	North Chennai TPP Stage-III - 1x800 MW	SPECIFICATION No: PE-TS-485-571-A901	
	GYPSUM DEWATERING EQUIPMENT TECHNICAL SPECIFICATION INPUT DRAWINGS LIST	SECTION : I	
		SUB-SECTION : D	
		REV. 00	
		SHEET 1 OF 1	

ANNEXURE-IV

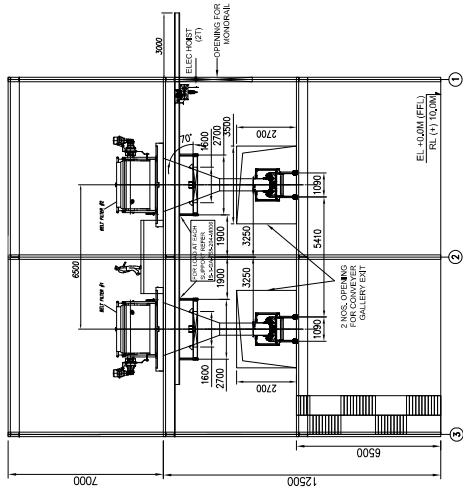
INPUT DRAWINGS/DOCUMENTS BY BHEL

Sl. No.	Drawing/ Document Title	Drawing No.
1.	General Arrangement of Gypsum Dewatering Building	PE-DG-485-571-A001 (Sheet 1-2 of 2)
2.	P&ID - Primary Hydrocyclone	3-FW-000-05404 (Sheet 1 of 10)
3.	P&ID of Secondary Waste Water Hydrocyclone Feed Tank	3-FW-000-05404 (Sheet 2 of 10)
4.	P&ID - Primary Hydrocyclone	3-FW-000-05404 (Sheet 3 of 10)
5.	P&ID – Vacuum Belt Filter A & B	3-FW-000-05404 (Sheet 4 & 5 of 10)
6.	P&ID Belt Filter Wash tank	3-FW-000-05404 (Sheet 6 of 10))
7.	P&ID Cake Wash tank	3-FW-000-05404 (Sheet 7 of 10)
8.	P&ID Filtrate Water tank	3-FW-000-05404 (Sheet 8 of 10)
9.	P&ID Filtrate Receiver tank	3-FW-000-05404 (Sheet 9 of 10)
10.	P&ID Waste Water System	3-FW-000-05404 (Sheet 10 of 10)
11.	Plot Plan – FGD Area	PE-DG-485-100-M001 (Sheet 1 of 1)
12.	Gypsum Conveyor GBD 1A/B : Structural GA Drawing	IS-1-CE-758-201-C045 (Sheet 1 of 1)

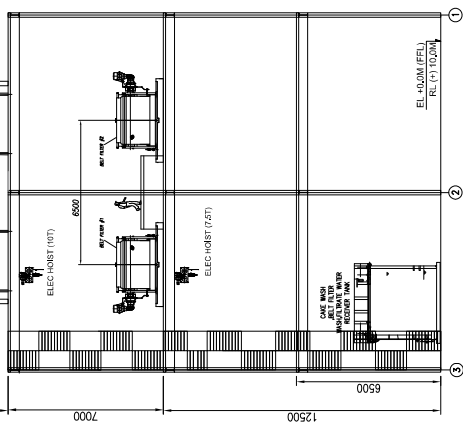
Sl. No.	QTY.	DESCRIPTIONS	APPRX WEIGHT OF EACH EQUIP UNDER OPERATION	LOCATION IN GOW BUILDING	REMARKS
1	02	VACUUM BELT FEEDER WITH ACCESSORIES	40 MT	ON FIRST FLOOR EL(+12.50)	THE EQUIPMENT COLUMNS WILL BE SUPPORTED ON THE FLOOR
2	02	SECONDARY HYDRO CYCLONE (SHT)	5 MT (INCLUDING PLATFORM)	ON FIRST FLOOR EL(+12.50)	THE EQUIPMENT HAS 4 COLUMNS WHICH WILL BE SUPPORTED ON THE FLOOR
3	02	PRIMARY HYDRO CYCLONE	10 MT (INCLUDING SUPPORTING PLATFORM)	ON SECOND FLOOR EL(+12.50)	PRIMARY HYDRO CYCLONE WILL BE SUPPORTED ON FLOOR
4	02	VACUUM PUMP & MOTOR	12 MT	FIRST FLOOR @ EL(+12.50)	FOUNDATION TO BE PROVIDED AS PER CIVIL DESIGN
5	02	VACUUM RECEIVER	10MT	FIRST FLOOR @ EL(+12.50)	FLOOR MOUNTED
6	01	CAKE WASH TANK	AS PER REFERENCE DRG	GROUND FLOOR @ EL(+00.00)	SEPARATE FOUNDATION OR FLOOR MOUNTED AS PER CIVIL DESIGN
7	01	BELT FILTER(CLOUT) TANK	AS PER REFERENCE DRG	GROUND FLOOR @ EL(+00.00)	SEPARATE FOUNDATION OR FLOOR MOUNTED AS PER CIVIL DESIGN
8	01	FILTRATE WATER RECEIVER TANK	AS PER REFERENCE DRG	GROUND FLOOR @ EL(+00.00)	SEPARATE FOUNDATION OR FLOOR MOUNTED AS PER CIVIL DESIGN
9	01	FILTRATE WATER TANK & PUMPS WITH MOTORS	AS PER REFERENCE DRG	OUTSIDE GOW BUILDING	FOUNDATION TO BE PROVIDED AS PER CIVIL DESIGN
10	01	SECONDARY HYDRO CYCLONE	AS PER REFERENCE DRG	OUTSIDE GOW BUILDING	SEPARATE FOUNDATION OR FLOOR MOUNTED AS PER CIVIL DESIGN
11	01	WASTE WATER STORAGE TANK & PUMPS WITH MOTORS	AS PER REFERENCE DRG	OUTSIDE GOW BUILDING	SEPARATE FOUNDATION OR FLOOR MOUNTED AS PER CIVIL DESIGN
12	02	CAKE WASH PUMPS & MOTORS	0.2 T	GROUND FLOOR @ EL(+00.00)	FOUNDATION TO BE PROVIDED AS PER CIVIL DESIGN
13	02	REC/CLUT WATER PUMPS & MOTORS	0.2 T	GROUND FLOOR @ EL(+00.00)	FOUNDATION TO BE PROVIDED AS PER CIVIL DESIGN
14	-	PLATFORMS FOR HIF & HYDROCYCLONES	AS SHOWN	AS SHOWN	FOUNDATION TO BE PROVIDED AS PER CIVIL DESIGN
15	02	DISCHARGE CHUTE	1 -	1ST DISCHARGE @ 12M TO CONVEYOR	FOUNDATION TO BE PROVIDED AS PER CIVIL DESIGN

