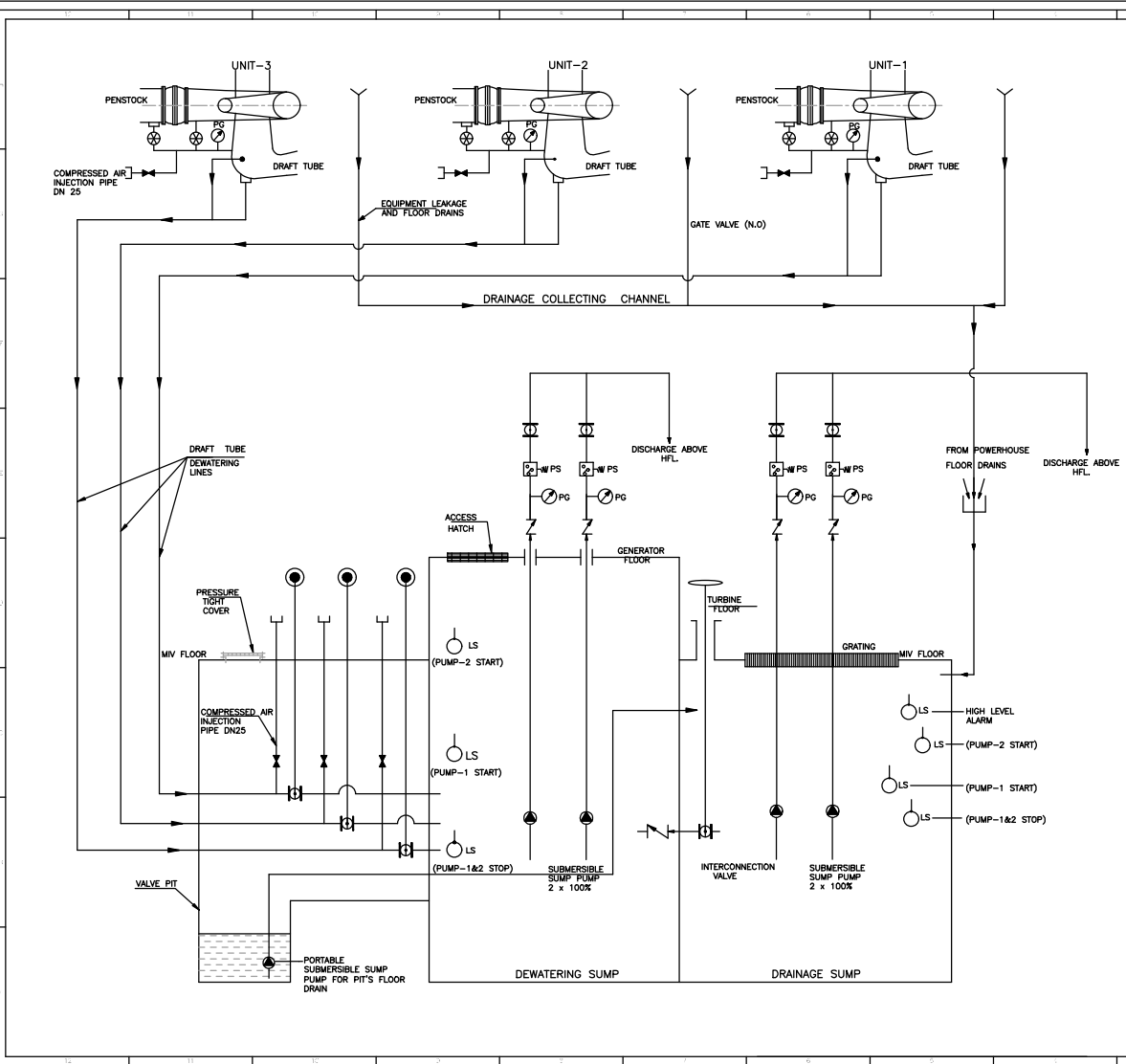
TITLE: COOLING WATER SYSTEM FLOW DIAGRAM

TRACTEBEL Engineering Pvt. Ltd. | P.020318 | TE-E&M-GAD | 9752

NOTES:
 THE SCHEMATIC DIAGRAM AND VARIOUS EQUIPMENTS & DEVICES SHOWN IN THE DRAWING ARE INDICATIVE ONLY FOR GUIDANCE AND DOES NOT SHOW ALL DEVICES, INSTRUMENTATION & VALVES ETC. REQUIRED AS PER TECH. SPECIFICATIONS AND COMPLETENESS OF THE SYSTEM. ACTUAL SCHEME SHALL BE FINALIZED BY THE CONTRACTOR DURING DETAILED ENGINEERING.

