

BHEL Reply to Pre-Bid Query_ 21.09.2022					
Name of the Work: "Hiring of 800 MT Crane for Incinerator Vent Stack Erection Works in (525) TPD Standby SRU Project, IOCL Paradip Odisha". Tender ref no.: T0AVX00049_NIT-68294 in (www.bhel.com), dated 10.09.2022 Tender id in https://eprocurebhel.co.in : 2022_BHEL_17647_1					
Bidder Name	Sl. No	Clause	Tender Clause Description	Bidder's Query	BHEL's Reply
India Pvt. Ltd.	1	Annexure – I, Prequalifying Requirements / Page 2 of 10	C2: Net worth: Net worth of the Bidder based on the latest Audited Accounts as furnished for 'C1' above should be positive. C3: Cash Profit: Bidder must have earned cash profit in any one of the three Financial Years as applicable in the last three years defined in 'C1' above based on latest Audited Accounts. NET cash profit=(PAT + Non cash expenditure viz depreciation)	We request BHEL to review the Net worth & profit - Financial PQR requirements for crane hire Tender as contractor has to mobilize the crane which is contractor's asset and the same would be available with BHEL for complete contract period without any advance payment from BHEL. Further, all the payments will be paid by BHEL only after work completion or completion of milestone and once the contractors' crane is at site, it will be under the jurisdiction of the Site- In-Charge and without proper approval, permission & support of BHEL, contractor cannot leave the site premises. Thus, here net worth & Profit of contractor are not the binding factors for successful execution of a contract at site rather than crane availability, ownership, technical competence & Turnover PQR requirements. Due to covid-19 epidemic, many of service providers are unable to participate in hiring tenders due to negative net-worth and profit in last financial year requirements. Hence we request BHEL, to review these qualification requirements and remove it to maximize the participants in order to get the competitive pricing. (or) we request you to kindly include the following note similar to Tender No. BHE/PW/PUR/BWT-HLHR-CRH/ 2216 dt. 25.10.2019 & BHE/PW/PUR/NTPRT-HLHR-CRH/2211 dt. 17.10.2019 as below. Special Note: Bidder who is 50% and above subsidiary of any other company (Including those registered outside india) and does not meet any of the above PQR criteria such bidder may be qualified based on the credential of its holding company, provided such holding meets the PQ criteria.	Please follow the tender specification.
	2	TECHNICAL CONDITIONS OF CONTRACT (TCC) / Chapter III- Facilities in the scope of Contractor / Page 9 of 22	4. BOOM EXTENSION & REDUCTION The first assembly of the entire crane including the required boom length, as decided by BHEL Engineer, and dismantling for demobilization are in the regular scope of these services. For any in-between requirement of boom extension or reduction of the cranes at site, the manpower, tools, and tackles required shall be in the scope of crane agency. This duration shall be treated as services utilized and considered for payment of hire charges.	As BHEL's erection contractor shall provide 75 MT crane assembly / disassembly during mobilisation & demobilization (as mentioned in Chapter V), we request BHEL to provide the support equipment (Crane, Hydra & Trailer) for boom extension / reduction, configuration change, counter weight shifting during the contract period as and when required. Otherwise, crane agency has to keep the additional resources through out the contract which would be additional cost to BHEL.	Tender spec to be followed. Support will be provided by BHEL/ BHEL's Erection contractor

Bidder Name	Sl. No	Clause	Tender Clause Description	Bidder's Query	BHEL's Reply
M/s SARENS Heavy Lift	2	TECHNICAL CONDITIONS OF CONTRACT (TCC) /Chapter- V: Facilities by BHEL / Page 12 of 22	2. Support Cranes for Assembly/ Disassembly of Crane: BHEL's erection contractor shall provide support cranes up to capacity of 75MT for assembly/ Disassembly of cranes during mobilization/ demobilization. Support cranes required of capacity more than 75MT shall be arranged by the contractor and cost of the same shall be included in the quoted price.		
	3	TECHNICAL CONDITIONS OF CONTRACT (TCC) / Chapter-IX: General / Page 19 of 22	6. INSURANCE COVER FOR MEN & MATERIALS BHEL/Client has obtained comprehensive Marine cum Erection All Risks Insurance Policy for the plant under installation and other assets of BHEL. Accidental loss/damage to these materials will be covered under this policy.....	Kindly include contractor & its sub-contractors as co-insured and waiver subrogation in favour of Contractor & its sub-contractors in BHEL erection all insurance policy.	Noted

Bidder Name	Sl. No	Clause	Tender Clause Description	Bidder's Query	BHEL's Reply
	4	General	Bid Due date extension	We request to kindly extend the bid due date extended by atleast one week.	Noted. Please keep on visiting the website for extension, if any
	5	TECHNICAL CONDITIONS OF CONTRACT (TCC) / Chapter-IX: General / Page 19 of 22	2. Support Cranes for Assembly/ Disassembly of Crane: BHEL's erection contractor shall provide support cranes up to capacity of 75MT for assembly/ Disassembly of cranes during mobilization/ demobilization. Support cranes required of capacity more than 75MT shall be arranged by the contractor and cost of the same shall be included in the quoted price.	Please note that it requires minimum 1 No. of 250 MT crawler crane & 1 No of 150 MT tyre mounted crane are required for Assembly & dis-assembly of 800 MT crawler crane. As the 800 MT crane is required for 1 month only, it would be difficult for the bidders to bring the complete set of support equipments. Hence, we request you to provide BHEL to provide the support equipment for assembly / dis-assembly, boom configuration change, inter shifting & etc.	Tender spec to be followed.Support will be provided by BHEL/ BHEL's Erection contractor
	6	Annexure – I, Prequalifying Requirements, Page 1 of 10.	7. The bidder can be a company under Companies Act, 1956 or Partnership firm or Proprietor firm. Bidder to submit the document for same.	Please note that only few companies in India has 800 MT crawler crane. We shall participate with financial qualification support from our Foreign Parent company. Hence, we request you to review our request mentioned at Point No.1 below and allow the financial support from parent company similar to the technical support mentioned in the tender.	
M/s Sanghvi Movers Limited	1			Please share dimension details of incinerator vent stack (if drawing please share)	Plot plan and GA drawing of Incinerator stack area attached for bidder reference
	2			Please mention what elevation height 340MT weight need to be lifted	
	3			Please share plot plan drawing if available	
General	1	NA	Bankruptcy clause	NA	Following to be complied by bidders: Bidder must not be under Insolvency Resolution Process or Liquidation or Bankruptcy Code Proceedings (IBC) as on date, by NCLT or any adjudicating authority/authorities, which will render him ineligible for participation in this tender, and shall submit undertaking (Annexure-4) to this effect. Format attached

DECLARATION REGARDING COMPLIANCE TO RESTRICTIONS UNDER RULE 144 (xi) OF GFR 2017

(To be typed and submitted in the Letter Head of the Entity/ Firm providing certificate as applicable)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub: Declaration regarding compliance to Restrictions under Rule 144 (xi) of GFR 2017

Ref : 1) NIT/Tender Specification No:,

2) All other pertinent issues till date I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries. I certify that _____ (SPECIFY THE NAME OF THE ORGANIZATION HERE), is not from such a country/ has been registered with the Competent Authority (attach valid registration by the Competent Authority, i.e., the Registration Committee constituted by the Dept. for Promotion of Industry and Internal Trade (DPIIT); and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. (attach relevant valid registration, if applicable)

I hereby certify that we fulfil all requirements in this regard and is eligible to be considered.

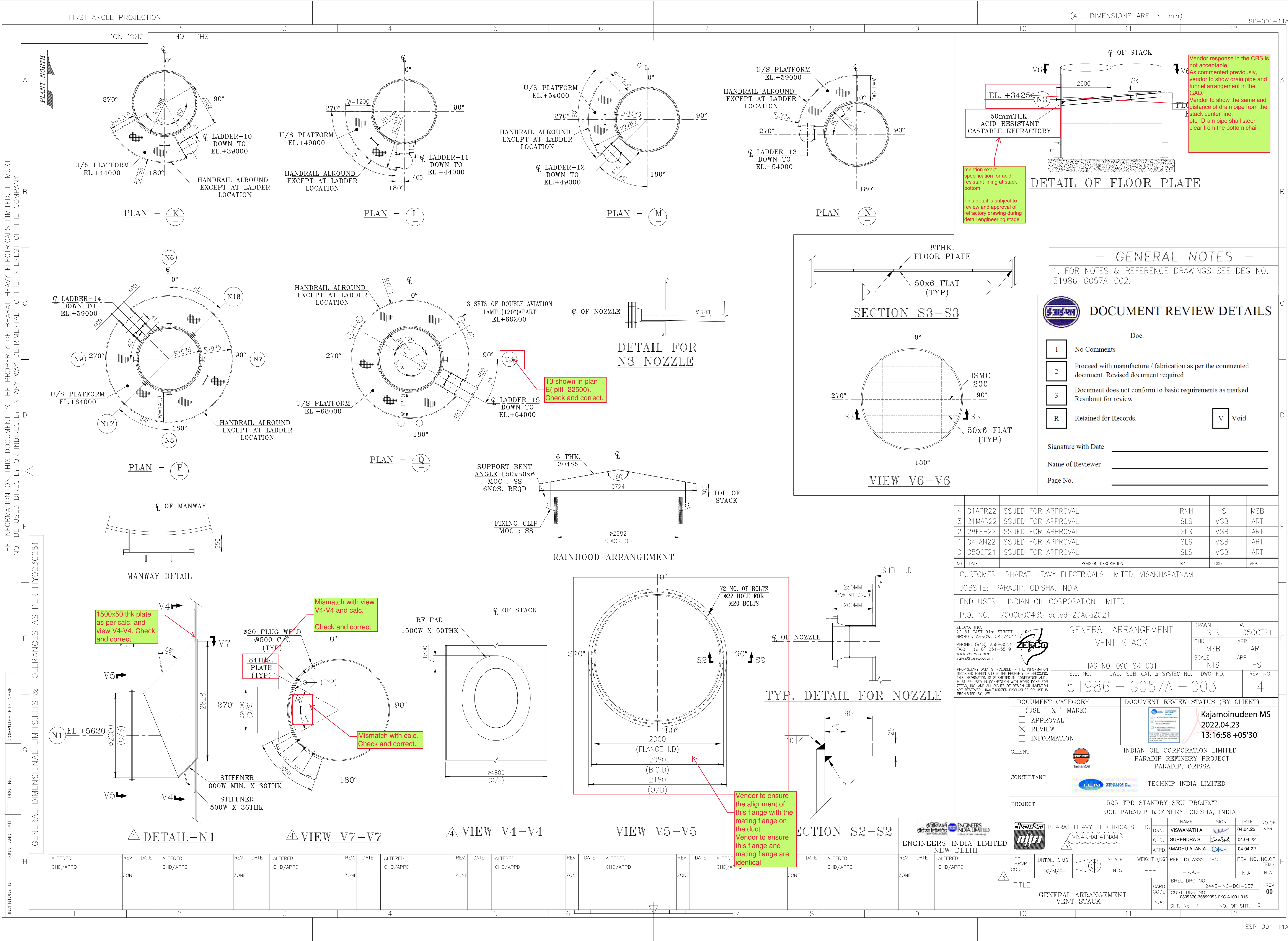
Thanking you,

Yours faithfully,

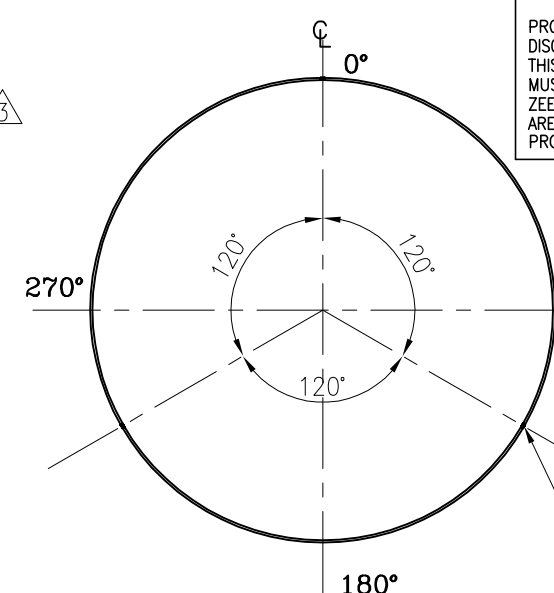
(Signature, Date & Seal of

Authorized Signatory of the Bidder)

Note: Bidders to note that in case above certification given by a bidder, whose bid is accepted, is found to be false, then this would be a ground for immediate termination and for taking further action in accordance with law and as per BHEL guidelines.