SL. NO	DRAWING NO.	DRAWING TITLE	AGENCY
1	PE-DC-485-100-M001	PLOT PLAN - FGD AREA	PEM/BAP
2	IS-1-GA-758-204-M006	GA OF GYPSUM STORAGE AREA INCLUDING SHED ALONG WITH LOAD DATA OF CONV GHP-1A/B	ISS/VENDOR
3	PE-DC-485-167-A001	GA DRAWING OF FILTRATE WATER TANK	PEM/VENDOR
4	PE-DC-485-167-A001	GA DRAWING OF SECONDARY HYDRO CYCLONE FEED TANK	PEM/VENDOR
5	PE-DC-485-167-A001	GA DRAWING OF WASTE WATER TANK	PEM/VENDOR
6	PE-DC-485-167-A001	GA DRAWING OF FILTRATE WATER RECEIVER TANK	PEM/VENDOR
7	PE-DC-485-167-A001	GA DRAWING OF BELT FEEDER WASH TANKS	PEM/VENDOR
8	PE-DC-485-167-A001	GA DRAWING OF CAKE WASH (CLARIFIED WATER) TANK	PEM/VENDOR

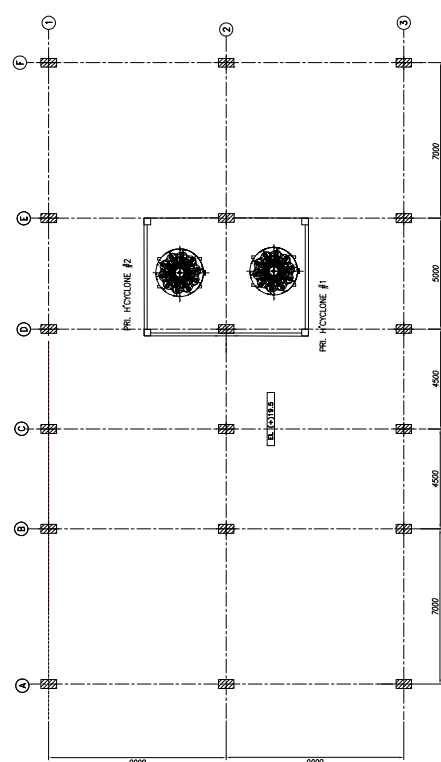
LIST OF REFERENCE DRAWINGS



SECTION - CC



SECTION - AA



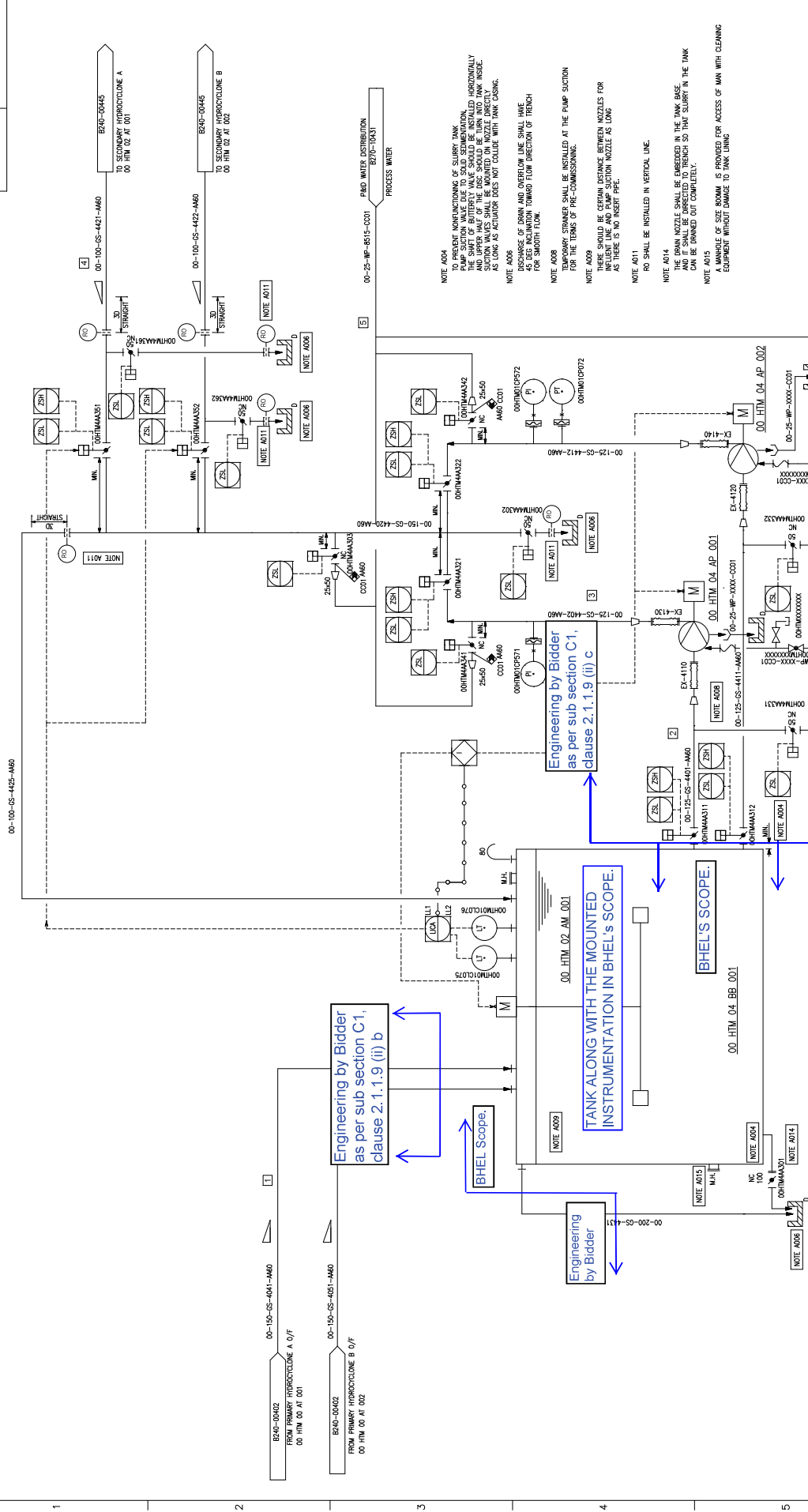
PLAN @ EL (+) 19.50M

NOTES.

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES
2. COMPRESSOR HOUSE BUILDING IS CLUBBED WITH THE GYPSUM DEWATERING BUILDING (GRID B TO E AND ROW 1 TO 2).
3. FINISHED FLOOR LEVEL (FFL) = EL (+) 0.00M CORRESPONDS TO RL (+) 10.0M.
4. RL (+) 10.0M CORRESPONDS TO PLANT EL 0.0M (GROUND FLOOR OF STG BUILDING).
5. GYPSUM DEWATERING SYSTEM SUPPLIER SHALL CONFIRM THE CAPACITY AND LAYOUT FOR HANDLING EQUIPMENTS
6. THIS DRAWING IS TENTATIVE CONSIDERING NOT-TO-EXCEED LOADS. CIVIL DRAWINGS SHALL BE PREPARED ACCORDINGLY.
7. FLOOR OPENINGS, PIPE CROSSINGS SHALL BE CONFIRMED DURING DETAIL ENGINEERING.
8. DETAILS OF STAIRCASE, SUITABLE DOORS, WINDOWS, VENTILATORS SHALL BE CONSIDERED BY CIVIL DESIGNER FOR GYPSUM DEWATERING BUILDING.
9. FLOOR AT EL +6.5M IS TO SUPPORT ISG CONVEYOR. REFER * GA OF GYPSUM STORAGE AREA INCLUDING SHED ALONG WITH LOAD DATA OF CONV GHP- 1A/B* DWG NO. IS-1-GA-758-204-M006