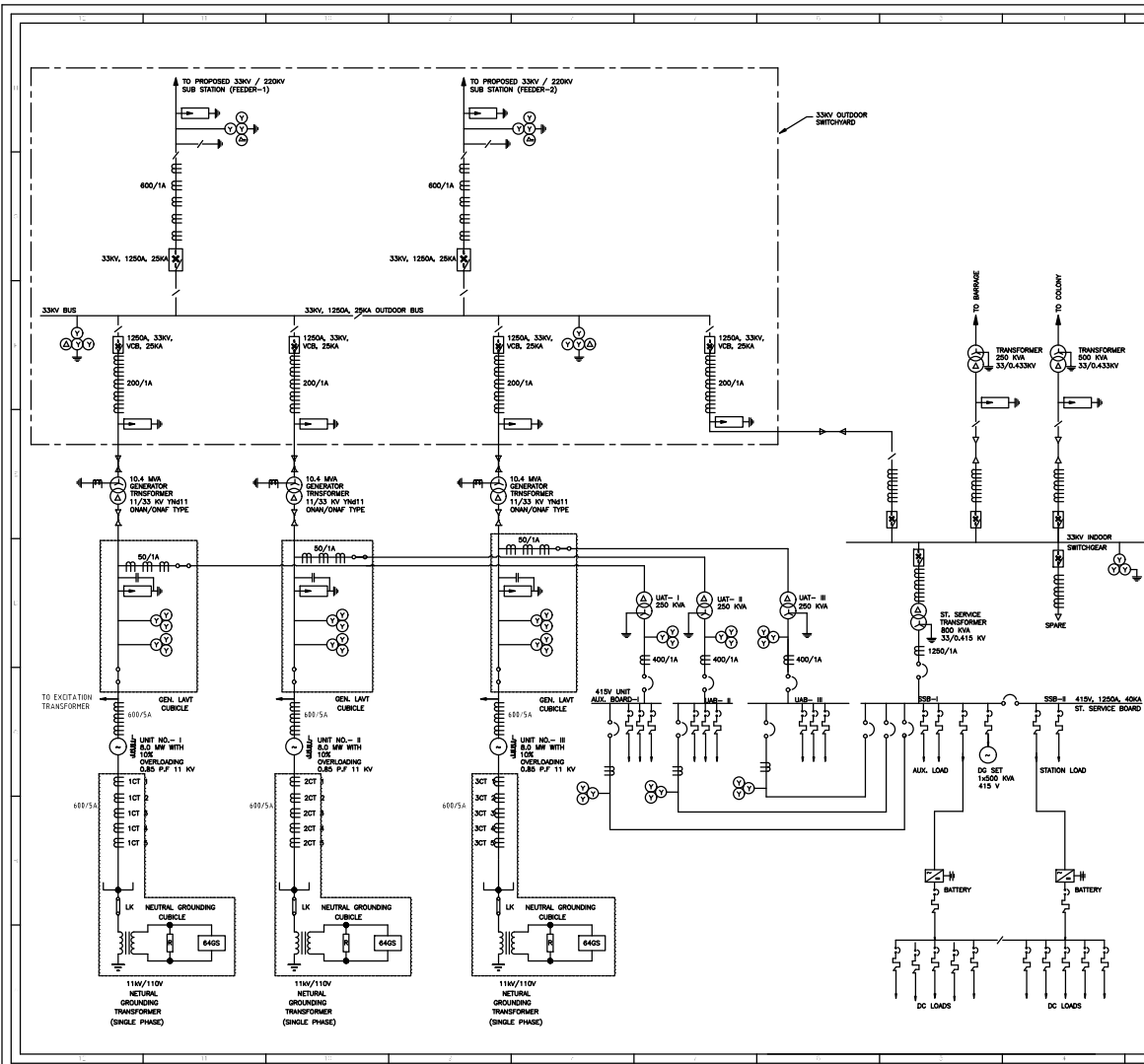
LEGEND:-

SYMBOL	DESCRIPTION
	PUMP
	GATE VALVE (N.O.)
	GATE VALVE (N.C.)
	GATE VALVE (N.O.) GENERAL ANGLE
	BUTTERFLY VALVE (N.O.)
	BUTTERFLY VALVE (N.C.)
	BALL VALVE (N.O.)
	BALL VALVE (N.C.)
	GLOBE VALVE (N.O.)
	GLOBE VALVE (N.C.)
	CHECK VALVE (NRV)
	DRAIN VALVE
	AIR RELEASE VALVE
	PRESSURE REDUCING VALVE
	MOTORIZED VALVE
	THREE WAY VALVE
	ECCENTRIC VALVE
	FLOAT VALVE
	SAFETY VALVE
	SOLENOID VALVE - WATER DRAIN
	SOLENOID VALVE - LINE AIR
	PRESSURE GAUGE
	TEMPERATURE INDICATOR
	DIFFERENTIAL PRESSURE GAUGE
	LEVEL INDICATOR
	LEVEL SWITCH
	TEMPERATURE SWITCH
	FLOW SWITCH
	PRESSURE SWITCH
	DIFFERENTIAL PR. SWITCH
	MOTOR
	PRESSURE TRANSMITTER
	FLOW TRANSMITTER & SWITCH
	TEMPERATURE TRANSMITTER



FOR TENDER PURPOSE ONLY

REV.	DATE	DRAWN	DESIGNED	CHECKED	APPROVED	FOR APPROVAL
OWNER: ASSAM POWER GENERATION CORPORATION LTD.						
PROJECT: KARBI-LANGPI MIDDLE-II (3X8 MW) ASSAM INDIJA						
TITLE: DRAINAGE & DEWATERING SYSTEM FLOW DIAGRAM						
TRACTEBEL Engineering pvt. Ltd. P.020318 TE-E&M-GAD 9753						



NOTES:
 1. THIS DRAWING SHOWS SINGLE LINE DIAGRAM FOR THE PROJECT.

LEGEND:

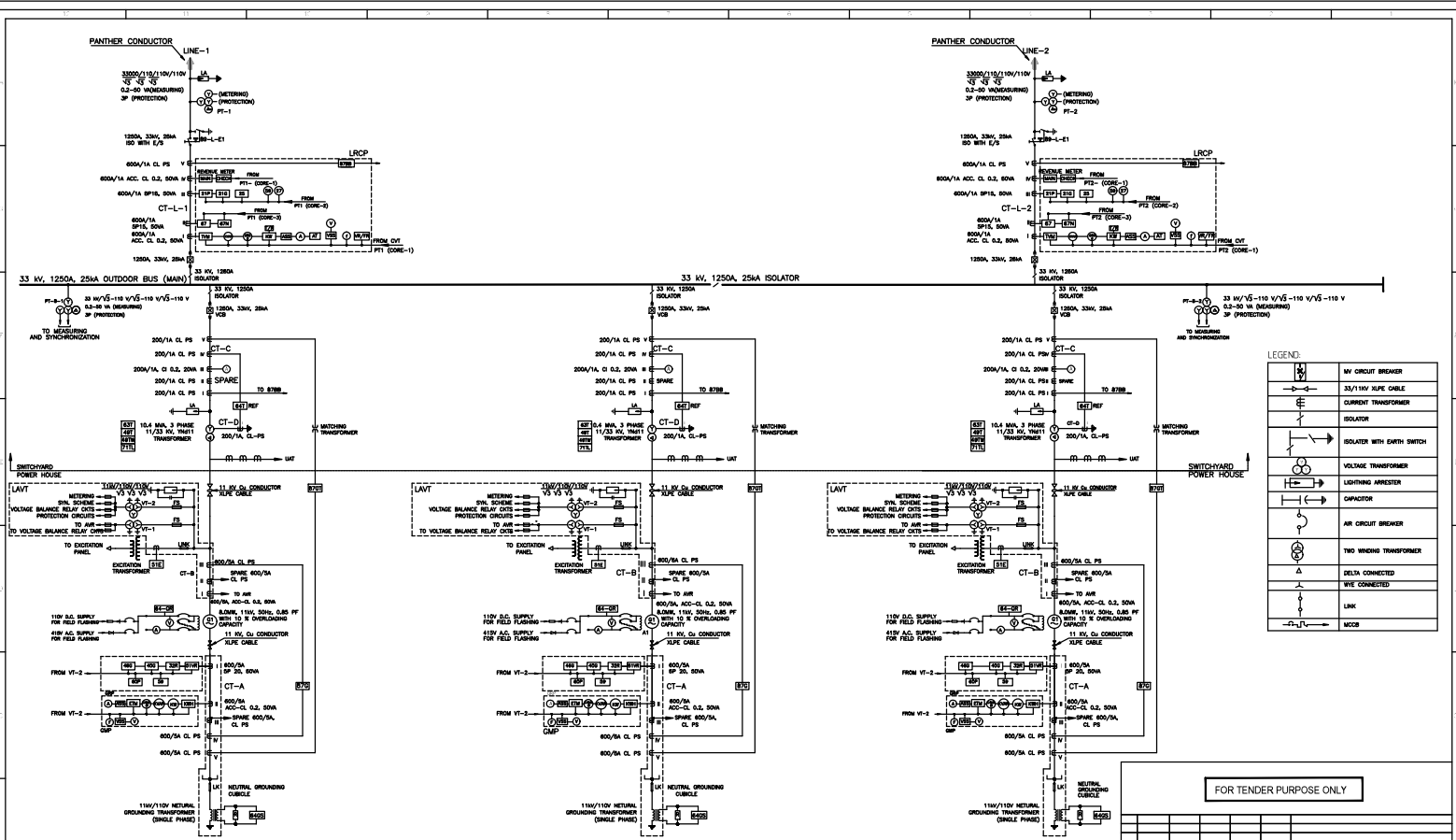
	MV CIRCUIT BREAKER
	33/11KV XLPE CABLE
	CURRENT TRANSFORMER
	ISOLATOR
	ISOLATOR WITH EARTH SWITCH
	VOLTAGE TRANSFORMER
	LIGHTNING ARRESTER
	CAPACITOR
	AIR CIRCUIT BREAKER
	TWO WINDING TRANSFORMER
	DELTA CONNECTED
	WYE CONNECTED
	LINK
	MCCB

FOR TENDER PURPOSE ONLY
 DATE - 08-02-2024

REV.	DATE	BY	CHKD	APPV	SUBJECT OF REVISION

OWNER: ASSAM POWER GENERATION CORPORATION LTD.
 PROJECT: KARBI LANGPI MIDDLE II (3X8 MW) ASSAM, INDIA
 TITLE: MAIN SINGLE LINE DIAGRAM

TRACTEBEL
 AS SHOWN 1 OF 1 0
 TRACTEBEL Engineering pvt. Ltd. P:2020318 TE-E&M-GAD 9754



LEGEND:

	MV CIRCUIT BREAKER
	33/110V XLPE CABLE
	ISOLATOR
	ISOLATOR WITH EARTH SWITCH
	VOLTAGE TRANSFORMER
	LIGHTNING ARRESTER
	CAPACITOR
	AIR CIRCUIT BREAKER
	TWO WINDING TRANSFORMER
	DELTA CONNECTED
	WIRE CONNECTED
	MCB

FOR TENDER PURPOSE ONLY

NO.	DATE	DRAWN	DESIGNED	CHECKED	APPROVED	ISS	FOR APPROVAL
1							
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13							
14							

GENERAL NOTES:

1. ALL THREE GENERATING UNITS ARE IDENTICAL IN ALL RESPECT.
2. METERING & PROTECTIONS PROVIDED SHALL BE SAME FOR ALL GENERATORS.
3. SYNCHRONISING TROLLEY SHALL BE USED FOR SYNCHRONISING EACH GENERATOR WITH THE BUS.
4. ALL CABLES SHALL BE FRLS (FIRE RETARD LOW SMOKE TYPE).
5. ALL CT CORES SHALL BE SHORTED WHILE NOT IN USE.
6. ALL CT CABLE SHALL BE 8 MM. S₀ STRANDED SCREEN COPPER PVC INSULATED AND FRLS.
7. ALL PT CABLE SHALL BE 4 MM. S₀ STRANDED SCREEN COPPER PVC INSULATED AND FRLS.
8. ALL OTHER CABLE SHALL BE 2.5 MM. S₀ STRANDED COPPER PVC INSULATED AND FRLS.

9. ALL GLANDS TO BE USED SHALL BE COMPRESSIBLE AND SHALL BE COPPER.
10. ALL THIBLES TO BE USED SHALL BE OF COPPER.
11. ALL CT, PT AND ALL OTHER EQUIPMENT INDICATED IN THE SINGLE LINE DIAGRAM SHALL CONFORM TO THE LATEST IS STANDARD AND CODES.
12. ALL METERS SHALL BE PROVIDED WITH TRANSDUCERS FOR REMOTE INDICATION.
13. ENERGY METER FOR BILLING PURPOSE WILL BE PROVIDED AT LINE-1 AND LINE-2.