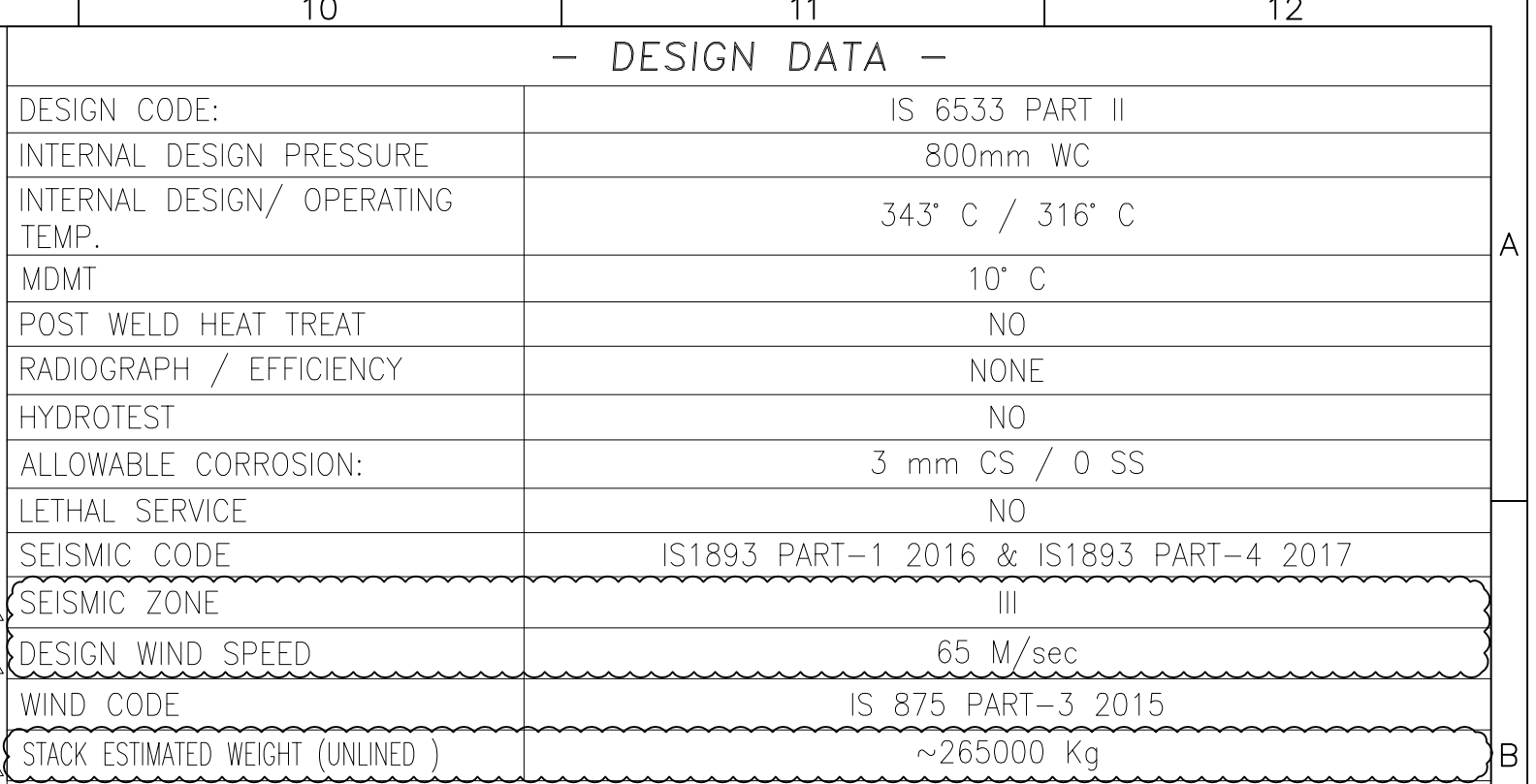


INVENTORY NO



DEPT. (HEV) CODE	UNTL. DIMS. GR. G.M.F.		SCALE NTS	WEIGHT (KG) ---	REF. TO ASSY. DRG. -N.A.-	ITEM NO. -N.A.-	NO. OF ITEMS -N.A.-
TITLE GENERAL ARRANGEMENT VENT STACK				CARD CODE N.A.	2443-INC-DCI-037 CUST DRG NO. J885352-000005-PKG-A1001-016		REV 00
10			11		SHT. No 1	NO. OF SHT. 3	12

Zeeco shall revert this change and ratings for stack analysers shall be 150# only as marked below.



3	21MAR22	ISSUED FOR APPROVAL	SLS	MSB	ART
2	28FEB22	ISSUED FOR APPROVAL	SLS	MSB	ART
1	04JAN22	ISSUED FOR APPROVAL	SLS	MSB	ART
0	05OCT21	ISSUED FOR APPROVAL	SLS	MSB	ART

NO	DATE	REVISION DESCRIPTION	BY	CKD	APP.
CUSTOMER: BHARAT HEAVY ELECTRICALS LIMITED, VISAKHAPATNAM					

JOBSITE: PARADIP, ODISHA, INDIA
END USER: INDIAN OIL CORPORATION LIMITED
P.O. NO.: 7000000435 dated 23Aug2021

ZECCO, INC. 22151 EAST 91st STREET BROKEN ARROW, OK 74014 PHONE: (918) 258-8551 FAX: (918) 251-5519 www.zecco.com sales@zecco.com  PROPRIETARY DATA IS INCLUDED IN THE INFORMATION DISCLOSED HEREIN AND IS THE PROPERTY OF ZECCO, INC. THIS INFORMATION IS SUBMITTED IN CONFIDENTIALITY AND MUST BE USED IN CONNECTION WITH WORK DONE FOR ZECCO, INC. AND ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED. UNAUTHORIZED DISCLOSURE OR USE IS STRICTLY PROHIBITED.	GENERAL ARRANGEMENT VENT STACK TAG NO. 090-SK-001 S.O. TAG DWG., SUB. CAT. & SYSTEM NO. DWG. NO. REV. NO. 51986 G057A 002 3	<table><tr><td>DRAWN</td><td>SLs</td><td>DATE</td><td>050CT21</td></tr><tr><td>CHKD</td><td>MSB</td><td>APP</td><td>ART</td></tr><tr><td>SCALE</td><td>NTS</td><td>APP</td><td>HS</td></tr></table>	DRAWN	SLs	DATE	050CT21	CHKD	MSB	APP	ART	SCALE	NTS	APP	HS
DRAWN	SLs	DATE	050CT21											
CHKD	MSB	APP	ART											
SCALE	NTS	APP	HS											

INDICATOR OF DATA DOCUMENT CATEGORY (USE " X " MARK) ☐ APPROVAL ☒ REVIEW ☐ INFORMATION	DOCUMENT REVIEW STATUS (BY CLIENT)	
	CLIENT	 INDIAN OIL CORPORATION LIMITED PARADIP REFINERY PROJECT PARADIP, ORISSA
	CONSULTANT	 TECHNIP INDIA LIMITED
	PROJECT	525 TPD STANDBY SRU PROJECT IOCL PARADIP REFINERY, ODISHA, INDIA

ENGINEERS INDIA LIMITED PLOT NO. 35, SECTOR-14 DELHI		भारत भारती  BHARAT HEAVY ELECTRICALS LTD. VISAKHAPATNAM 3		NAME DRN. SIVANATH A CHD. SURENDRA S APPD. MADHU A		SIGN.   		DATE 04.04.22 04.04.22 04.04.22		NO. OF VAR.					
DEPT. HPVP APPD.		UNTOL. DIMS. GR CODE.				SCALE NTS		WEIGHT (KG) ---		REF. TO ASSY. DRG. --N.A.--		ITEM NO. --N.A.--		NO. OF ITEMS --N.A.--	
3		TITLE GENERAL ARRANGEMENT VENT STACK						CARD CODE N.A.		BHEL DRG NO. 2443--INC--DCI--037 CUST DRG NO. 890537-2689053-PKG-A1001-016		REV. 00		H	
10		11						N.A.		SHT. No 2		NO. OF SHT. 3		10	

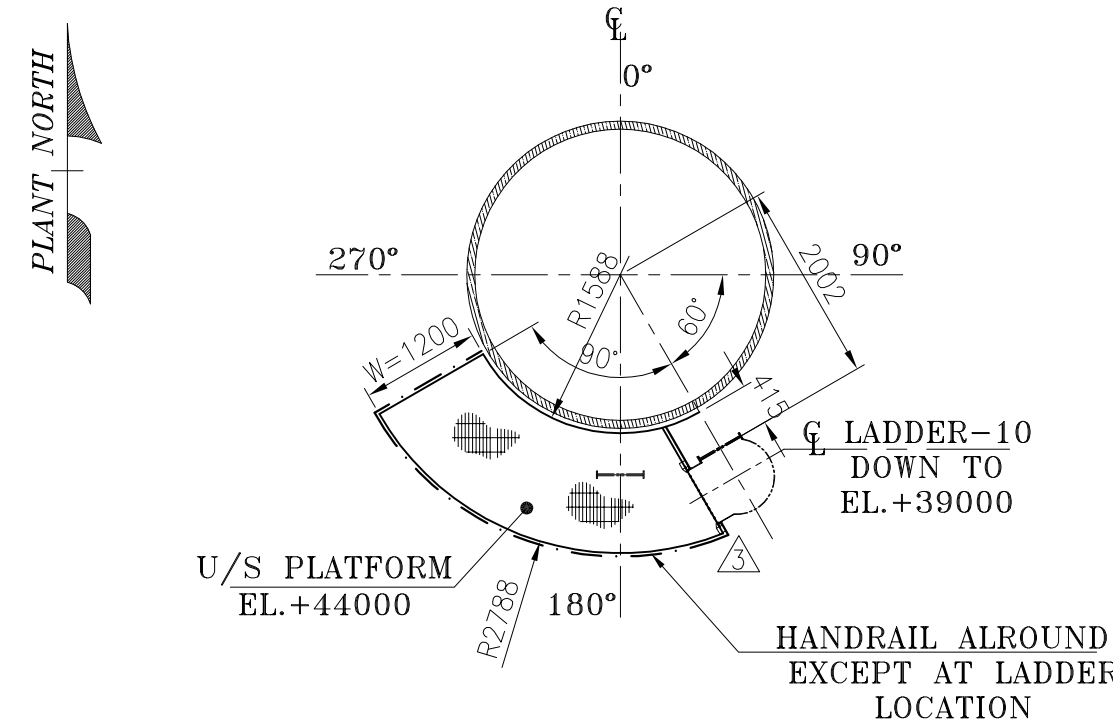
- REFERENCE DRAWINGS -	
	ZEEO DOCUMENT NUMBER
INCINERATOR SYSTEM GENERAL ARRANGEMENT	51986-G061A-001
VENT STACK FOUNDATION PLAN	51986-F057A-001
VENT STACK ASSEMBLY DETAILS	51986-A057A-001
VENT STACK LIFTING DIAGRAM	51986-G057A-010
VENT STACK NAMEPLATE DETAIL	51986-G057A-020

- GENERAL NOTES -	
1.	ONE UNIT REQUIRED.
2.	ALL DIMENSIONS ARE IN MM, UNLESS OTHERWISE SPECIFIED.
3.	FLANGE HOLES SHALL STRADDLE NORMAL VESSEL CENTERLINES UNLESS OTHERWISE NOTED.
4.	PAINT SHALL BE AS PER ZEECO PAINT SPEC. 51986-4030.
7.	FOR LIFTING, SEE DRAWING 51986-G057A-010.
8.	LIFTING LUGS DESIGN - LATER
9.	STACK WILL BE TRANSPORTED IN 4 SECTIONS, THESE SECTIONS WILL BE SITE WELDED BY OTHERS PRIOR TO ERECTION.
10.	INTERNAL REFRACTORY NOT APPLICABLE.
11.	INSULATION IN THIS REGION WILL BE INSTALL AFTER COMPLETION OF WELDING.
12.	ALL SHARP CORNERS SHALL BE GROUND SMOOTH.
13.	ALL RF PADS SHALL HAVE 6mm VENT HOLES.
14.	ENSURE RUST PROTECTIVE COATING ON ALL MACHINED SURFACES AND THREADED CONNECTIONS IMMEDIATELY AFTER MACHINING.
15.	INSIDE SURFACE OF WELDS SHALL BE CHIPPED BACK TO SOUND METAL AND WELDED TO ENSURE FULL PENETRATION FOR ALL BUT WELDS.