OWNER:	TAMILNADU GENERATION & DISTRIBUTION CORPORATION LIMITED 415 Floor, Western Wing, NPARC Madurai, 144, Anna Salai, Chennai-600002
CONSULTANT:	Retiree Consulting Engineers (India) Pvt Ltd, Menon Bhatnagar, 9th Floor, No.186, St. Mary's Road, Arambpet, Chennai-600018
PROJECT:	13600 MW TAMILNADU NORTH CHERNAL TPP
STAGE:	STAGE III - FGD
CLIENT:	GHARTI HEAVY METALS LTD
CONTRACT:	PROJECT MANAGEMENT

PROJECT NO: GSD/2014/001
DATE: 08.08.2014



CUSTOMER: TANGEDCO
 PROJECT: NORTH CHENNAI (1X800MW)
 FED SYSTEM PACKAGE

DATE	14.08.21
NO. REVISED	14.08.21
BY	14.08.21
CHKD	14.08.21
APPD	14.08.21

UNIT: BHEL/PS-PEM
 UNIT: BHEL/PS-PEM
 UNIT: BHEL/PS-PEM

MITSUBISHI HITACHI POWER SYSTEMS, LTD.
 AIR QUALITY CONTROL SYSTEMS TECHNOLOGY DIVISION

P&ID - SECONDARY HYDROCYCLONE
 FEED TANK

SCALE: NTS

SH 02 of 10

BHEL Dwg No: 3-FW-000-05404
 FILE NO: B240-00441
 REVISED: 00
 Page 345 of 448

SECTION

S/NO	SECTION	FLOW m ³ /hr	TEMP (°C)	DENSITY kg/m ³
1	Primary hydrocyclone overflow	31.5	53	1114
2	Secondary hydrocyclone feed pump suction	63	53	1114
3	Secondary hydrocyclone feed pump discharge	63	53	1114
4	Secondary hydrocyclone flow	31.5	53	1114
5	Process water flow for flushing	3	35.0	994

Engineering by Bidder as per sub section C1, clause 2.1.1.9 (ii) b

Engineering by Bidder as per sub section C1, clause 2.1.1.9 (ii) c

Engineering by Bidder as per sub section C1, clause 2.1.1.9 (ii) c

TANK ALONG WITH THE MOUNTED INSTRUMENTATION IN BHEL'S SCOPE.

BHEL'S SCOPE:

00-100-SS-4425-A660

00-150-SS-4051-A660

00-100-SS-4421-A660

00-100-SS-4422-A660

00-125-SS-4412-A660

00-125-SS-4411-A660

00-125-SS-4410-A660

00-125-SS-4401-A660

00-125-SS-4402-A660

00-125-SS-4403-A660

00-125-SS-4404-A660

00-125-SS-4405-A660

00-125-SS-4406-A660

00-125-SS-4407-A660

00-125-SS-4408-A660

00-125-SS-4409-A660

00-125-SS-4410-A660

00-125-SS-4411-A660

00-125-SS-4412-A660

00-125-SS-4413-A660

00-125-SS-4414-A660

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00-125-SS-4416-A660

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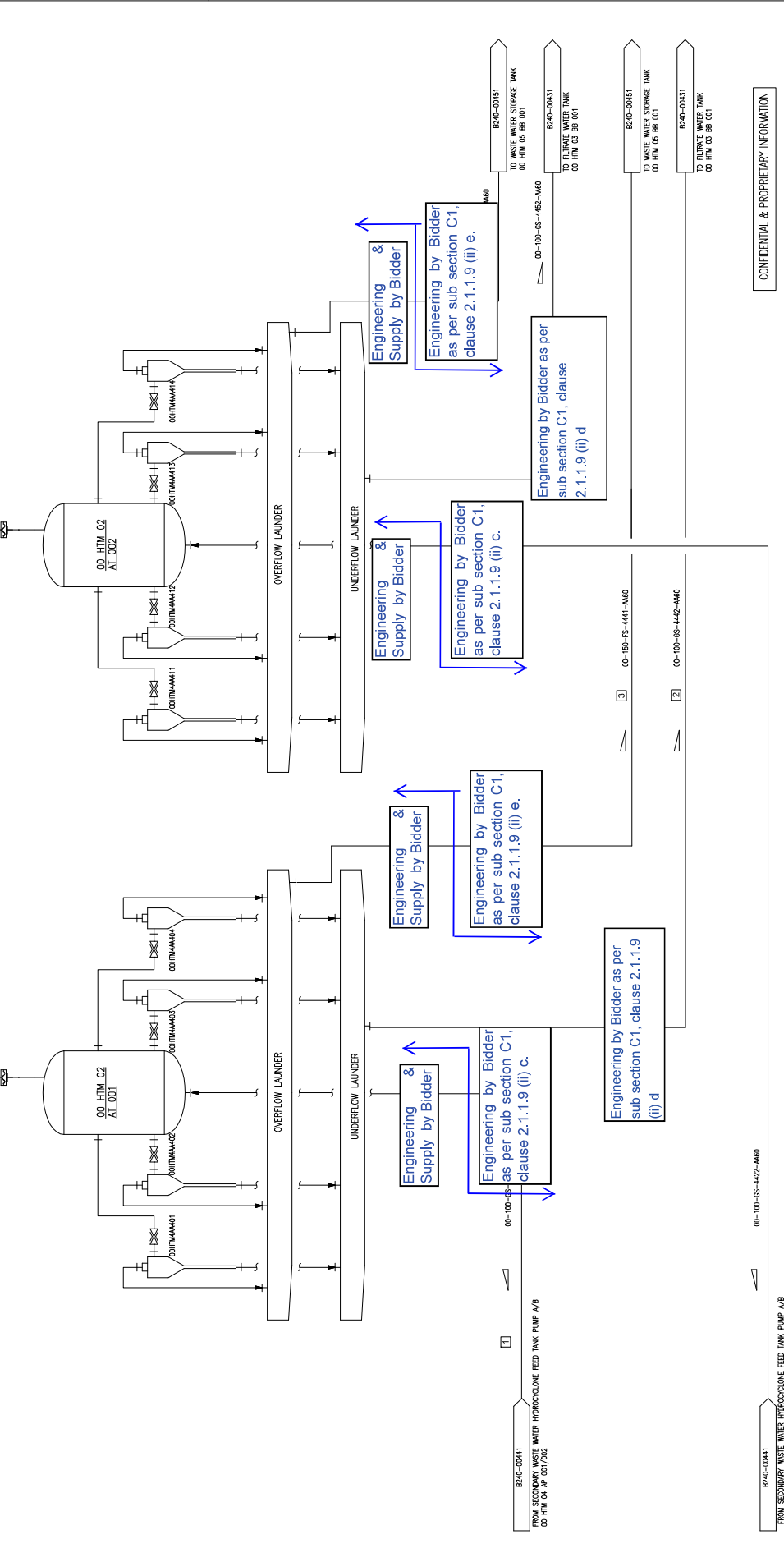
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00-125-SS-4498-A660

00-125-SS-4499-A660

00-125-SS-4500-A660

In Bidder's scope including U/F & O/F Launders.