14. GENERATOR PROTECTION:-

- a) 32R REVERSE POWER
- b) 400 LOSS OF EXCITATION
- c) 46G NEGATIVE PHASE SEQUENCE
- d) 51V OVERCURRENT TIME RELAY, VOLTAGE CONTROLLED
- e) 59 OVER VOLTAGE RELAY
- f) 60P VOLTAGE OR CURRENT BALANCE RELAY

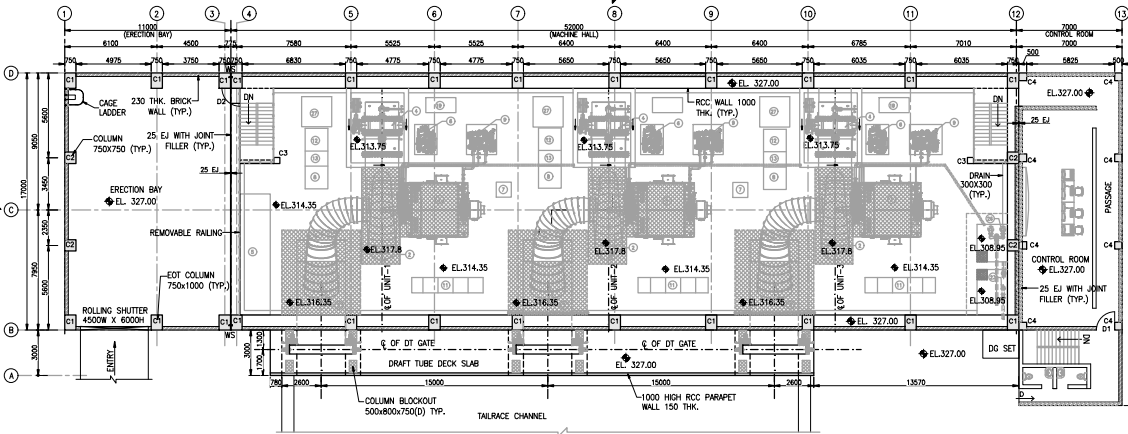
ASSAM POWER PROJECT DEVELOPMENT COMPANY LTD.

PROJECT: KARBI LANGTI MIDDLE II HEP (3x8.0 MW)

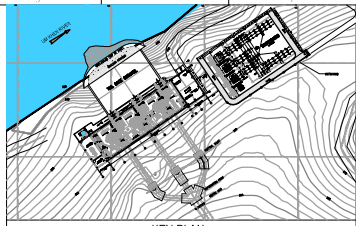
TITLE: MAIN SINGLE LINE DIAGRAM RELAYING & METERING

TRACTEBEL Engineering Pvt. Ltd. | P.202318 | TE-E&M-GAD | 9755

ANNEXURE 10



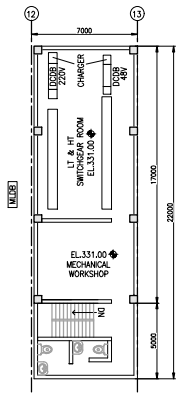
PLAN AT 327.00
(SCALE 1:125)



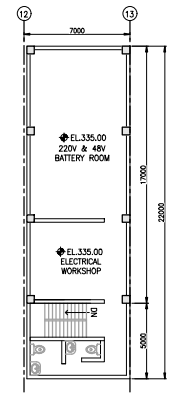
KEY PLAN -

- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETER AND ELEVATIONS ARE IN METERS.
 2. NO DIMENSION SHALL BE SCALED FROM THE DRAWING, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 3. FOR E&M & I&M DRAWINGS, REFER SEPARATE DRAWINGS TO ITS RESPECTIVE RELEVANT DRAWINGS.
 4. E&M AND I&M EMBEDMENT PARTS SHOWN IN DRAWING ARE INDICATES ONLY & E&M AND I&M EMBEDMENT PARTS SHALL BE PLACED AS PER VENDOR DRAWINGS.
 5. THIS DRAWING IS PREPARED BASED ON LATEST E&M DRAWING.
 6. ALL STRUCTURAL MEMBER OF COLUMNS, BEAMS, DRAINAGE SUMP, RAFT AND WALLS SHALL BE GRADE M25 CONFORMING TO IS456:2000.
 7. THE BACKFILL CONCRETE SHALL BE GRADE M15 CONFORMING TO IS456:2000.
 8. THE SIZE OF THE BEAMS & COLUMN SHALL BE RE-VERIFIED DURING DESIGN & DETAILING.
 9. OVER EXCAVATION SHALL BE FILLED WITH M15 CONCRETE.
 10. RAFT, STRUCTURAL ELEMENT OF THE BEAM, WALL & COLUMNS ARE INDICATIVE ONLY. THE SAME SHALL BE MODIFIED IN CONCRETE OUTLINE DRAWINGS, AFTER FINALIZATION OF STRUCTURAL COMPONENT.
 11. LOCAL EXCAVATION SHALL BE DONE FOR LIFT PIT NEAR GRID 3.
 12. THE ELEVATION OF E&M EQUIPMENT AT GENERATOR TURBINE FLOOR SHALL BE VERIFIED WITH E&M EQUIPMENT DETAILS DRAWINGS.
 13. CABLE TRENCHES DETAIL IN CONTROL ROOM, TRANSFORMER YARD CONNECTIONS TO POWERHOUSE UNITS SHALL BE INCORPORATED IN THE DRAWINGS AFTER FINALIZATION OF E&M SUPPLIER.