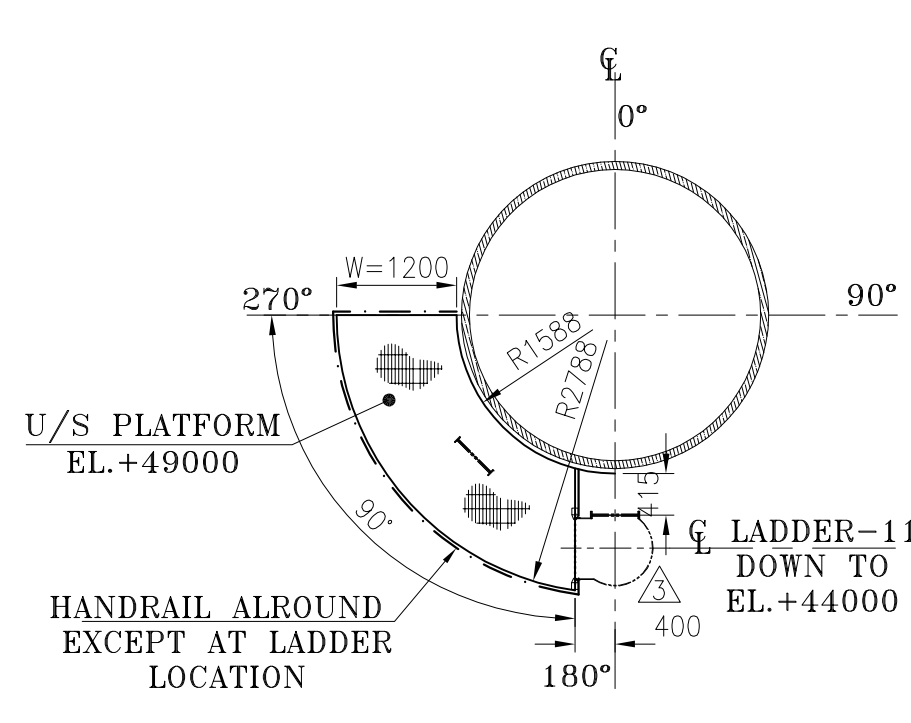
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CHD/APPD			CHD/APPD			CHD/APPD			CHD/APPD			CHD/APPD			CHD/APPD			CHD/APPD		
	ZONE			ZONE			ZONE			ZONE			ZONE			ZONE			ZONE	
1			2			3			4			5			6			7		

THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY

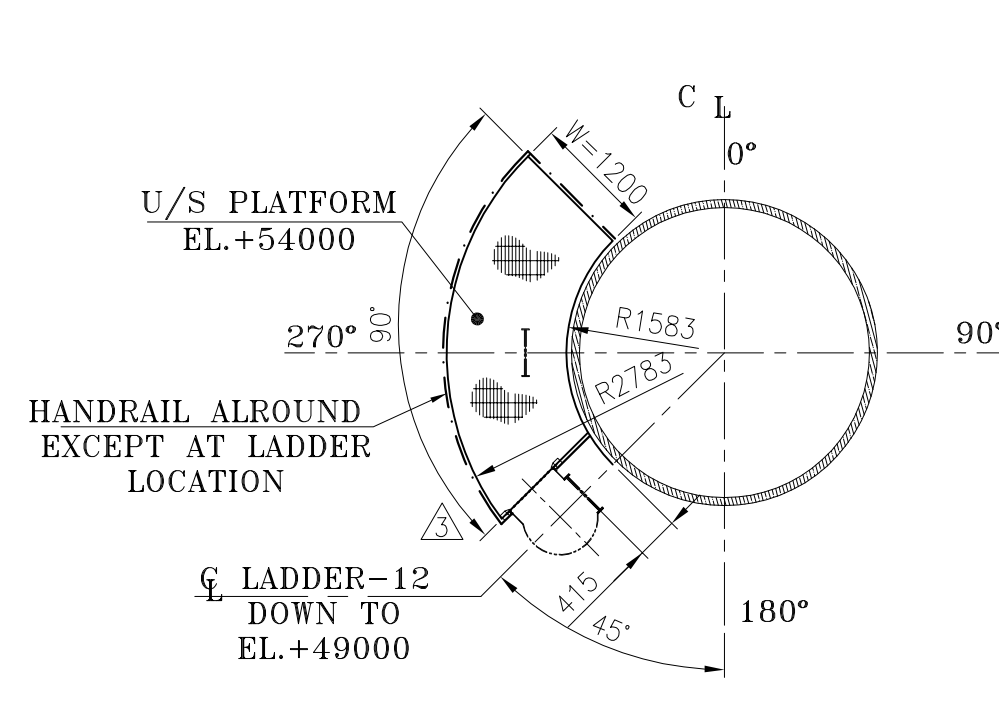
GENERAL DIMENSIONAL LIMITS, FITS & TOLERANCES AS PER HY0230261

SIGN. AND DATE
REF. DRG. NO.
COMPUTER FILE NAME
INVENTORY NO.