CONFIDENTIAL & PROPRIETARY INFORMATION

CUSTOMER NOS: G802

CUSTOMER: TANGEDCO
PROJECT: NORTH CHENNAI (1X800MW)
FGD SYSTEM PACKAGE

DATE	14.08.21
NAME (SHELL)	HYVA
NO.	14.08.21
DATE	14.08.21
NAME (SHELL)	HYVA
NO.	14.08.21

DESIGNED BY: S. S. SIVAKUMAR
CHECKED BY: M. S. SIVAKUMAR
DATE: 14.08.21

MITSUBISHI HITACHI POWER SYSTEMS, LTD.
AIR QUALITY CONTROL SYSTEMS TECHNOLOGY DIVISION

P & ID - SECONDARY HYDROCYCLONE

SCALE: NTS

REVISED BY: SH 03 of 10

REVISED NO: 00

FILE NO: B240-00445

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00-HTM-02 AT 001/002
SECONDARY
HYDROCYCLONE A/B

NOTE:
Number of hydrocyclone clusters will be finalized after vendor's information

S NO	SECTION	FLOW m ³ /hr	TEMP (°C)	DENSITY kg/m ³
1	Secondary hydrocyclone feed flow	31.5	53	1114
2	Secondary hydrocyclone underflow	11.81	53	1283
3	Secondary hydrocyclone overflow	19.7	53	1024



A3

DRAWING No.

S. NO	SECTION	FLOW m ³ /hr	TEMP(C)	DENSITY kg/m ³
1	Gypsum slurry line to belt filter	23.01	53	1362
2	Gypsum outlet from belt filter to gypsum handling system	15.58	46.9	900
3	Filtrate water from vacuum receiver to filtrate water tank	LATER	LATER	LATER
4	Vacuum pump flow	LATER	LATER	LATER
5	Seal water to vacuum pump	LATER	LATER	LATER
6	Seal water return	LATER	LATER	LATER

NOTE B003
SYSTEM COMPONENTS WRITTEN IN THE DRAWING ARE, JUST DEFAULT.
THEY WILL BE SUBJECT TO CHANGE DUE TO VENDOR SELECTION.

NOTE A002
BIRD SCREEN SHALL BE INSTALLED.

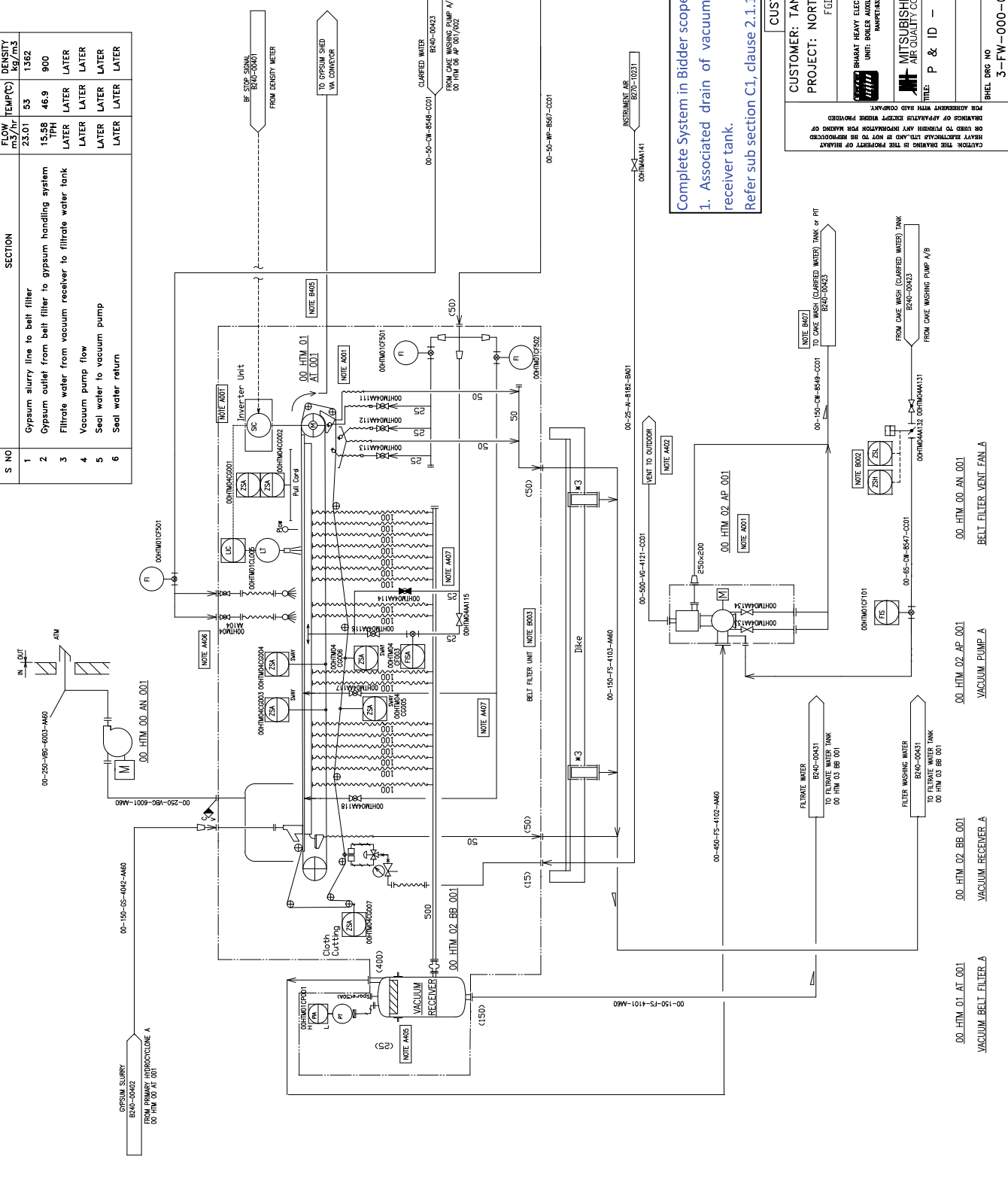
NOTE A005
PRESSURE INDICATOR SHALL NOT HAVE A POKER.
IT SHALL BE MADE OF STAINLESS STEEL.

NOTE A006
CAKE WASH PIPING SHALL BE MOUNTED SO THAT ITS POSITION
CAN BE ADJUSTED WELL DURING COMMISSIONING.

NOTE B004
WASH SEAL AND LUBRICATION WATER PIPING SHALL BE DESIGNED
TO DISTRIBUTE WATER EQUALLY (EX. TO CONNECT SUPPLY LINE
TO MIDDLE OF HEADERS).