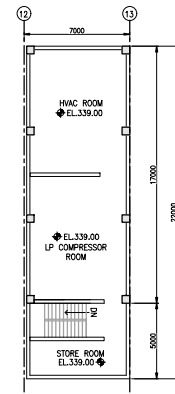
- LEGENDS:-
- FIRST STAGE CONCRETE M25
 - SECOND STAGE CONCRETE M30
 - RCC
 - BRICK WALL
 - EJ EXPANSION JOINT
 - WS WATERSTOP



PLAN AT 331.00



PLAN AT 335.00



PLAN AT 339.00

BASED ON DRAWING / DOCUMENTS	
DRG/ DOCUMENT NO.	SUBJECT
REFERENCE DRAWING	
DRG. NO.	SUBJECT
SCALE 0 12.5 31.25 62.5 125.0 M	

1	15.04.2024	HS	AK	HKD	BSS	GENERAL REVISION
0	15-07-2023	HS	AK	HKD	BSS	FOR APPROVAL
REV.	DATE	DRAWN	DESIGNED	CHECKED	APPROVED	SUBJECT OF REVISION

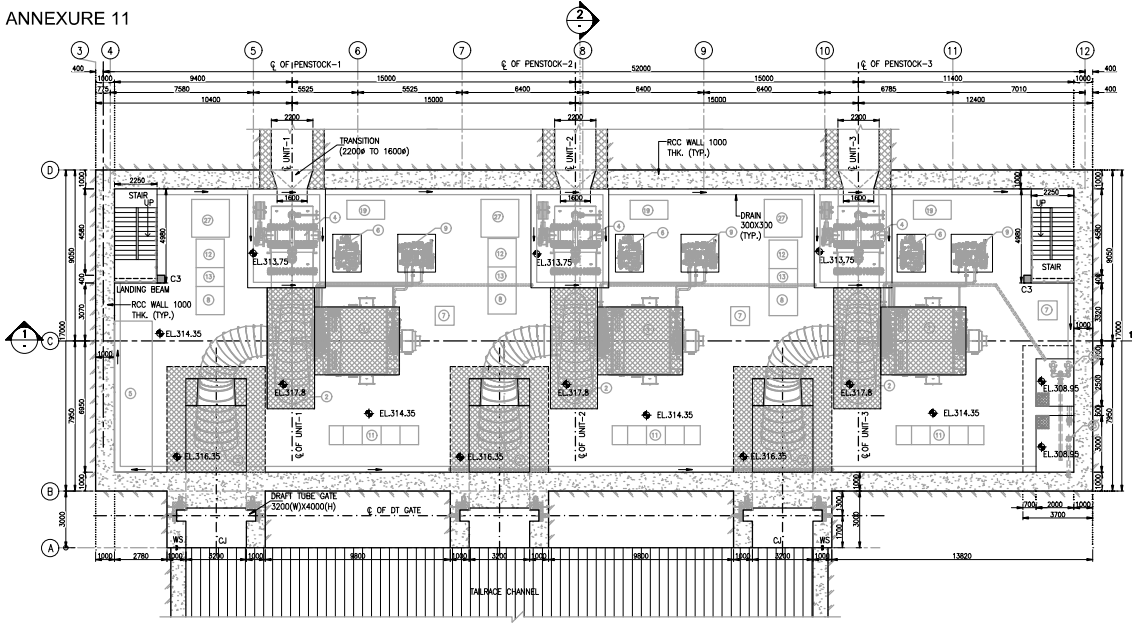
OWNER: **ASSAM POWER GENERATION CORPORATION LTD.**

PROJECT: **KARBH-LANGPHI MIDDLE-II (3X8 MW) ASSAM INDIA**

TITLE: **POWER HOUSE GENERAL ARRANGEMENT PLAN AT EL.327.00**

TRACTEBEL Engineering pvt. ltd. P.020318 | TE-E&M-GAD | 9751

ANNEXURE 11



PLAN AT 314.35
(SCALE 1:100)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS AND ELEVATIONS IN METERS, UNLESS OTHERWISE SPECIFIED.
2. DO NOT MEASURE DIMENSIONS ON THE DRAWING, ONLY WRITTEN DIMENSION SHOULD BE FOLLOWED.
3. FOR OTHER NOTES REFER DRAWING NO--P-020318-TE-E&M-GAD-9751, SHEET 1 OF 4

LEGENDS:-

- FIRST STAGE CONCRETE M25
- SECOND STAGE CONCRETE M30
- PLUMB CONCRETE M15
- BRICK WALL
- EJ EXPANSION JOINT
- CJ CONTRACTION JOINT
- WS WATERSTOP
- ROCK SURFACE

BASED ON DRAWING / DOCUMENTS

DRG / DOCUMENT NO. SUBJECT

REFERENCE DRAWING

DRG. NO. SUBJECT

SCALE 0 10 25 50 100 M

REV.	DATE	DRAWN	CHECKED	APPROVED	SUBJECT OF REVISION	
1	15.04.2024	HS	AK	HKD	BSS	GENERAL REVISION
0	12-07-2023	HS	AK	HKD	BSS	FOR APPROVAL

OWNER:

ASSAM POWER GENERATION CORPORATION LTD.