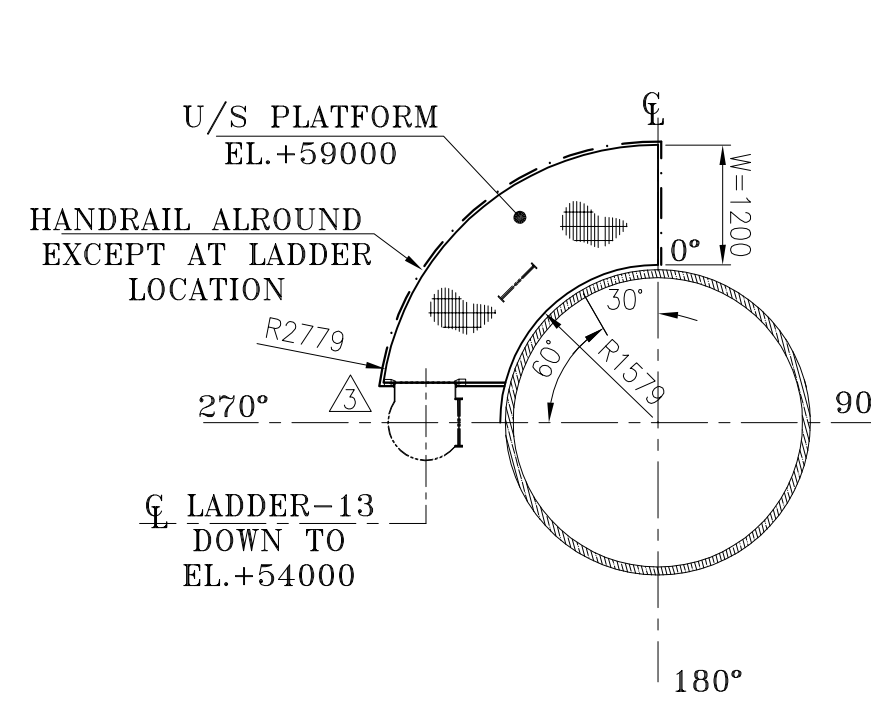
PLAN - K



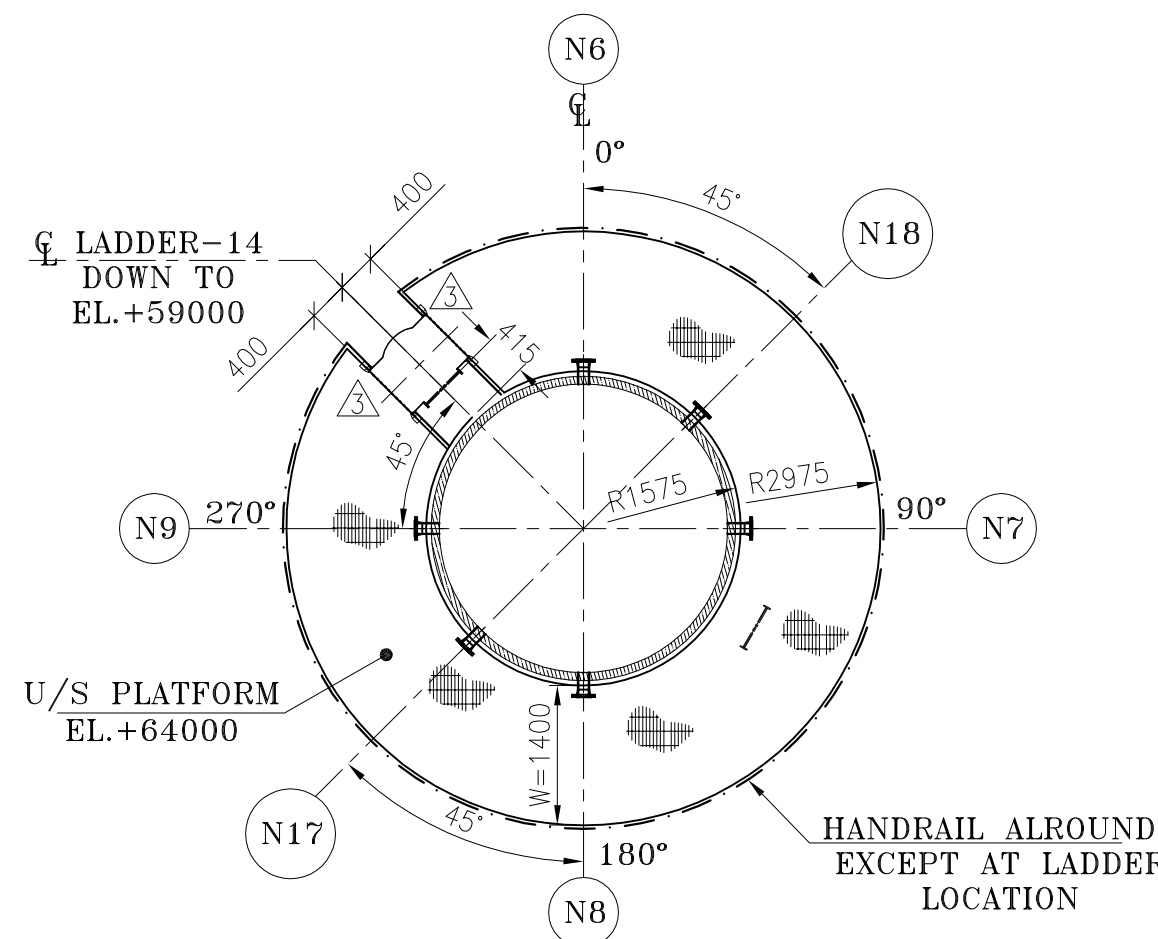
PLAN - L



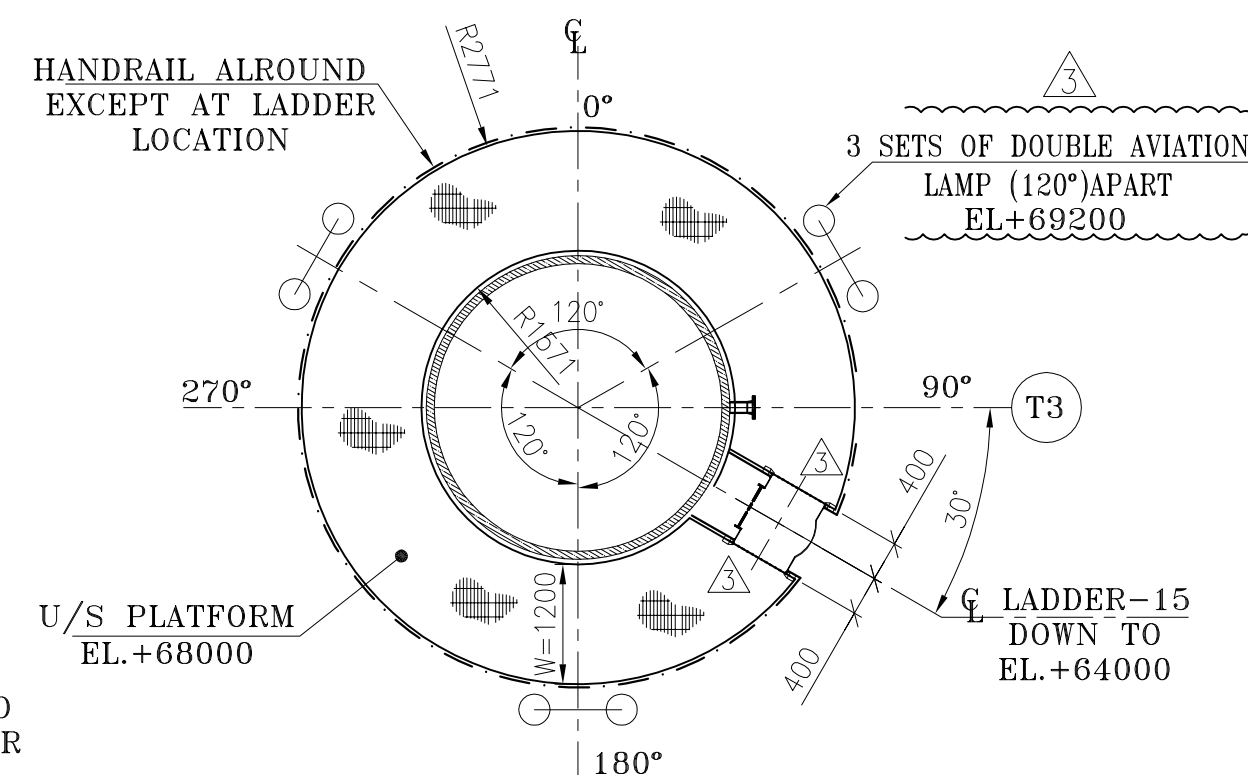
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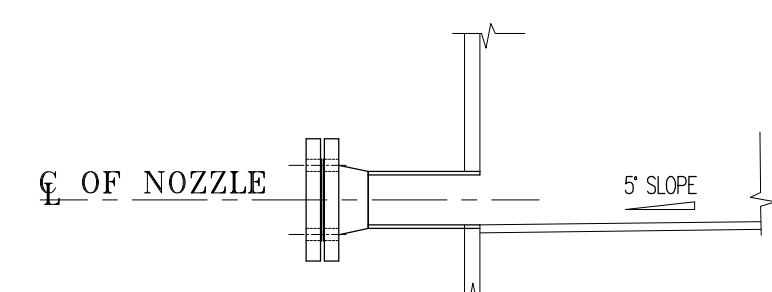
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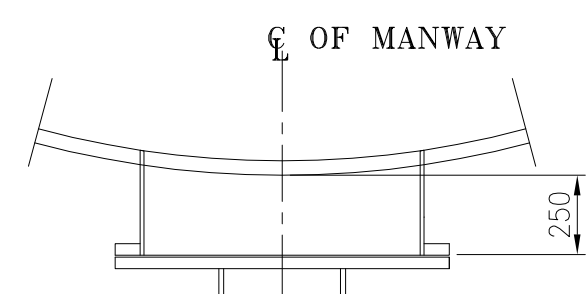
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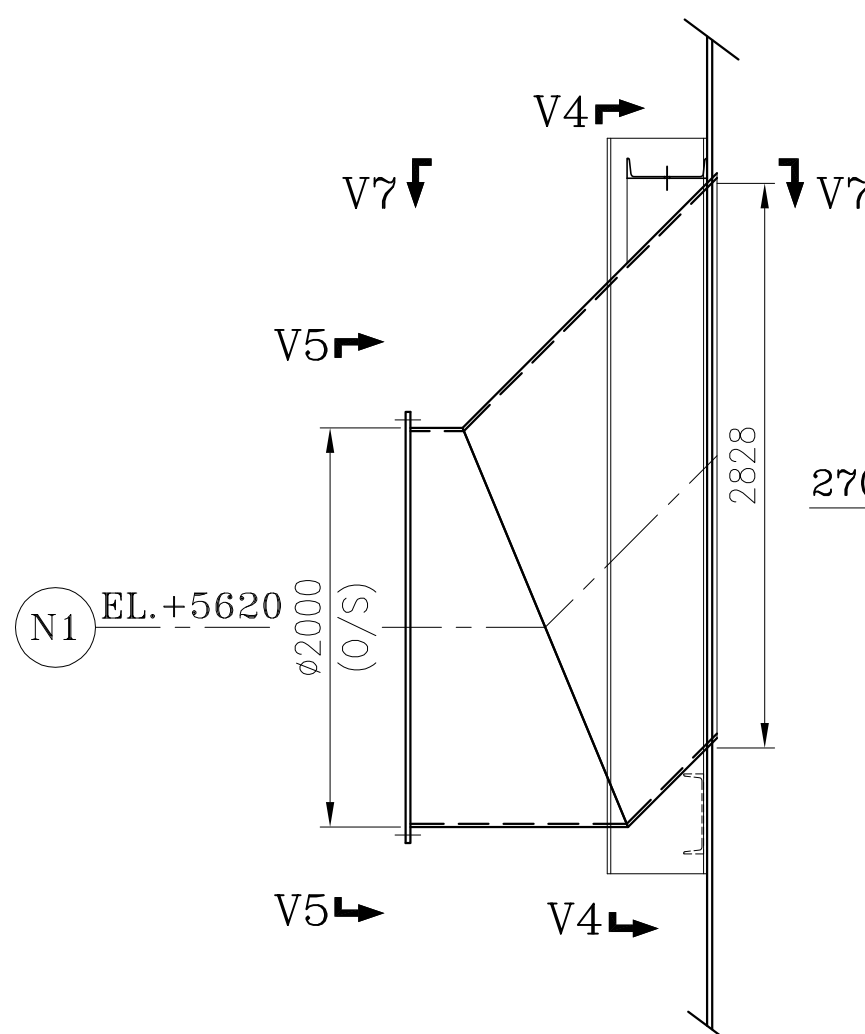
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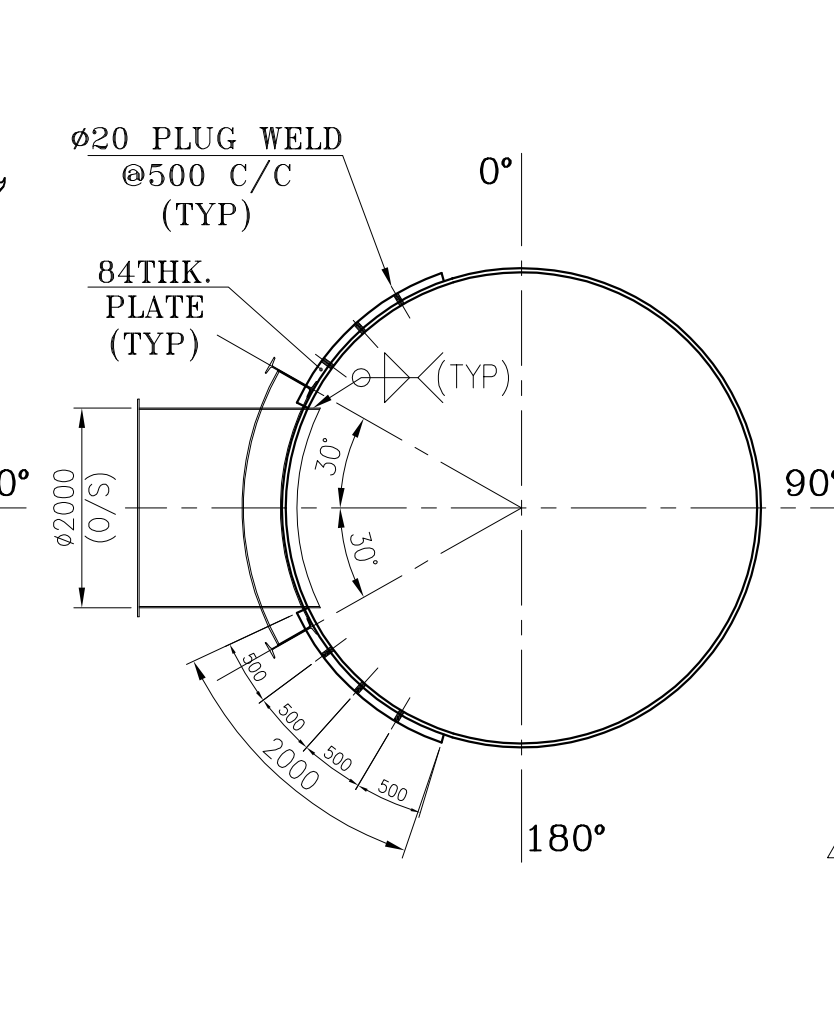
DETAIL FOR N3 NOZZLE