NOTE B005
GYPSSUM CRUITE SHALL BE DESIGNED VERTICALLY, NOT OBVIOUSLY.
NOTE B007
TO PH. F. VACUUM PUMP IS LOCATED IN GROUND FLOOR.

NOTE
PIPE SIZE ARE TENTATIVE
PIPE SIZE WILL BE CONFIRMED AFTER VENDOR FINALISATION.



Complete System in Bidder scope EXCEPT:
1. Associated drain of vacuum belt filters (drip tray) to filtrate receiver tank.
Refer sub section C1, clause 2.1.1.9 (ii) f of the Specification.

CUSTOMER NOS: G802

CUSTOMER: TANGEDCO
PROJECT: NORTH CHENNAI (1X800MW)
FGD SYSTEM PACKAGE

DATE	NAME (S/N)	REVISION
14.08.21	VIDYA	
14.08.21	KABIRASH	
14.08.21	PANAVEN	

UNIT: BOILER AUXILIARIES PLANT, IMPROVED 60%
M
APPD

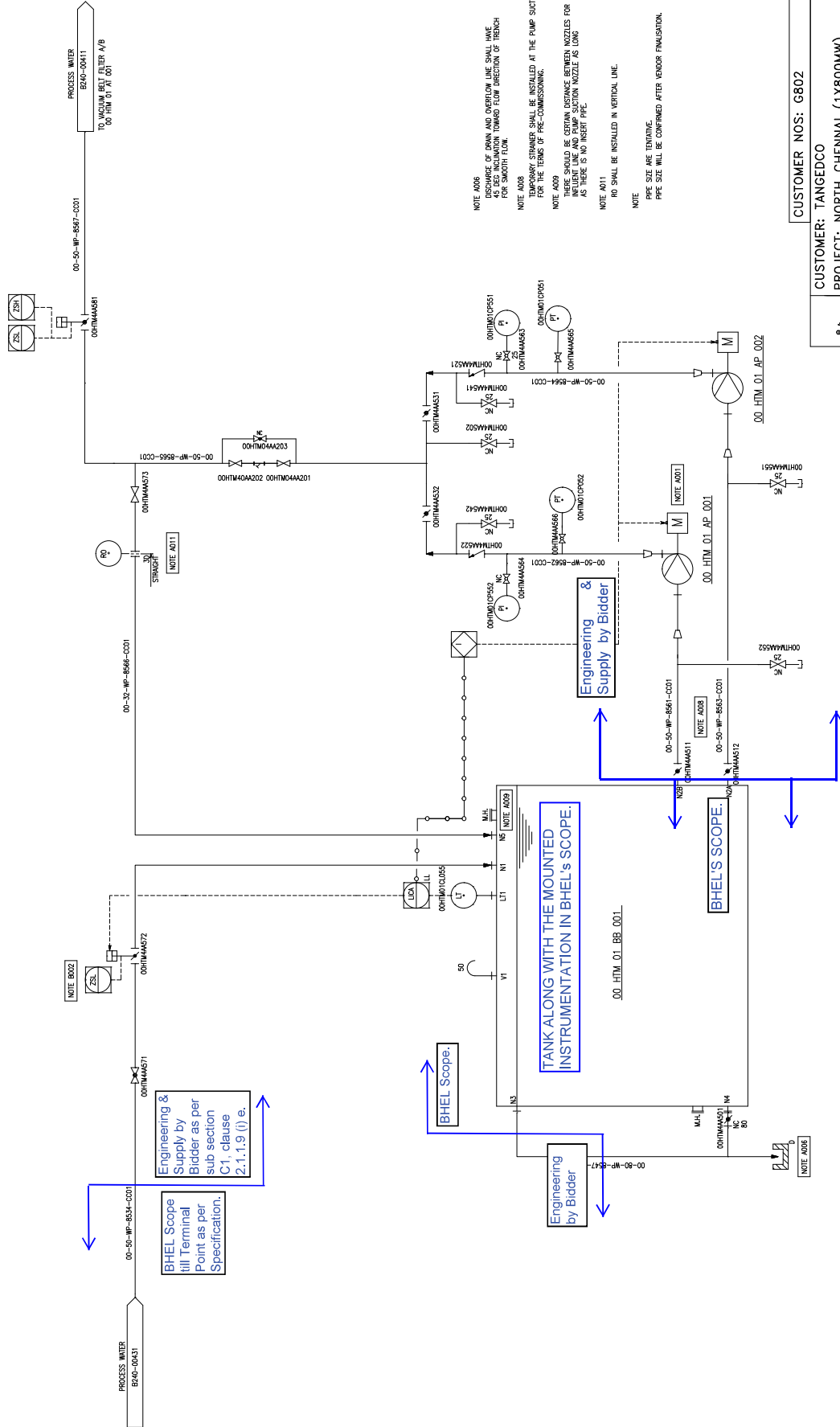
MITSUBISHI HITACHI POWER SYSTEMS LTD.
AIR QUALITY CONTROL SYSTEMS TECHNOLOGIST DIVISION

FILE: P & ID - VACUUM BELT FILTER- A
SCALE: MTS

SH 04 of 10
RET NO 00
FILE NO B240-00411
Page 346 of 448

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CONSENT OF SHARAD ENGINEERING & CONSULTANTS. FOR ANY INQUIRY, PLEASE CONTACT SHARAD
ENGINEERING & CONSULTANTS. FROM AGREEMENT WITH SAID COMPANY.

0 1 2 3 4 5 6 7 8 9 10



S NO	SECTION	FLOW m ³ /hr	TEMP(°C)	DENSITY kg/m ³
1	Process water to belt filter wash tank	5.91	35.0	994
2	At the suction of belt filter wash pump	LATER	35.0	994
3	At the discharge of belt filter wash pump	LATER	35.0	994
4	Wash water to belt filter	5.91	35.0	994

- NOTE A005
DISCHARGE OF DRAIN AND OVERFLOW LINE SHALL HAVE AS 85° INCLINATION TOWARD FLOW DIRECTION OF TRENCH FOR SMOOTH TURN.
- NOTE A008
PUMP VENTURES SHALL BE INSTALLED AT THE PUMP SUCTION FOR THE TERMS OF PRE-COMMISSIONING.
- NOTE A009
TRENCHES SHOULD BE CERTAIN DISTANCE BETWEEN NOZZLES FOR INFLUENT LINE AND PUMP SUCTION NOZZLE AS LONG AS THERE IS NO INSERT PIPE.
- NOTE A011
RO SHALL BE INSTALLED IN VERTICAL LINE.
- NOTE
PIPE SIZE ARE DEFINED
PIPE SIZE WILL BE CONFIRMED AFTER VENDOR FINALISATION.