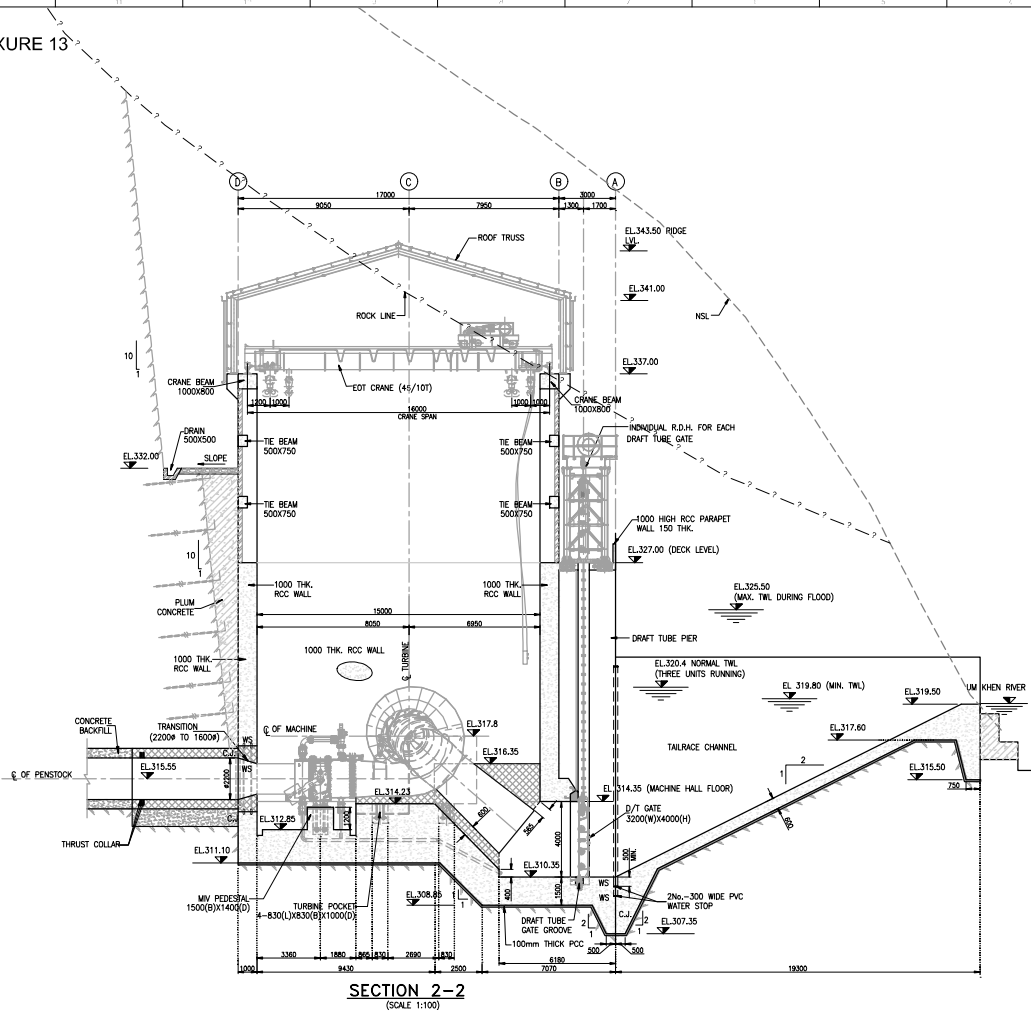
PROJECT: KARBI-LANGPHI MIDDLE-II (3X8 MW) ASSAM, INDIA

TITLE: POWER HOUSE GENERAL ARRANGEMENT PLAN AT EL.314.35

TRACTEBEL Engineering pvt. ltd. P.020318 | TE-E&M-GAD | 9751

AS SHOWN 2 OF 4 1

ANNEXURE 13



SECTION 2-2
(SCALE 1:100)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS AND ELEVATIONS IN METERS, UNLESS OTHERWISE SPECIFIED.
2. DO NOT MEASURE DIMENSIONS ON THE DRAWING, ONLY WRITTEN DIMENSION SHOULD BE FOLLOWED.
3. FOR OTHER NOTES REFER DRAWING NO:-P.020318-TE-E&M-GAD-9751, SHEET 1 OF 4

LEGENDS:-

- FIRST STAGE CONCRETE M25
- SECOND STAGE CONCRETE M30
- PLUMB CONCRETE M15
- BRICK WALL
- EJ EXPANSION JOINT
- CJ CONTRACTION JOINT
- WS WATERSTOP
- ROCK SURFACE

BASED ON DRAWING / DOCUMENTS

DRG / DOCUMENT NO. SUBJECT

REFERENCE DRAWING

DRG. NO. SUBJECT



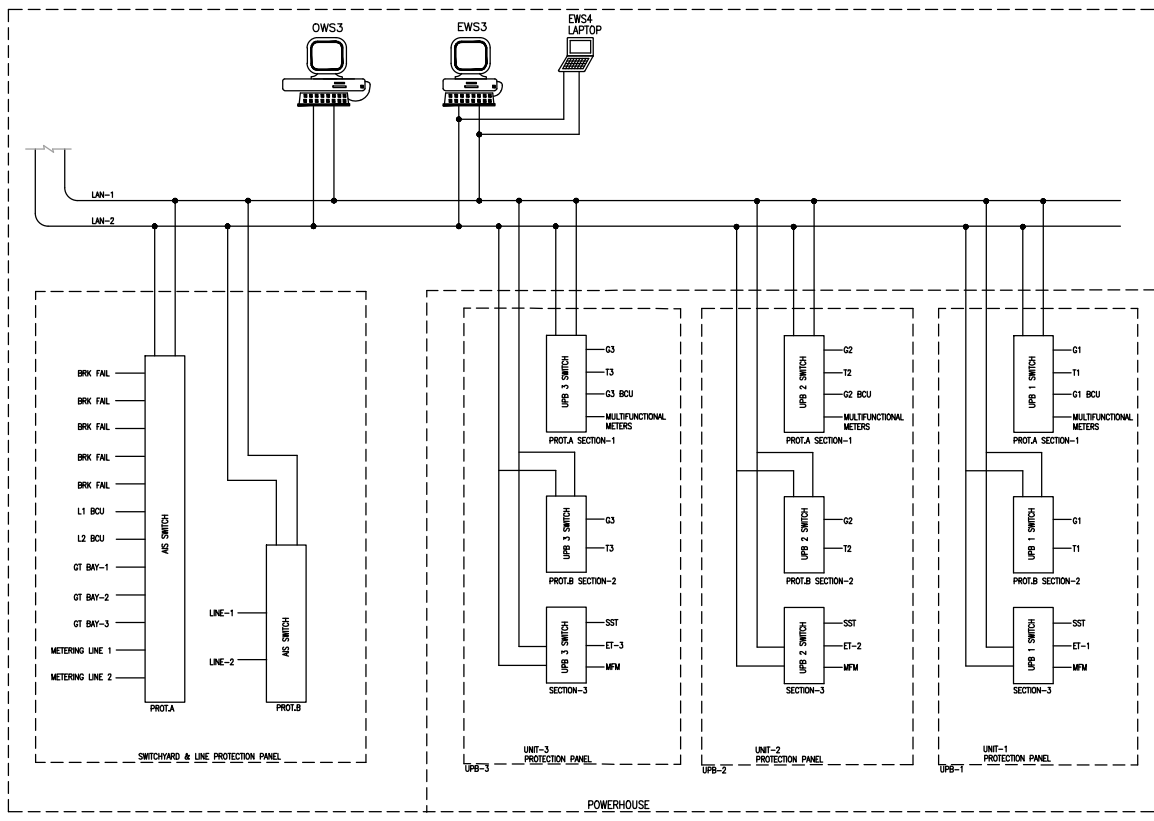
NO.	DATE	BY	CHKD	APPD	REVISION	
1	15.04.2024	HS	AK	HKD	BSS	GENERAL REVISION
0	12-07-2023	HS	AK	HKD	BSS	FOR APPROVAL