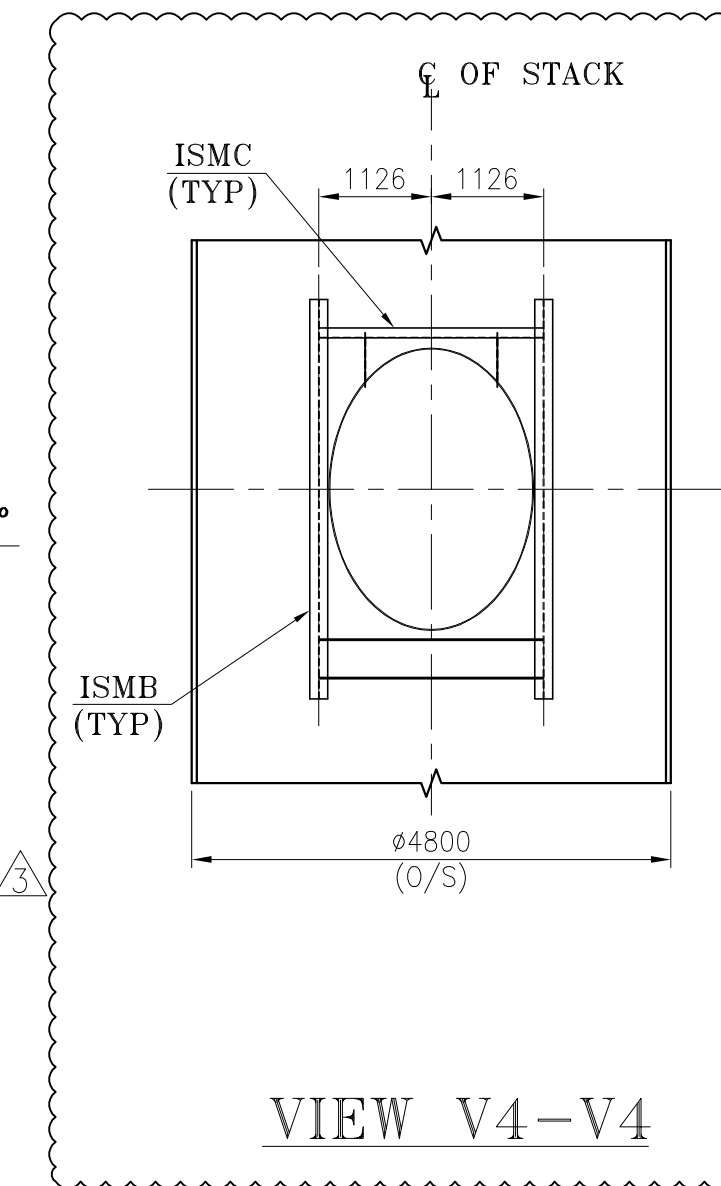
MANWAY DETAIL



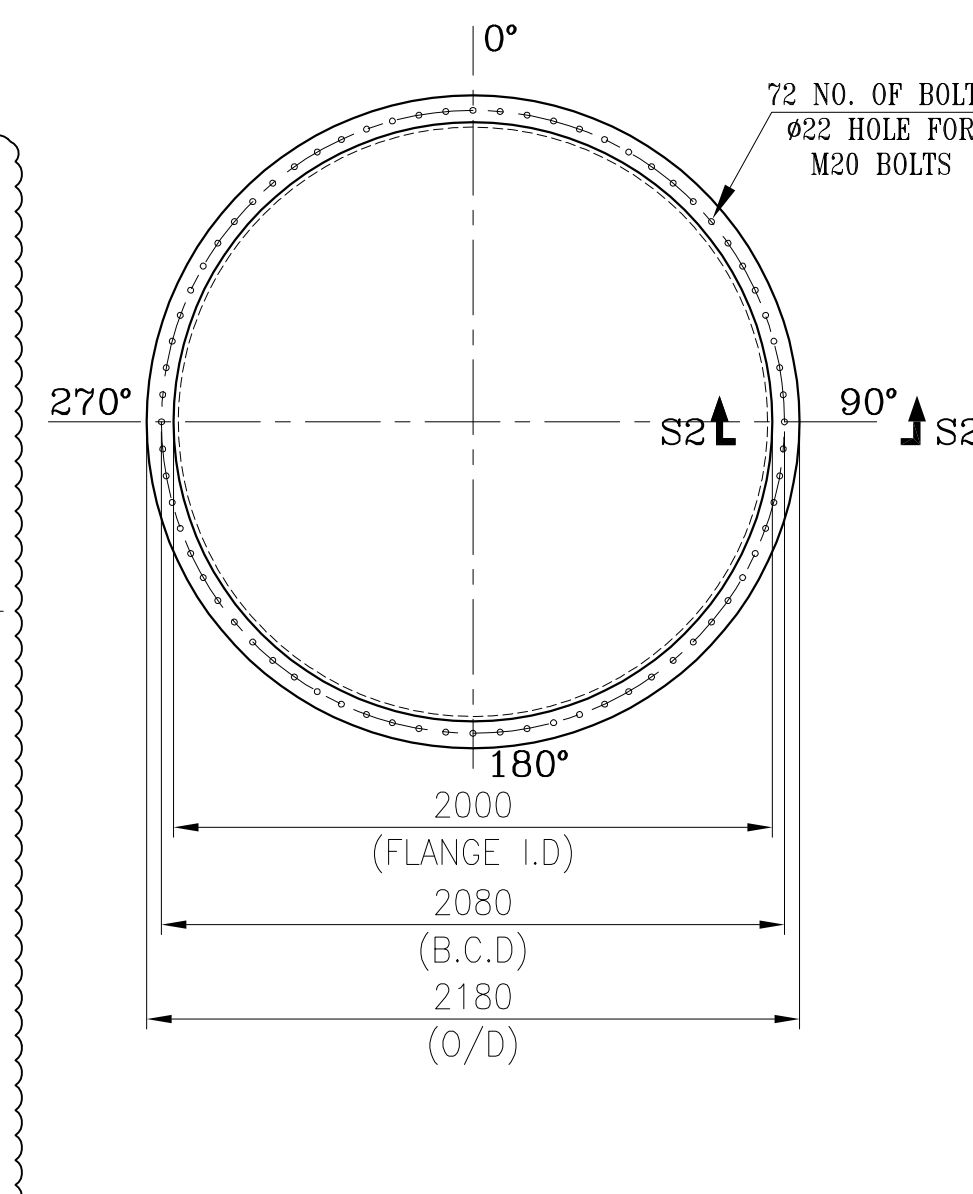
DETAIL-N1



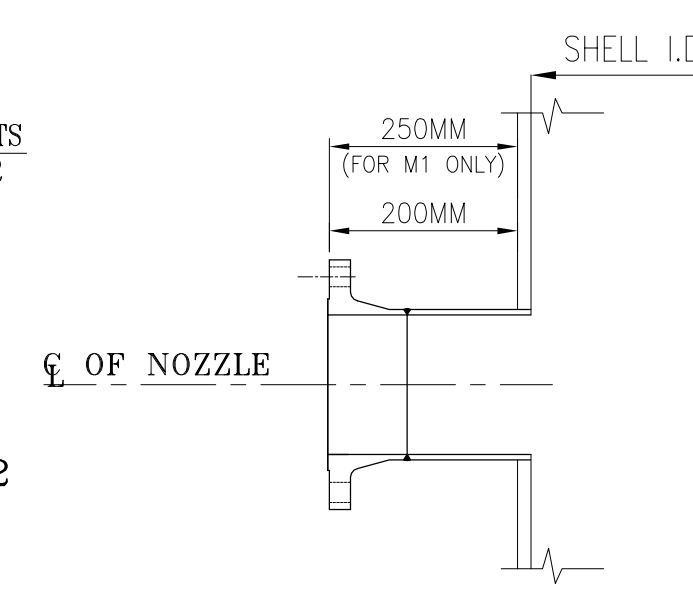
VIEW V7-V7



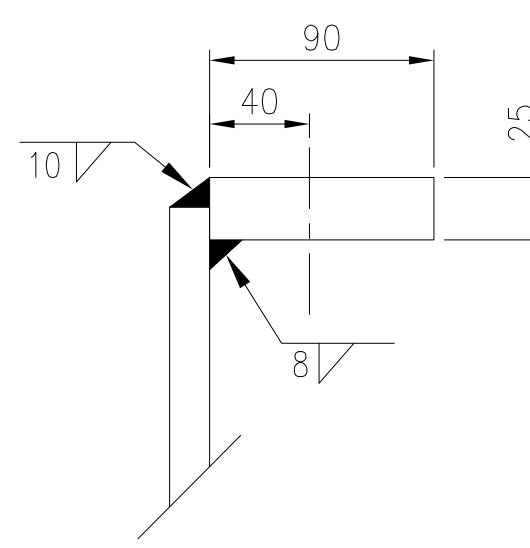
VIEW V4-V4



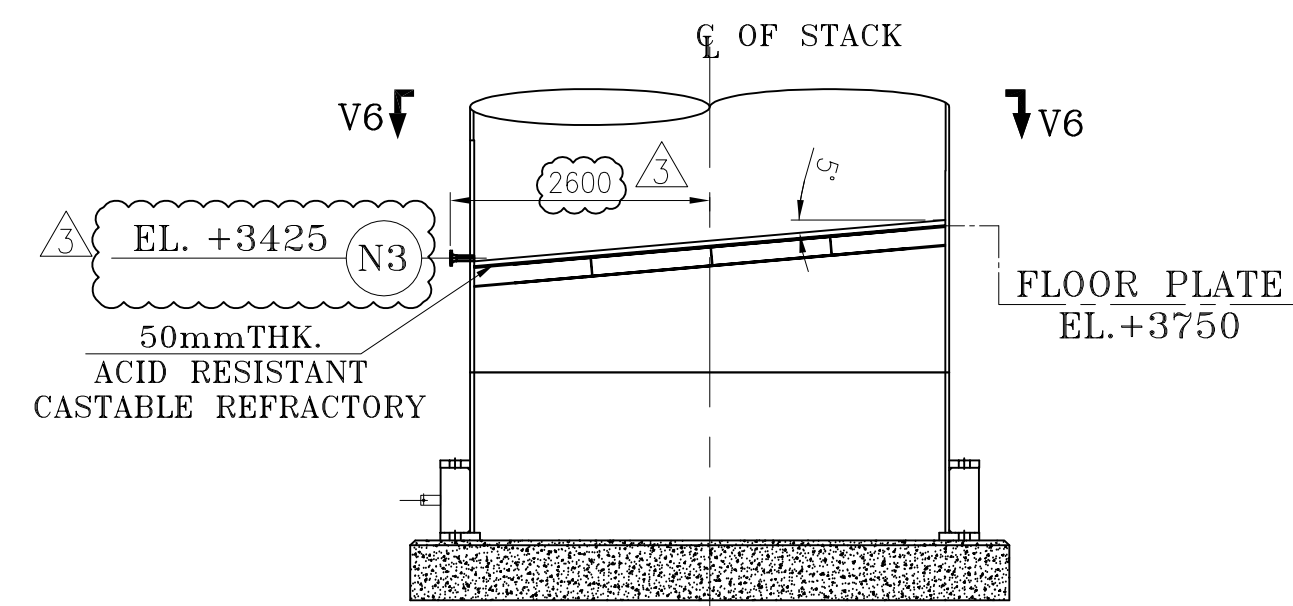
VIEW V5-V5



TYP. DETAIL FOR NOZZLE



SECTION S2-S2



DETAIL OF FLOOR PLATE

- GENERAL NOTES -

1. FOR NOTES & REFERENCE DRAWINGS SEE DEG NO. 51986-G057A-002.



DOCUMENT REVIEW DETAILS

Doc.	
1	No Comments
2	Proceed with manufacture / fabrication as per the commented document. Revised document required.
3	Document does not conform to basic requirements as marked. Resubmit for review.
R	Retained for Records.
V	Void

Signature with Date _____

Name of Reviewer _____

Page No. _____

NO.	DATE	REVISION DESCRIPTION	BY	CHKD	APP.
3	21MAR22	ISSUED FOR APPROVAL	SLS	MSB	ART
2	28FEB22	ISSUED FOR APPROVAL	SLS	MSB	ART
1	04JAN22	ISSUED FOR APPROVAL	SLS	MSB	ART
0	05OCT21	ISSUED FOR APPROVAL	SLS	MSB	ART

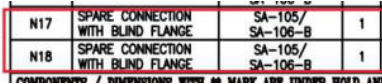
NO.	DATE	REVISION DESCRIPTION	BY	CHKD	APP.
3	21MAR22	ISSUED FOR APPROVAL	SLS	MSB	ART
2	28FEB22	ISSUED FOR APPROVAL	SLS	MSB	ART
1	04JAN22	ISSUED FOR APPROVAL	SLS	MSB	ART
0	05OCT21	ISSUED FOR APPROVAL	SLS	MSB	ART

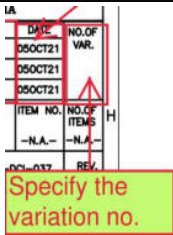
CUSTOMER: BHARAT HEAVY ELECTRICALS LIMITED, VISAKHAPATNAM	DATE: 05OCT21
JOB SITE: PARADIP, ODISHA, INDIA	CHK: MSB
END USER: INDIAN OIL CORPORATION LIMITED	SCALE: NTS
P.O. NO.: 7000000435 dated 23Aug2021	APP: HS

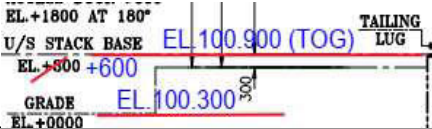
ZECCO, INC. 22151 EAST 91st STREET BROOKLYN, OH 44114 PHONE: (918) 258-8551 FAX: (918) 251-5519 www.zecco.com sales@zecco.com	GENERAL ARRANGEMENT VENT STACK TAG NO. 090-SK-001 S.O. NO. DWG., SUB. CAT. & SYSTEM NO. DWG. NO. REV. NO. 51986 - G057A - 003 3
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DOCUMENT CATEGORY (USE "X" MARK)	DOCUMENT REVIEW STATUS (BY CLIENT)
☐ APPROVAL ☒ REVIEW ☐ INFORMATION	
CLIENT	INDIAN OIL CORPORATION LIMITED PARADIP REFINERY PROJECT PARADIP, ORISSA
CONSULTANT	TECHNIP INDIA LIMITED
PROJECT	525 TPD STANDBY SRU PROJECT IOCL PARADIP REFINERY, ODISHA, INDIA

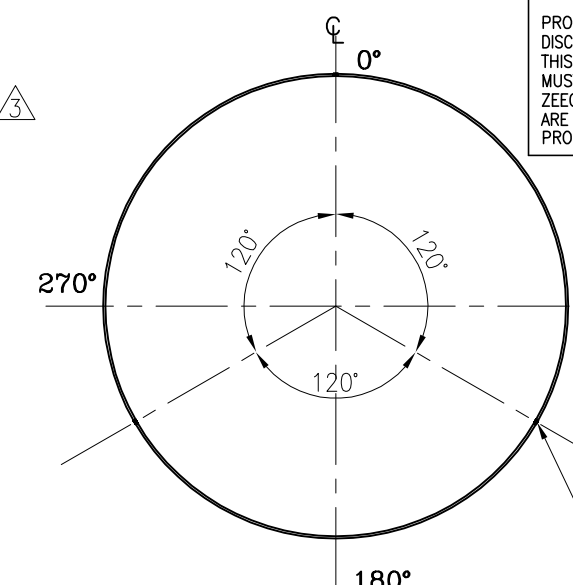
NAME	SIGN.	DATE	NO. OF VAR.
DRN. VISWANATHA		04.04.22	
CHD. SURENDRA S		04.04.22	
APPD. MADHU A		04.04.22	
DEPT. HPVP CODE.	UNTO. DIMS. GR. G/M/F	SCALE NTS	WEIGHT (KG) ---
TITLE	REF. TO ASSY. DRG.	ITEM NO.	NO. OF ITEMS
GENERAL ARRANGEMENT VENT STACK	BHEL DRG NO. 2443-INC-DCI-037	REV. 00	
	CUST DRG NO. 080557C-26899053-PKG-A1001-016		
	SHT. No 3	NO. OF SHT. 3	

Project Name		525 TPD STANDBY SRU PROJECT IOCL PARADIP REFINERY, ODISHA, INDIA	
CRS Date		15-Mar-22	
CUSTOMER DOC. NO.		080557C-26899053-PKG-A0102-237	
Zeeco DWG.No		51986-G057A-001	
BHEL DOC. NO.		2443-INC-DCI-037	
Document Name		Vent Stack GAD	
Subject		CRS of Vent Stack GAD Incinerator	
Rev		2	
No.	Pg. No.	Comments	M/s Zeeco's Response
1	1	This calc. is closed as void due to the following reasons: In reference to the previous comments, vendor has agreed to compliance to all the code and requisition requirements. However, we find that vendor is not complying with the requirements specified at Cl. 7.2.4a of IS 6533 Pt. 2 pertaining to the the height of the belling/ flaring. Vendor to ensure compliance to code. -Dynamic load calculations are incorrect as the Units considered for Pdyn shall be Kg and not Kg/m. Vendor to check and correct the calculations. -There is an error in the duct opening reinforcement calculations. Vendor to check and correct	The gemetry proposed is superior than the codal specification. We request to accept the geometry followed. Dynamic loads & Duct openning calculations will be revised as per comments.
2	1	Vendor to clarify how differential expansion shall be taken care between shell and strakes	Slots are provided in the cleat welded on stack and the strake and the same are connected with each other by bolts. The same arrangement is followed in the
3	1	Vendor to add painting and primer details, surface prep. details. Vendor to ensure compliance to PR requirements.	Zeeco will ensure MR requirement as per painting spec Hwever GAD will not have painting details.Seperate painting procedure will be submitted for review . Painting procedure documet ref number will be mentioned in GAD
4	1	In reference to the previous comments, vendor has agreed to compliance to all the code and requisition requirements. However, we find that vendor is not complying with the requirements specified at Cl. 7.2.4a of IS 6533 Pt. 2 pertaining to the the height of the belling/ flaring. Vendor to ensure compliance to code.	With reference to the response for point no 1 the geometry is superior than the codal specification
5	1	Strake projection of 290 is incorrect as per code. Same shall be 310 mm min. Vendor to check and correct as per IS 6533 pt. 2. As commented previously, specify strake thickness.	Noted and updated in the revised drawing
6	1	Add following notes -All sharp corners shall be ground smooth. - All RF pads shall have 6mm vent holes - Ensure rust protective coating on all machined surfaces and threaded connections immediately after machining. -Inside surface of welds shall be chipped back to sound metal and relded to ensure full penetration for all but welds	Noted and updated in the revised drawing
7	1	Vendor to include the following information in design data: - Design wind speed - Seismic Zone - Joint Efficiency. - Weight of unlined stack	Noted and updated in the revised drawing
8	1	Vendor to consider square (600x600) manway instead of round 600 dia. for ease of access	Noted, Zeeco has followed Licensor Datasheet and designed circular Manhole, however based on comment from EIL we will updateit as Square shape. Please note Obtaining deviation will not be scope of Zeeco for this change
9	1	Description mismatch with the DS of stack. Check and correct.	Noted and updated in the revised drawing
10	1	Add column/note for surface finish	Noted and updated in the revised drawing
11	1	Update in DS. 	Noted, will be updated in next revision
12	1	Vendor had confirmed in the CRS to include lug and trunion detail in this submission. However the same are not indicated. Vendor to show lifting lugs/trunion the GAD	Noted, the lifting lugs and trunnion details will be provided in next revision
13	1	As insulation thickness is 76 mm, vendor needs to check and correct this dimension.	Noted and updated in the revised drawing
14	1	Specify Anchor bolt MOC.	Noted and updated in the revised drawing
15	1	Check and correct the date.	This is Rev.0 date and no need to change for every revision, for latest date refer revision table.
16	1	Vendor to capture the record of revision in this space.	Per instruction from BHEL, Zeeco will update only Zeeco's Title block, Rest shall be updated by respective agency
17	1	Vendor has resubmitted doc. on 02.03.22. Previous doc. was closed on 21.01.22. Vendor to ensure timely resubmission of documents	Noted