CUSTOMER NOS: G802

CUSTOMER: TANGEDCO
PROJECT: NORTH CHENNAI (1X800MW)
FGD SYSTEM PACKAGE

DATE	NAME (SHELI)	DEPT	CODE/DRN
14.08.21	VIJYA	BHARAT HEAVY ELECTRICALS LIMITED	
14.08.21	KARILASH	UNIT: BOILER AUXILIARIES PLANT,	M
14.08.21	PANVENI	MANUFACTURE 406,	M/PPD

MITSUBISHI HITACHI POWER SYSTEMS, LTD.
AIR QUALITY CONTROL SYSTEMS TECHNOLOGY DIVISION

TITLE: P & ID - VACUUM BELT FILTER (BELT FILTER WASH TANK)

SCALE: 1:1

SH 06 of 10

BHEL DRG NO: 3-FW-000-05404
FILE NO: B240-00421
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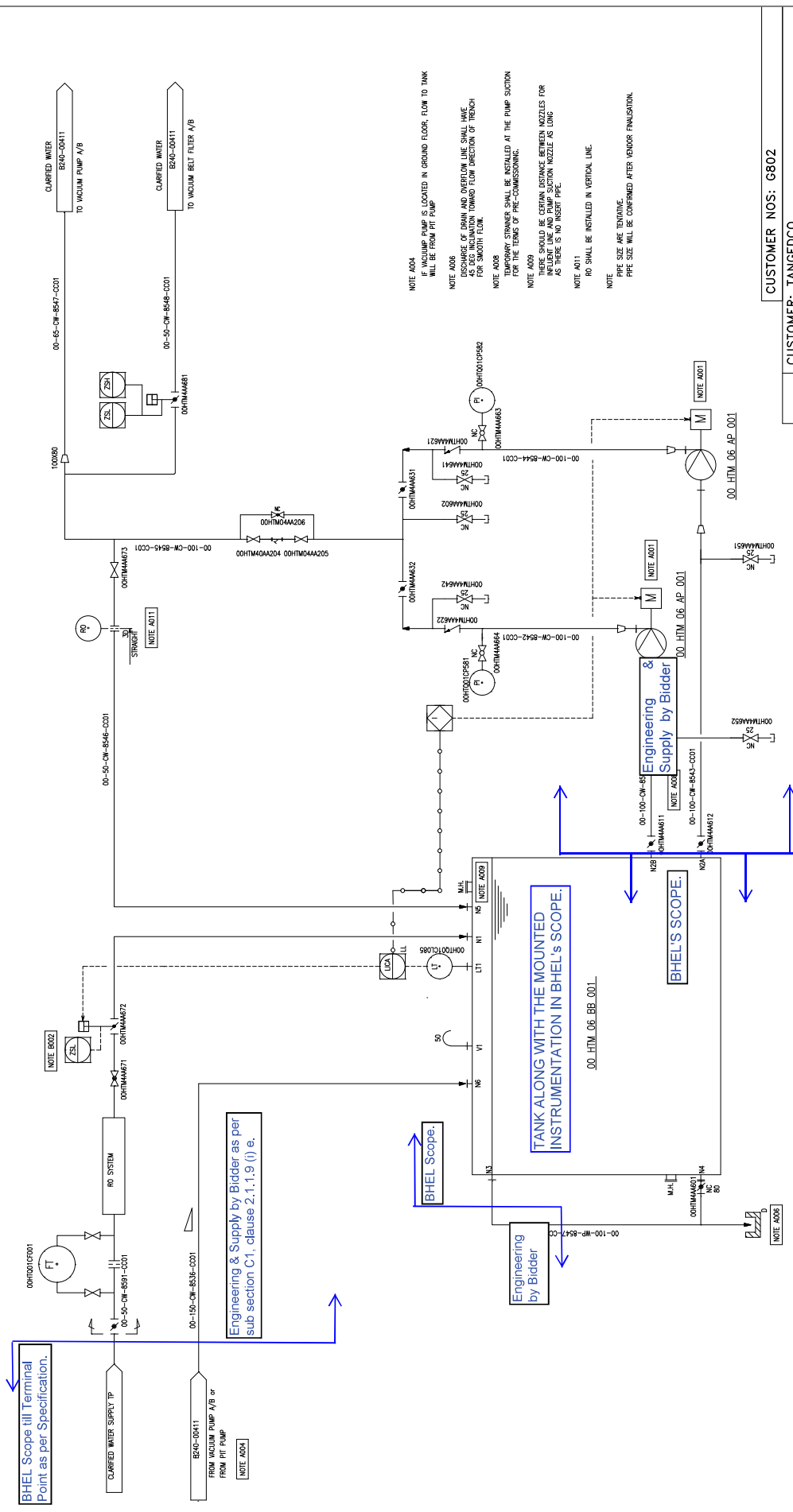
CAUTION: THIS DRAWING IS THE PROPERTY OF BHEL. HEAVY ELECTRICALS LTD. AND IS NOT TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF BHEL. FOR AMENDMENT IN THIS COMPANY.

00-HTM 01.AP.001/002
BELT FILTER WASHING PUMP A/B

00-HTM 01.BB.001
BELT FILTER WASH TANK A

H
G
F
E
D
C
B

THIRD ANGLE PROJECTION	No. RECD
------------------------	----------



CUSTOMER NOS: G802

CUSTOMER: TANGEDCO

PROJECT: NORTH CHENNAI (1X800MW)

FED SYSTEM PACKAGE

NAME (URED)	DATE
BHARAT HEAVY ELECTRICALS LIMITED	14.08.21
CHD	14.08.21
UNIT: BOILER AUXILIARIES PLANT,	
IMPACT/02.006	14.08.21
APPD	14.08.21

MITSUBISHI HITACHI POWER SYSTEMS, LTD.
 AIR QUALITY CONTROL SYSTEMS TECHNOLOGY DIVISION

SCALE: NTS

SH 07 of 10

BHEL DRG NO: 3-FW-000-05404
 FILE NO: B240-00423
 REV NO: 00

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S NO	SECTION	FLOW m ³ /hr	TEMP(C)	DENSITY kg/m ³
1	Clarified water to clarified wash tank	5.91	35.0	994
2	At the suction of clarified wash pump	25	35.0	994
3	At the discharge of clarified wash pump	25	35.0	994
4	Clarified Wash water to belt filter	5.72	35.0	994
5	Vacuum pump seal water	11.81	35.0	994

00- HTM 06 AP 001/002
 CAKE WASHING PUMP A/B

00- HTM 06 BB 001
 CAKE WASH (CLARIFIED WATER) TANK A

- NOTE A004**
 IF VACUUMP PUMP IS LOCATED IN GROUND FLOOR, FLOW TO TANK WILL BE FROM PIT PUMP
- NOTE A006**
 DISCHARGE OF DRAIN AND OVERFLOW LINE SHALL HAVE 45 DEG INCLINATION TOWARD FLOW DIRECTION OF TRENCH FOR SHORT FLOW.
- NOTE A008**
 THE PUMP STRAIGHTS SHALL BE INSTALLED AT THE PUMP SECTION FOR THE TERMS OF PRE-COMMISSIONING.
- NOTE A009**
 THERE SHOULD BE CERTAIN DISTANCE BETWEEN NOZZLES FOR INFLUENT LINE AND PUMP SUCTION NOZZLE AS LONG AS THERE IS NO INSERT PIPEL
- NOTE A011**
 RO SHALL BE INSTALLED IN VERTICAL LINE.
- NOTE**
 PIPE SIZE ARE TENTATIVE
 PIPE SIZE WILL BE CONFIRMED AFTER VENDOR FINALISATION.