OWNER: ASSAM POWER GENERATION CORPORATION LTD.

PROJECT: KARBI-LANGPHI MIDDLE-II (3X8 MW) ASSAM, INDIA

TITLE: POWER HOUSE GENERAL ARRANGEMENT SECTION 2-2

TRACTEBEL Engineering pvt. ltd. P.020318 | TE-E&M-GAD | 9751



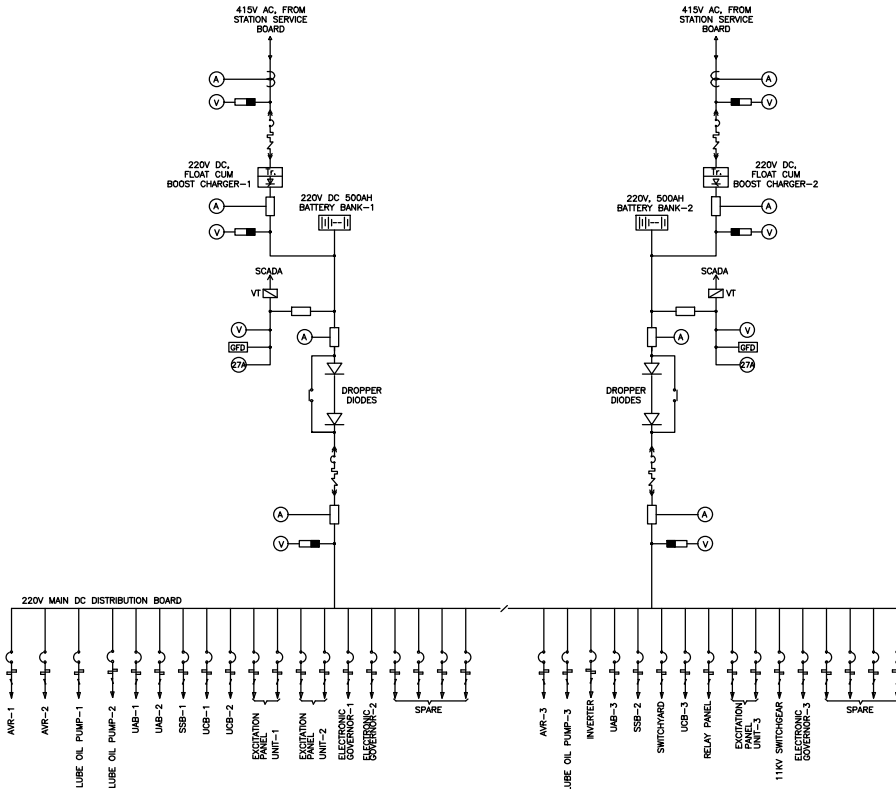
DEFINITION :-
 OWS : OPERATOR WORKSTATION
 EWS : ENGINEER WORKSTATION UPB :
 UNIT PROTECTION BOARD LAN : LOCAL
 AREA NETWORK
 RTU : REMOTE TERMINAL UNIT
 FO : FIBER OPTIC
 AIS : AIR INSULATED SWITCHGEAR

FOR TENDER PURPOSE ONLY

REV	DATE	DRAWN	DESIGNED	CHECKED	APPROVED	FOR APPROVAL	SUBJECT OF REVISION

OWNER: ASSAM POWER GENERATION CORPORATION LTD.
 PROJECT: KARBI-LANGPI MIDDLE-II (3X8 MW) ASSAM, INDIA
 TITLE: POWER HOUSE SCADA SYSTEM ARCHITECTURE ELECTRICAL PROTECTION
 TRACTEBEL Engineering pvt. Ltd. | P.020318 | TE-E&M-GAD | 9759