No.	Pg. No.	Comments	M/s Zeeco's Response
18	1	Vendor shall put his signature here.	Per instruction from BHEL, Zeeco will update only Zeeco's Title block, Rest shall be updated by respective agency
19	1	Specify the variation no. 	Please note, as per instruction from BHEL, the same shall be updated by BHEL while submitting further
20	1	Vendor to clarify why the GAD is NTS. Vendor to prepare the GAD as per scale.	we confirm here that drawing is in scale, However there are many views in one sheet with different scale for clear visualization of parts, and we can not mention one scale for one sheet, due to this reason NTS mentioned in title block.
21	2	It is vendor responsibility to ensure the correctness of all data, specs, design parameters, dimensions, MOC, design criteria, calculations, units, loading, codes and standards referred, and conformance to MR and PR requirements as It is a vendor designed item. However if there is any problem/ issue during erection, commissioning and post commissioning stage vendor to rectify without time and cost implication. any changes that arise due to comments/changes in calculation shall be incorporated by the vendor without any time and cost implication.	Noted
22	2	As commented previously, vendor to provide chain type gate at the platform entry from ladder.	Noted and updated
23	3	As commented previously, vendor to show drain pipe and funnel arrangement in the GAD. Vendor to show the same and distance of drain pipe from the stack center line. Note- Drain pipe shall steer clear from the bottom chair.	Only Drain nozzle s shown in GAD as it is Equipment GAD. Drain piping will be part of Piping drawings.
24	3	As commented previously, floor plate shall be structurally stiffened/ supported. However, vendor has not indicated the floor plate stiffener details (MOC, size etc. in the GAD. Also indicate the floor plate thickness.	Noted and updated
25	3	Specify refractory and anchor MOC.	Noted.To be updated in next revision after receipt of drawing from refractory vendor.
26	3	Specify gap from stack outlet. Vendor to ensure sufficient gap for flue gas dispersion.	Noted and updated
27	3	Reinforcement detail is not clear.Vendor to show this view in the GAD so that the reinforcement detail can be checked.	Noted and it will be updated based on the final calculations
No.	Pg. No.	Electrical Comments	M/s Zeeco's Response
28	7	1.Vendor shall ensure that the aviation lights at top of stack are placed so farbelow the top, so that generated heat cannot damage the luminaries and its supports.	Noted, Warning lights are located as per IS 6533 guidelines, Top light will come below 1.5mtrs of stack top.
29	7	2. Separate drawing shall be furnished for lighting of incinerator package(including lighting in stack).	ACWL elevation and quantity is shown in GAD
30	7	3) Proper access for maintenance of Aviation fixtures shall be ensured at respective elevations	Aviation fixtures are mounted on platform so proper access is available.
31	7	4) 02 nos. earthing lugs shall be provided at diametrically opposite positions	Noted and updated
32	8	5) 03 sets of double aviation lamps shall be provided at this elevation	Noted
No.	Pg. No.	Structural Comments	M/s Zeeco's Response
33	13	DIMENSIONS OF ANCHOR PLATE & SLEEVE SHALL BE MENTIONED IN THE DRAWING	
34	13	U/S OF STACK BASE LEVEL HAS BEEN REVISED TO EL. 100.900 (TOG) TO ACCOMODATE FOUNDATION BOLTS IN PEDESTAL, ACCORDINGLY ALL OTHER LEVELS SHALL BE REVIEWED.	

No.	Pg. No.	Comments	M/s Zeeco's Response
35	13		Based on request to elevate Pedestal height by 300 , total height of pedestal will be ensured as 600mm
36	14	1. RELEVANT STANDARD FOR HANDRAILS & TYPE TO BE MENTIONED IN THE NOTES. 2. RELEVANT STANDARD FOR PLATFORM GRATINGS & THICKNESS/TYPE TO BE MENTIONED IN THE NOTES. 3. GRADE OF STRUCTURAL STEEL FOR PLATFORMS TO BE MENTIONED IN THE DRAWING/ NOTES. 4. STRUCTURAL STEEL , GRATINGS & HANDRAIL MTO TO BE PROVIDED IN THE DRAWING. 5. PAINTING OF STRUCTURAL STEEL SHALL BE AS PER RELEVANT TENDER SPECIFICATION.	Noted and the relevant details specified in the applicable specifications will be taken care.
37	14	PLATFORM WIDTH & ELEVATION SHALL BE AS PER VENDOR/ PIPING REQUIREMENTS. HANDRAILS, PLATFORM GRATINGS & STRUCTURAL STEEL SHALL BE INLINE WITH EDB REQUIREMENTS AND TENDER STANDARDS/ SPECIFICATIONS.	Noted

INVENTORY NO



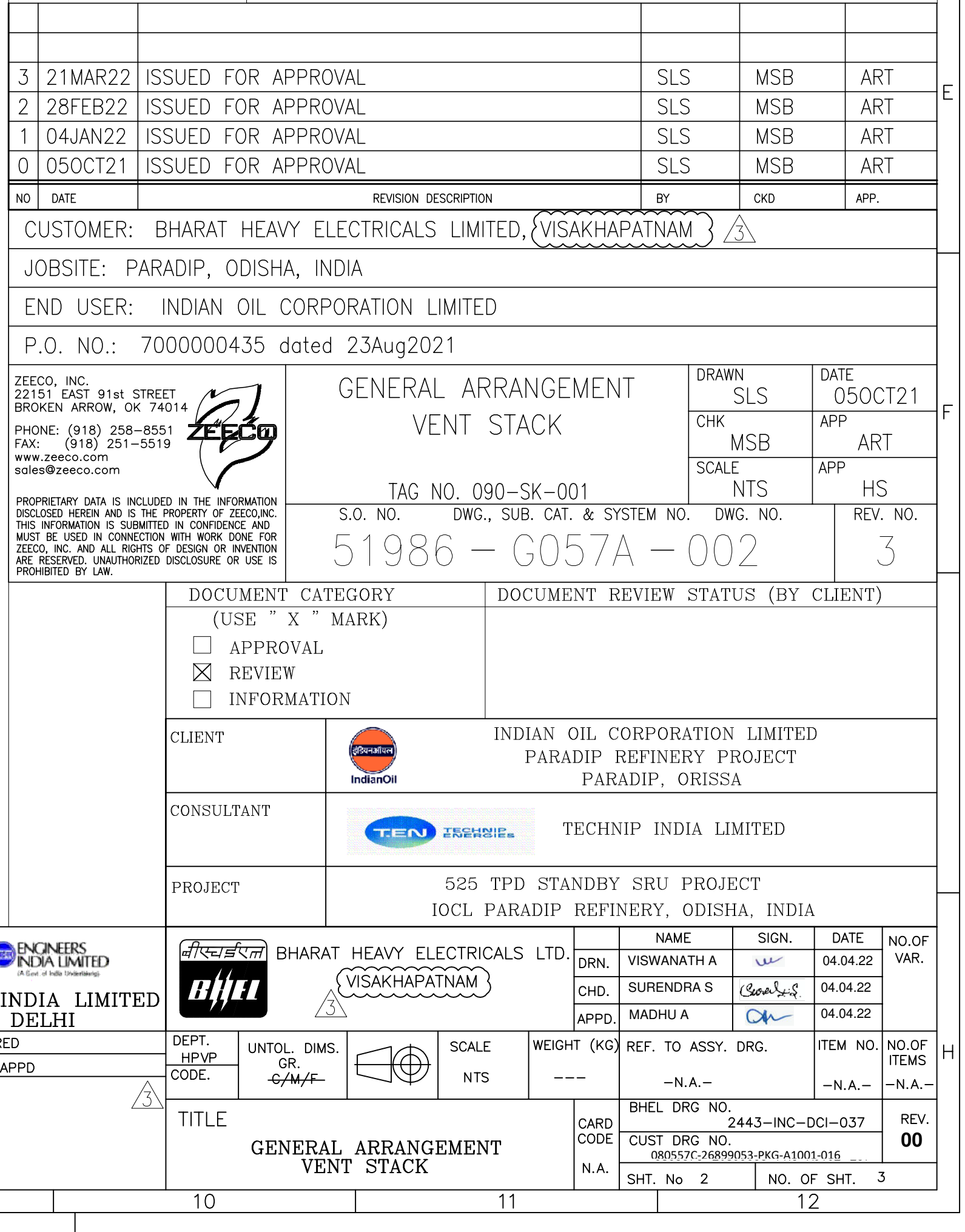
Signature with Date _____

Name of Reviewer _____

Page No. _____

		VENT STACK		N.A.	SHT. No 1	NO. OF SHT. 3
	12		11			12

[illegible]



INVENTORY NO	SIGN. AND DATE	REF. DRG. NO.	COMPUTER FILE NAME
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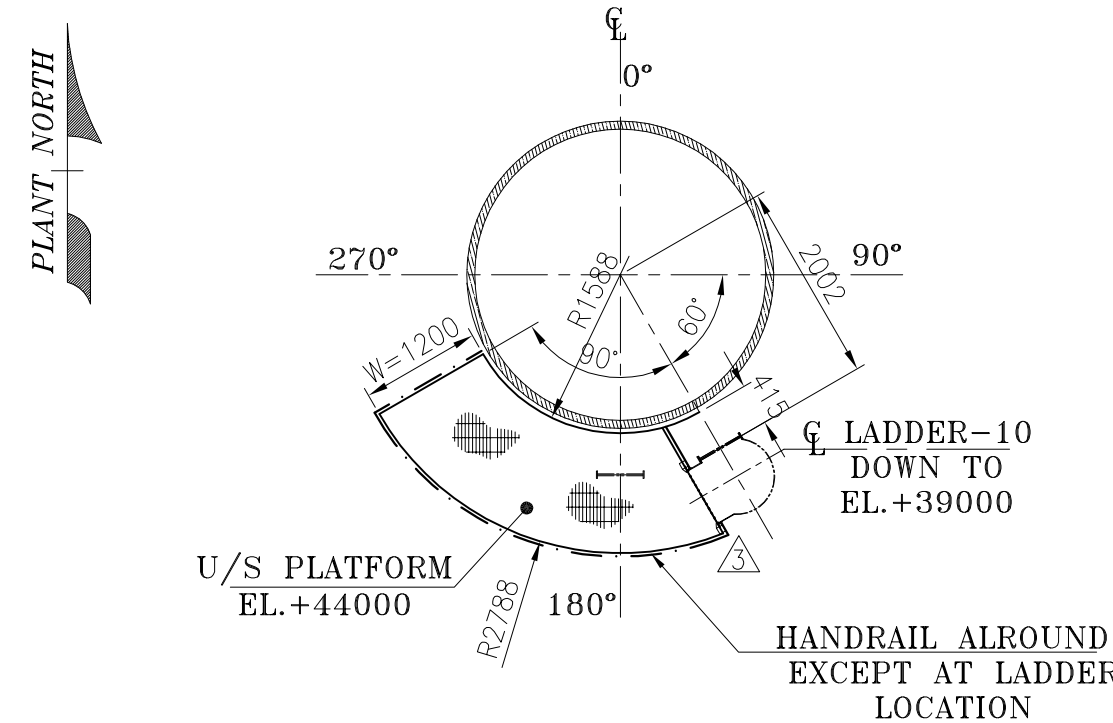
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1			2				

DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
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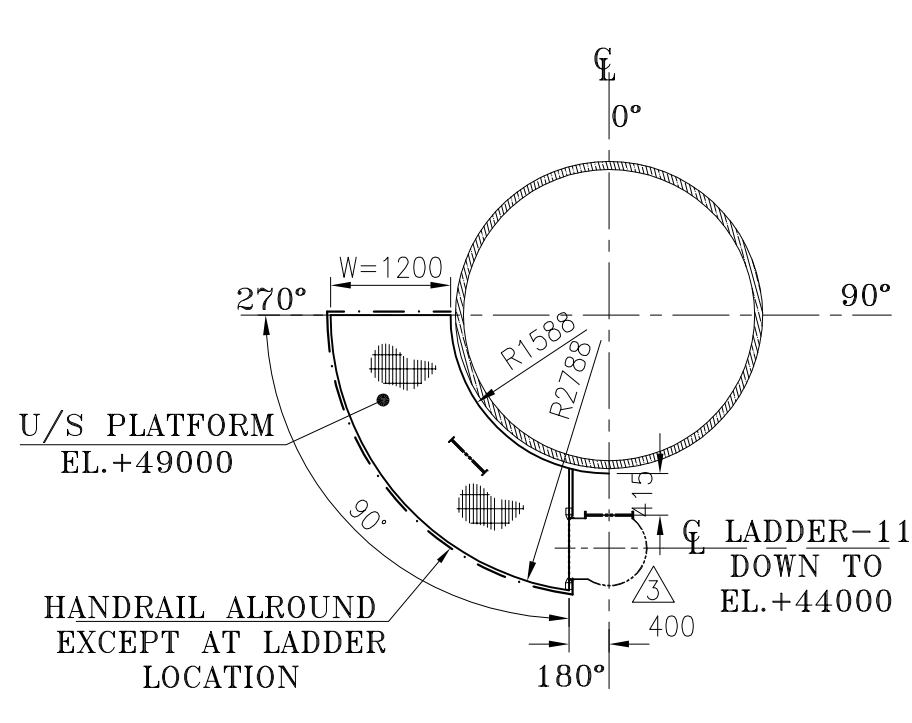
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	ZONE			ZONE			ZONE			ZONE			ZONE			ZONE			ZONE	
1			2			3			4			5			6			7		

THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY

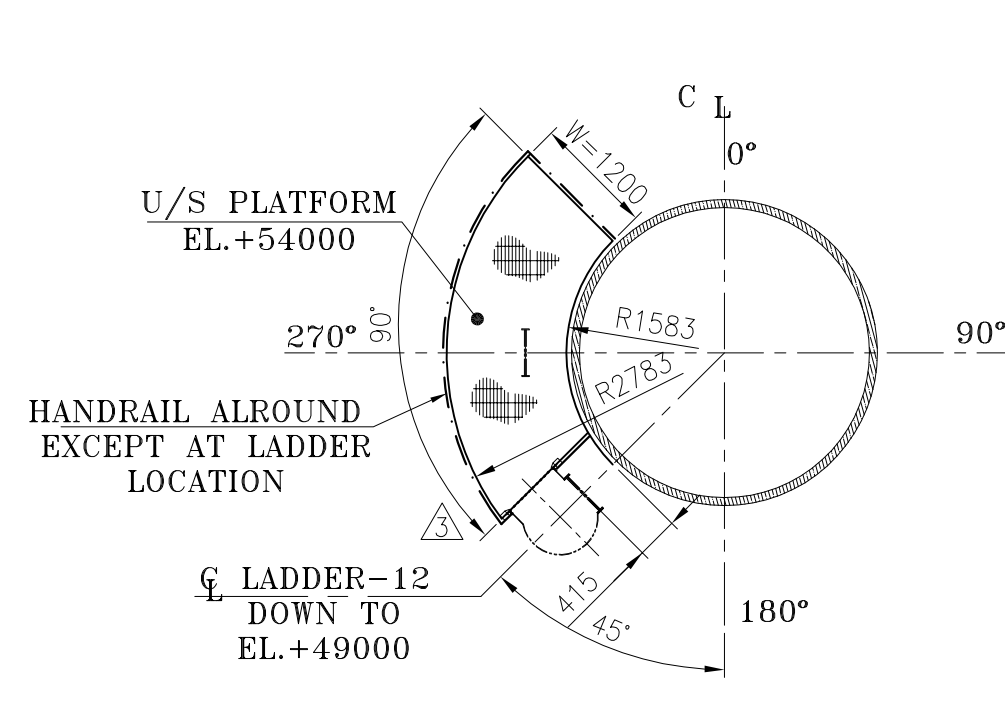
GENERAL DIMENSIONAL LIMITS, FITS & TOLERANCES AS PER HY0230261

SIGN. AND DATE
COMPUTER FILE NAME
REF. DRG. NO.
INVENTORY NO.

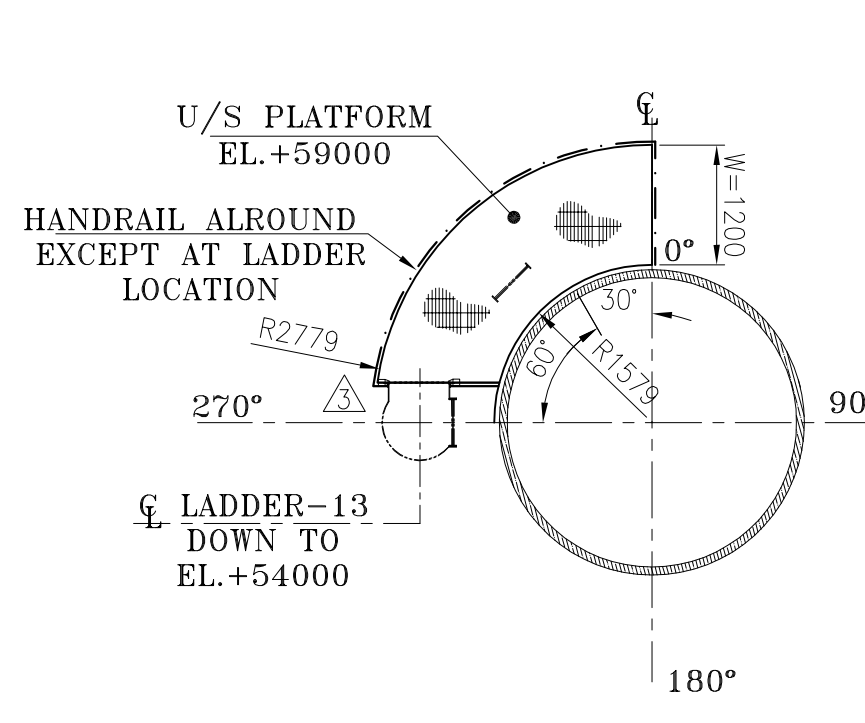
PLAN - K



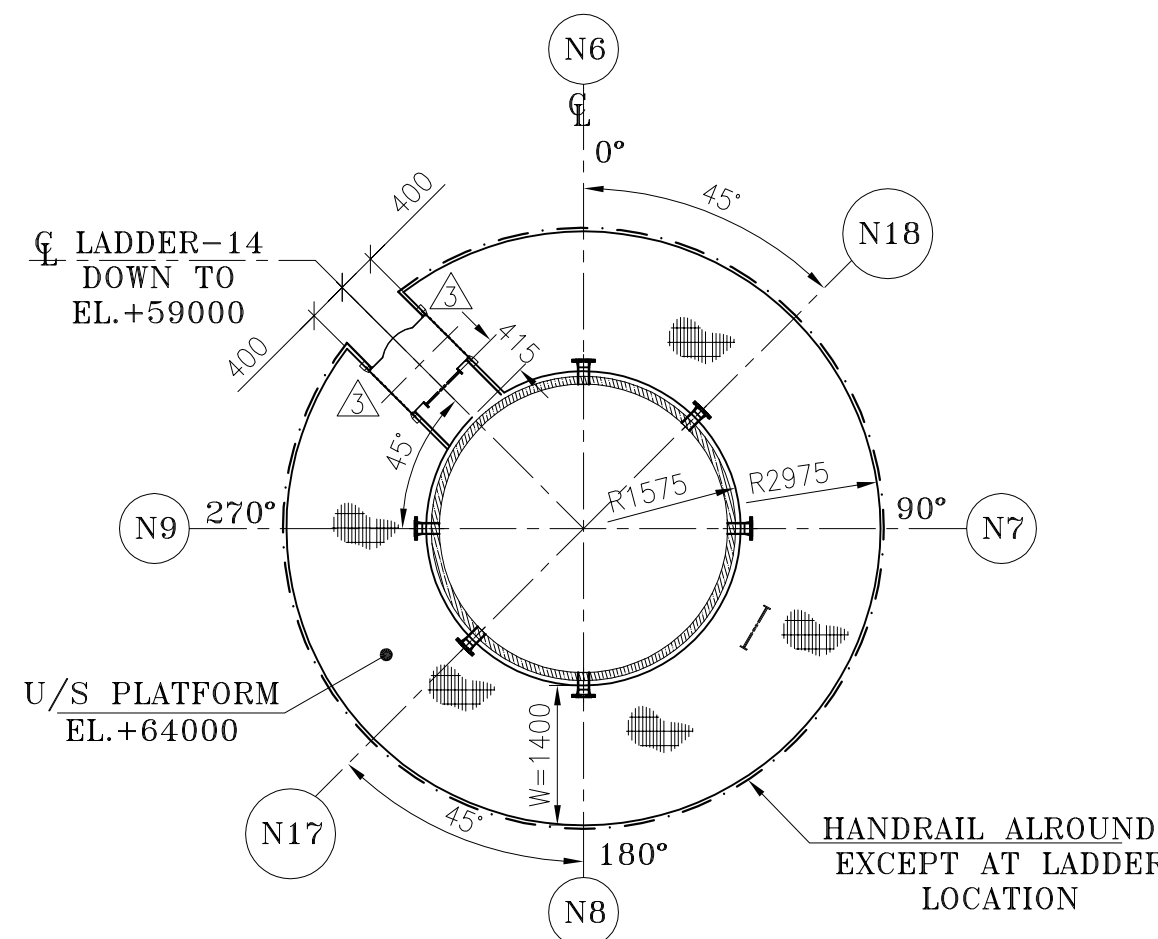
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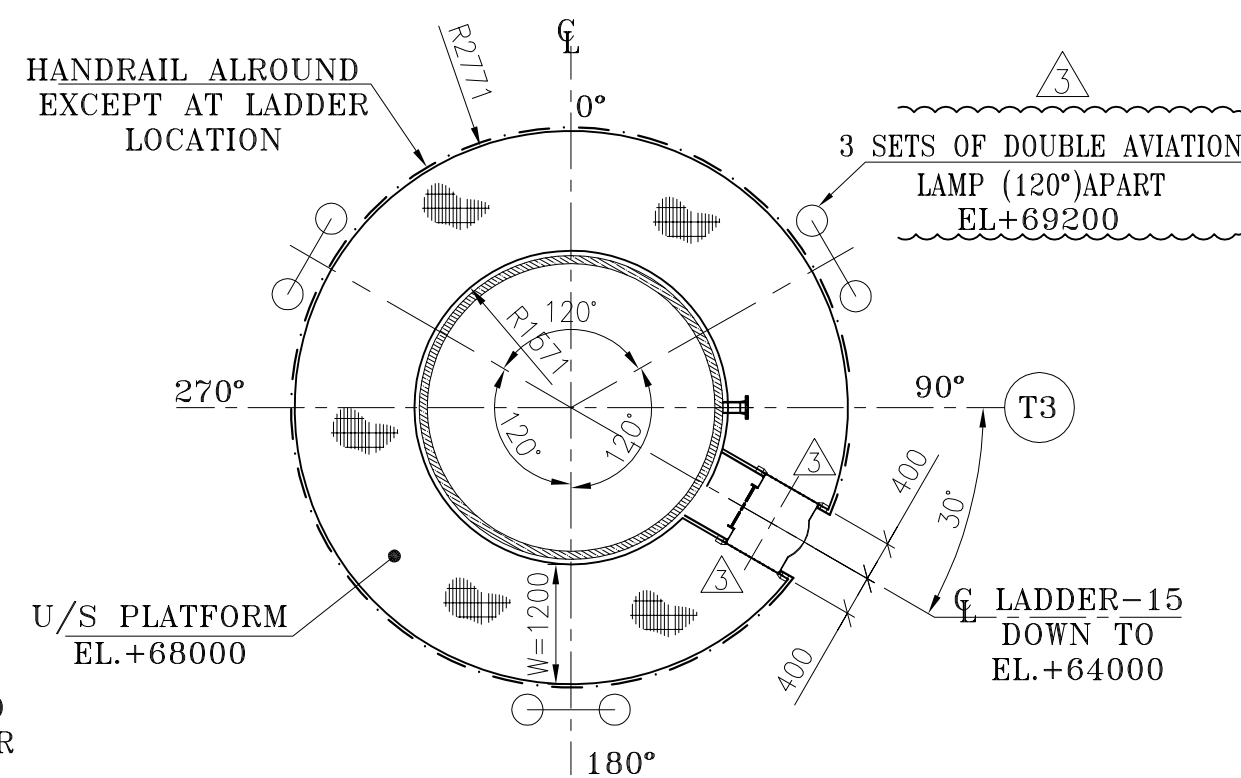
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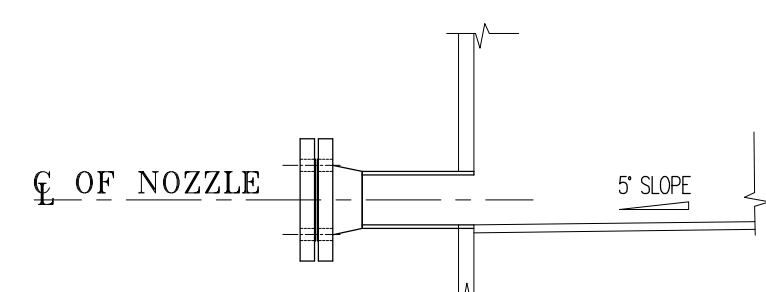
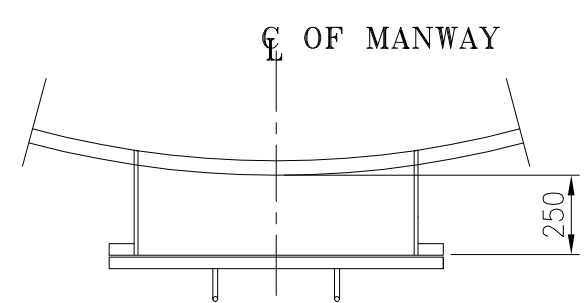
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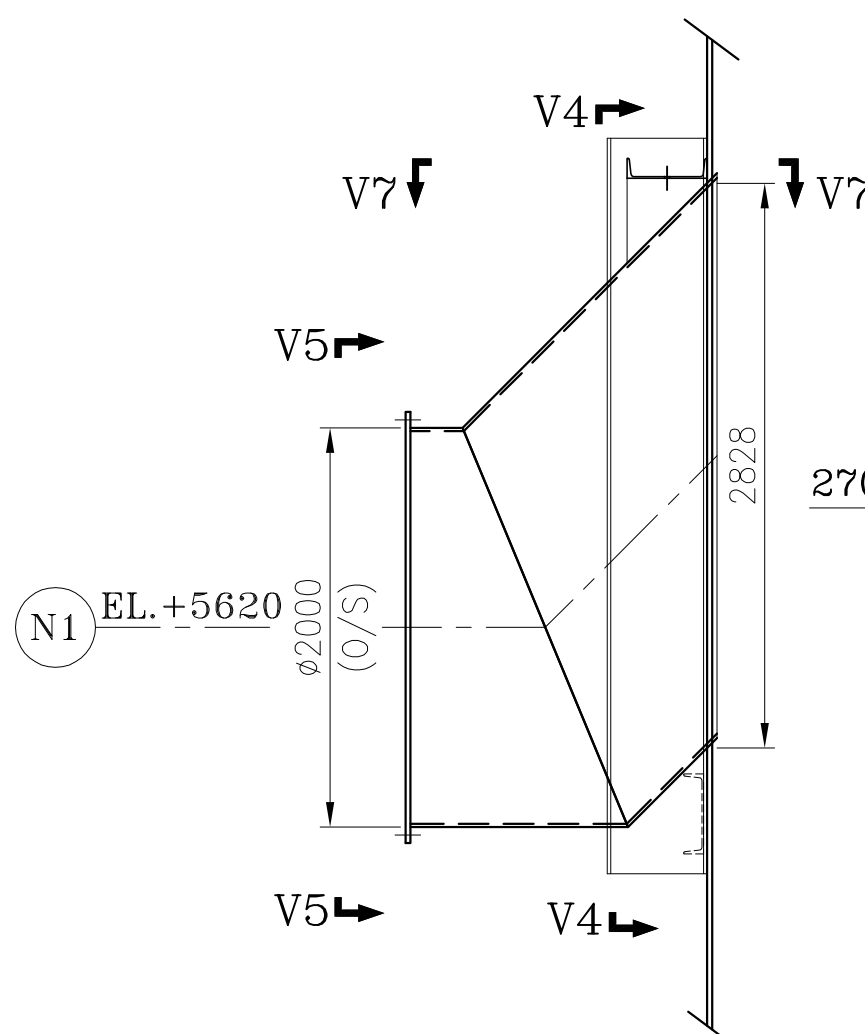
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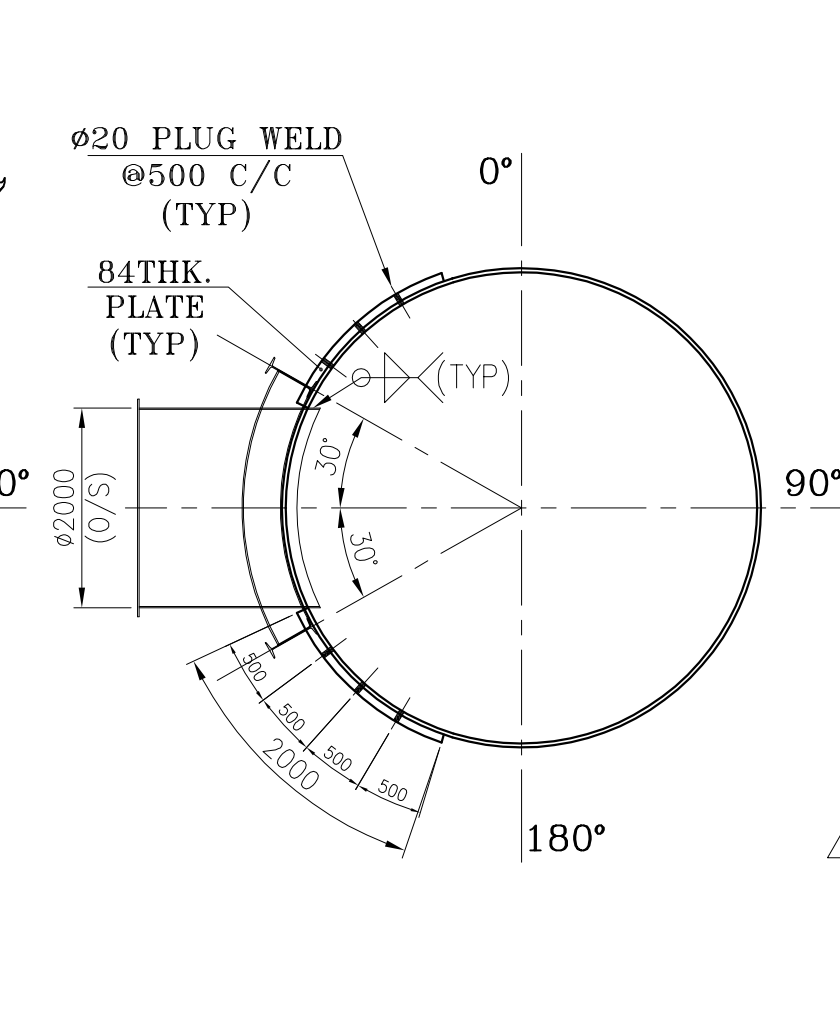
PLAN - Q