BHEL Scope till Terminal Point as per Specification.

Engineering & Supply by Bidder as per sub section C1, clause 2.1.1.9 (i) e.

TANK ALONG WITH THE MOUNTED INSTRUMENTATION IN BHEL'S SCOPE.

BHEL'S SCOPE:

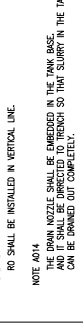
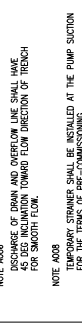
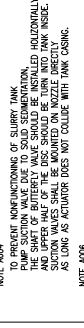
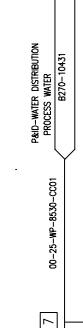
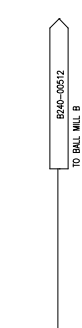
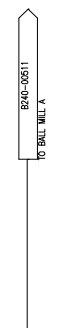
Engineering by Bidder

THIRD ANGLE PROJECTION

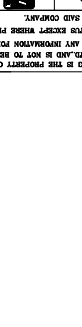
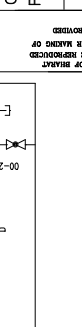
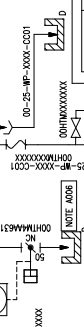
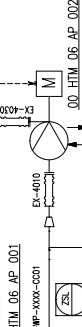
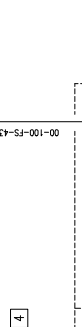
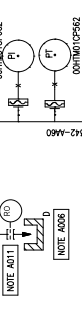
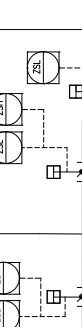
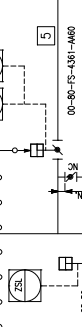
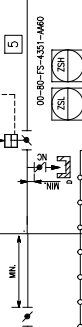
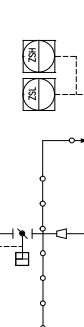
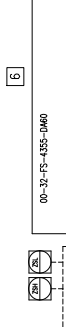
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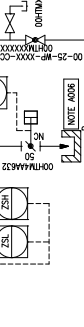
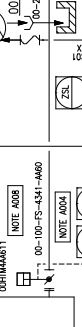
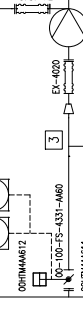
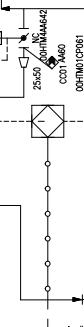
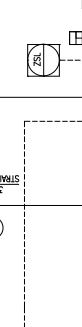
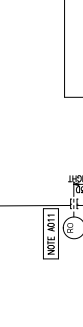
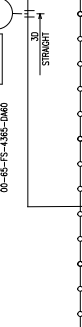
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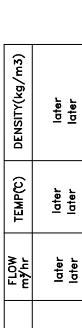
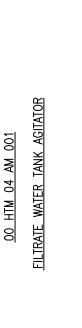
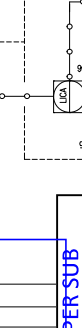
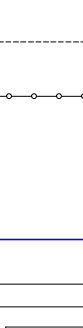
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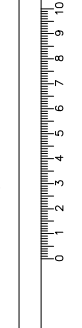
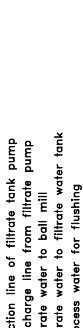
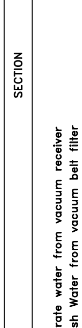
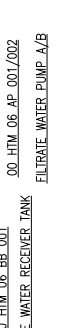
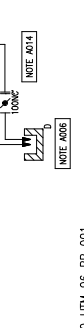
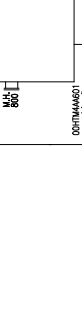
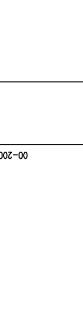
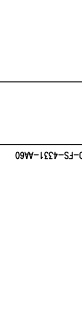
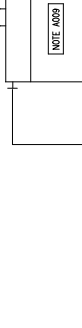
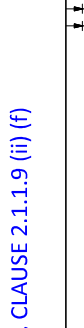
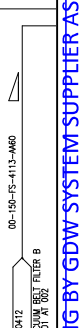
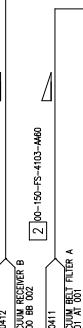
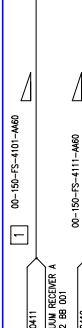
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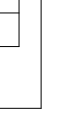
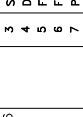
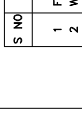
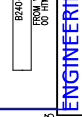
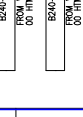
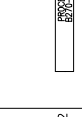
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5



6



ENGINEERING BY GDW SYSTEM SUPPLIER AS PER SUB SECTION C1, CLAUSE 2.1.1.9 (ii) (f)

NOTE A004
TO PREVENT NONFUNCTIONING OF SLURRY TANK PUMP SECTION WASTE DUE TO SOLID SEDIMENTATION, UPPER HALF OF THE DISC SHOULD BE TURNED VERTICALLY AND LOWER HALF OF THE DISC SHOULD BE TURNED INTO TANK INSIDE. SUCH A DISC SHOULD BE KEPT ON KNUZZLE AS LONG AS AVAILABLE AS FAVORABLE DOES NOT FULFILL WITH TANK DESIGN.

NOTE A005
DISCHARGE OF DRAIN AND OVERFLOW LINE SHALL HAVE 45 DEG INCLINATION TOWARD FLOW DIRECTION OF TRENCH FOR SMOOTH FLOW.

NOTE A008
TEMPORARY STRAINER SHALL BE INSTALLED AT THE PUMP SUCTION FOR THE TERMS OF PRE-COMMISSIONING.

NOTE A009
INSTALLATION OF STRAINER INCREASE BETWEEN KNUZZLES FOR INLET LINE AND PUMP SUCTION KNUZZLE AS LONG AS THERE IS NO INSERT PIPE.

NOTE A011
RO SHALL BE INSTALLED IN VERTICAL LINE.

NOTE A014
THE DRAIN KNUZZLE SHALL BE DIMENSIONED IN THE PUMP BASE. THE DRAIN KNUZZLE SHOULD BE TURN SUDDEN IN THE TANK CAN BE DRAIN OUT COMPLETELY.