DC SUPPLY FOR POWER HOUSE



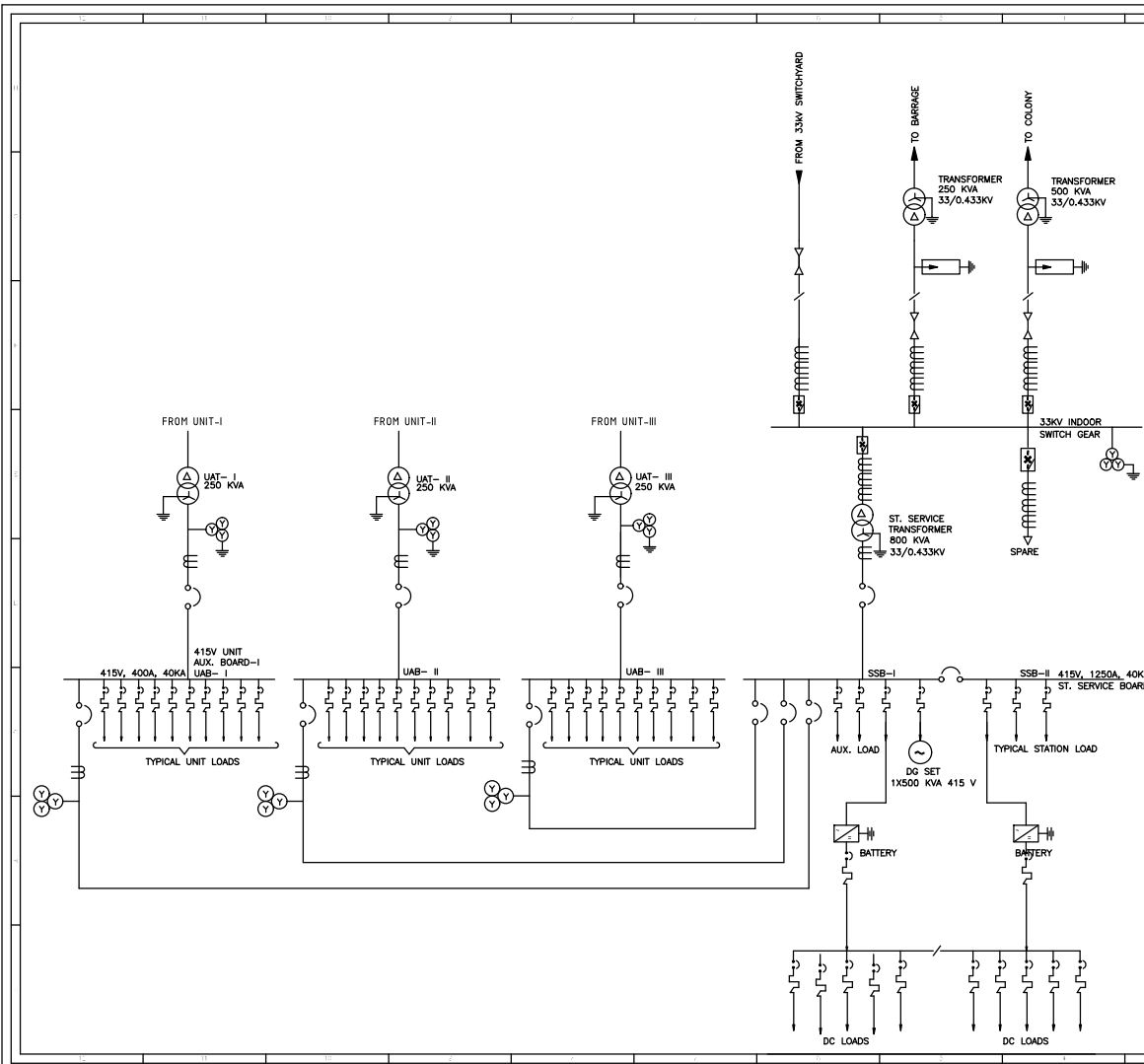
- NOTES:**
1. THIS DRAWING DEPICTS THE 220V DC SCHEME ONLY.
 2. DC FEEDER RATING & QUANTITIES AS INDICATED IS TENTATIVE ONLY. THE SAME SHALL BE FINALIZED DURING DETAILED ENGINEERING.
 3. THE BATTERIES SHALL BE LEAD ACID PLANTE TYPE.
 4. MINIMUM 20% SPARE DC FEEDERS SHALL BE KEPT AS SPARE & MINIMUM ONE.
 5. DUPLICATE FEEDERS SHALL BE PROVIDED FOR ALL IMPORTANT PANELS.

LEGEND:-

MCCB	
DOUBLE POLE MCCB	
AMMETER	
FUSE	
DIODE	
CONTACTOR	
VOLTMETER	

FOR TENDER PURPOSE ONLY

NO.	REV.	DATE	BY	CHKD.	APPV.	FOR APPROVAL
OWNER						
ASSAM POWER PROJECT DEVELOPMENT COMPANY LTD.						
PROJECT: KARBI LANGTI MIDDLE II HEP (3x8.0 MW)						
TITLE: SINGLE LINE DIAGRAM 220 V DC SYSTEM						
TRACTEBEL Engineering Pvt. Ltd. P.020318 TE-E&M-GAD 9757						



- NOTES:**
1. THIS DRAWING SHOWS LT & MV SINGLE LINE DIAGRAM FOR THE PROJECT.
 2. THE NUMBER AND RATING OF EQUIPMENT AND PROTECTIVE INSTRUMENTS AS SHOWN IN THIS DRAWING ARE INDICATIVE ONLY AND MAY UNDER GO CHANGE DURING DETAIL ENGINEERING.
 3. NUMBER OF FEEDERS AS SHOWN IN THE DRAWING IS INDICATIVE ONLY. THE SAME SHALL BE FINALISED DURING DETAILED ENGINEERING STAGE.

LEGEND-

SYMBOL	LEGEND	DESCRIPTION
		AIR CIRCUIT BREAKER
		MOULDED CASE CIRCUIT BREAKER
		TRANSFORMER
	CT	CURRENT TRANSFORMER
	DG	DIESEL GENERATOR SET
		MV CIRCUIT BREAKER
		11KV XLPE CABLE
		VOLTAGE TRANSFORMER
		LIGHTNING ARRESTER

FOR TENDER PURPOSE ONLY
DATE -09-02-2024

REV	DATE	BY	CHKD	APPVCD	SUBJECT OF REVISION
0					

OWNER: ASSAM POWER PROJECT DEVELOPMENT COMPANY LTD.

PROJECT: KARBI LANGPI MIDDLE II HEP (3x8.0 MW)

TITLE: SINGLE LINE DIAGRAM LT&MV SYSTEM

TRACTEBEL ENGINEERING PVT. LTD.

DATE: 09-02-2024 | 1 OF 1 | 0

PROJECT: P220318 | TE-E&M-GAD | 0756