CONFIDENTIAL & PROPRIETARY INFORMATION

CUSTOMER NOS: G802
CUSTOMER: TANGEDCO
PROJECT: NORTH CHENNAI (1X800MW)
FEED SYSTEM PACKAGE

REV NO	DATE	DESCRIPTION
00	14.08.21	ISSUED FOR APPROVAL
01	14.08.21	REVISION
02	14.08.21	REVISION

SCALE: NTS

SH 09 of 10

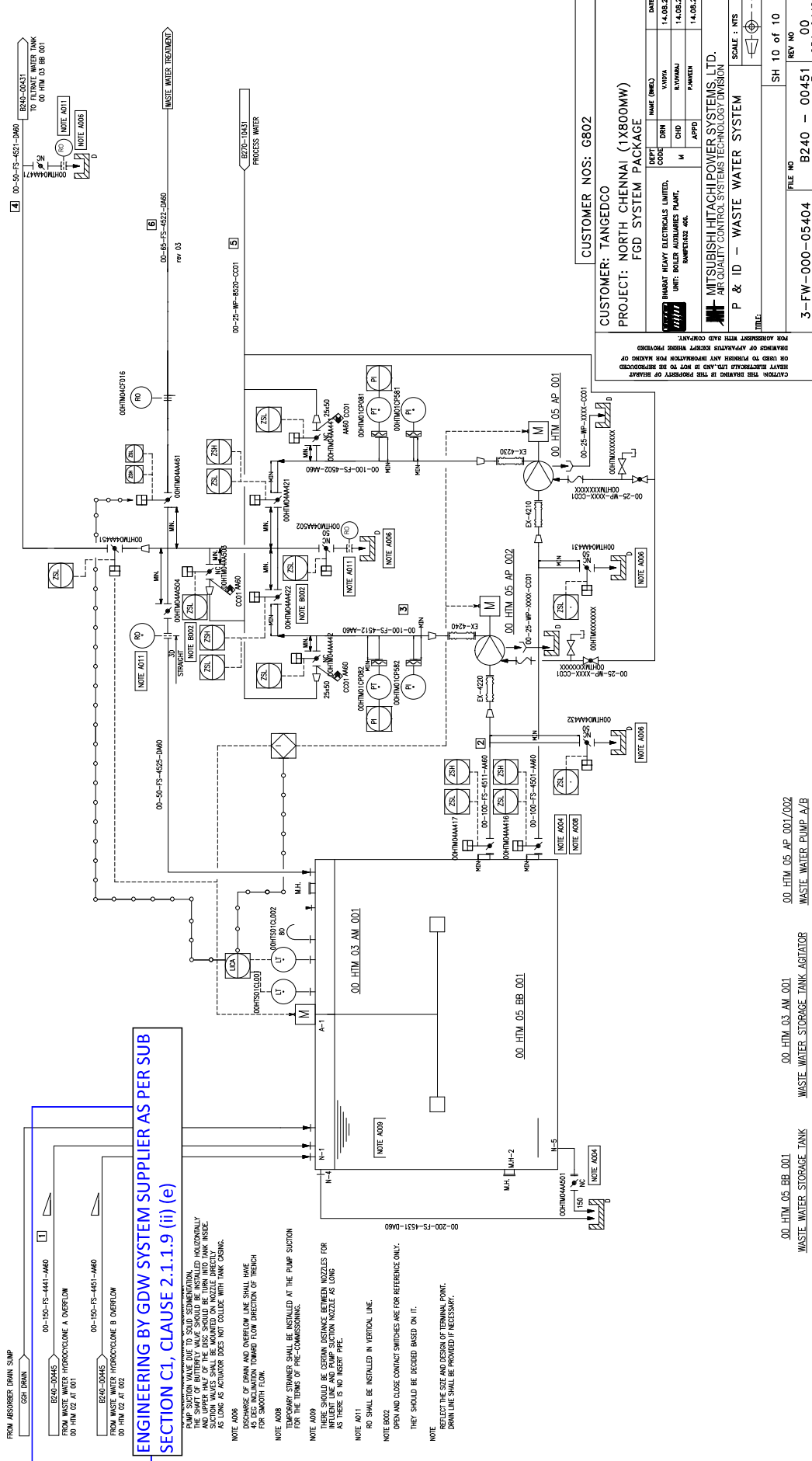
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MITSUBISHI HITACHI POWER SYSTEMS, LTD.
AP QUALITY CONTROL SYSTEMS TECHNOLOGY DIVISION

S NO	SECTION	FLOW m ³ /hr	TEMP(C)	DENSITY(kg/m ³)
1	Filtrate water from vacuum receiver	later	later	later
2	Wash Water from vacuum belt filter	later	later	later
3	Suction line of filtrate tank pump	43.0	46.2	1004
4	Discharge line from filtrate pump	43.0	46.2	1004
5	Filtrate water to ball mill	23.2	46.2	1004
6	Filtrate water to filtrate tank	5.21	46.2	1004
7	Process water for flushing	3.0	35.0	994

0 1 2 3 4 5 6 7 8 9 10

S.No	SECTION	FLOW m ³ /hr	TEMP (°C)	DENSITY kg/m ³
1	Gyp slurry from sec hydrocyclone	19.7	53.0	1024
2	Gyp slurry to WW pump Suction	29	53.0	1024
3	Gyp slurry from WW pump discharge	29	53.0	1024
4	Gyp slurry to filtrate water tank	7.98	53.0	1024
5	Process water line for flushing	3	35	994
6	Gyp slurry to Waste water treatment	11.72	53.0	1024



ENGINEERING BY GDW SYSTEM SUPPLIER AS PER SUB SECTION C1, CLAUSE 2.1.1.9 (ii) (e)

- NOTE A001: PUMP SUCTION VALVE DUE TO SOLID SEDIMENTATION, THE SHUT OFF BUTTERFLY VALVE SHOULD BE INSTALLED HORIZONTALLY FROM WASTE WATER HYDROCYCLONE A OVERFLOW 00-HM-02-AT-001.
- NOTE A002: SUCTON VALVES SHALL BE INSTALLED ON NOZZLE DIRECTLY AS LONG AS ACTUATOR DOES NOT COLLIDE WITH TANK CASING.
- NOTE A003: DISCHARGE OF DRAIN AND OVERFLOW LINE SHALL HAVE 150MM DIA. TEMPORARY TAPPING FOR DIRECTION OF FRESH FOR SMOOTH FLOW.
- NOTE A004: TEMPORARY STRAINER SHALL BE INSTALLED AT THE PUMP SUCTION FOR THE TERMS OF PRE-COMMISSIONING.
- NOTE A005: THERE SHOULD BE CERTAIN DISTANCE BETWEEN NOZZLES FOR INSTALLED LINE AND PUMP SUCTION NOZZLE AS LONG AS THERE IS NO PNEUMATIC.
- NOTE A006: RO SHALL BE INSTALLED IN VERTICAL LINE.
- NOTE A007: OPEN AND CLOSE CONTACT SWITCHES ARE FOR REFERENCE ONLY. THEY SHOULD BE DECIDED BASED ON IT.
- NOTE A008: SHALL BE THE SIZE AND PRESSURE OF TANKING POINT. DRAIN LINE SHALL BE PROVIDED IF NECESSARY.

CUSTOMER NOS: G802

CUSTOMER: TANGEDCO

PROJECT: NORTH CHENNAI (1X800MW)

PROJECT: FGD SYSTEM PACKAGE

DATE	14.08.21
BY	RAJESH
CHECKED	RAJESH
DATE	14.08.21
BY	RAJESH
CHECKED	RAJESH
DATE	14.08.21
BY	RAJESH
CHECKED	RAJESH

MITSUBISHI HITACHI POWER SYSTEMS LTD.
AIR QUALITY CONTROL SYSTEMS TECHNOLOGY DIVISION

P & ID - WASTE WATER SYSTEM

SCALE: NTS

FILE NO: B240 - 00451

REV NO: 00

3-FW-000-05404

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