DETAIL FOR
N3 NOZZLE

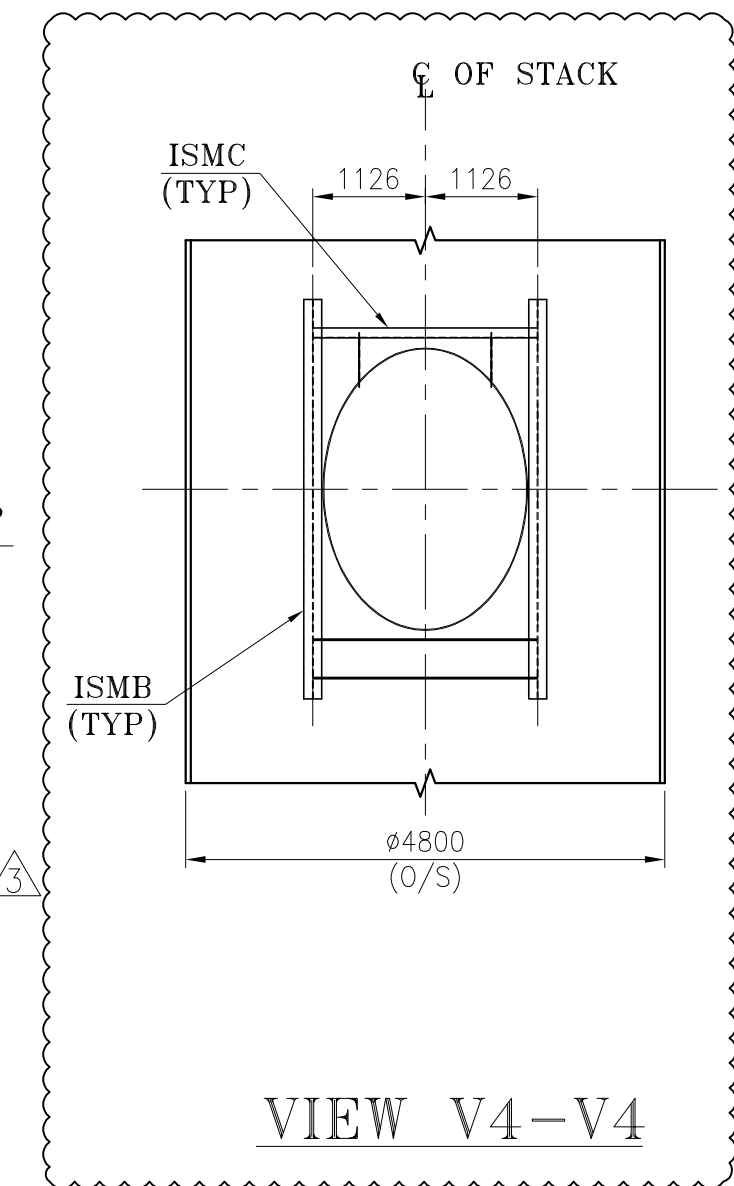
MANWAY DETAIL



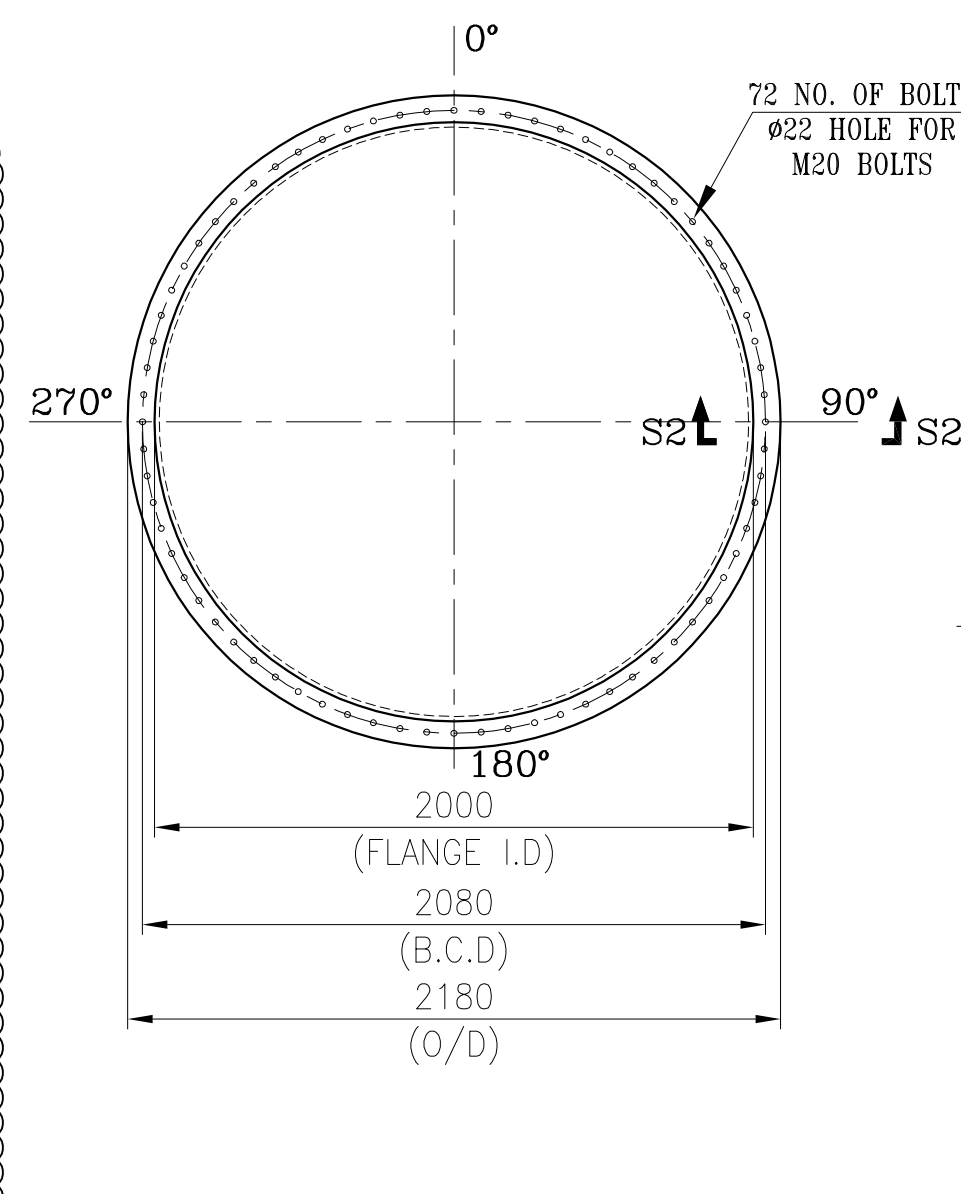
DETAIL-N1



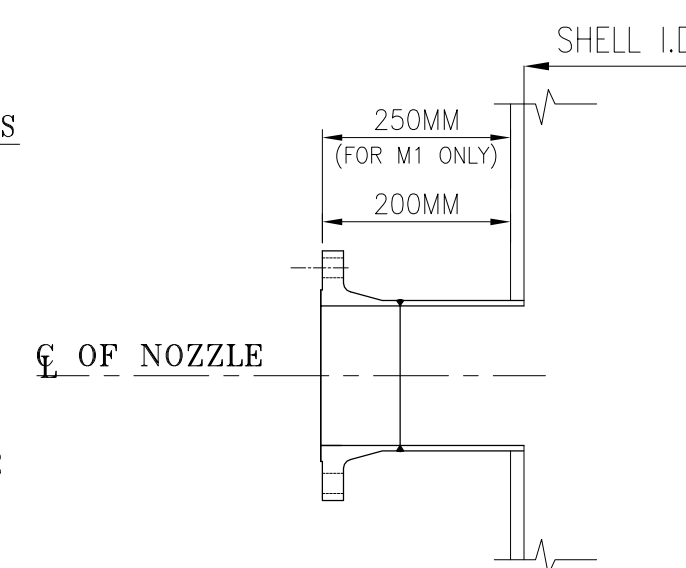
VIEW V7-V7



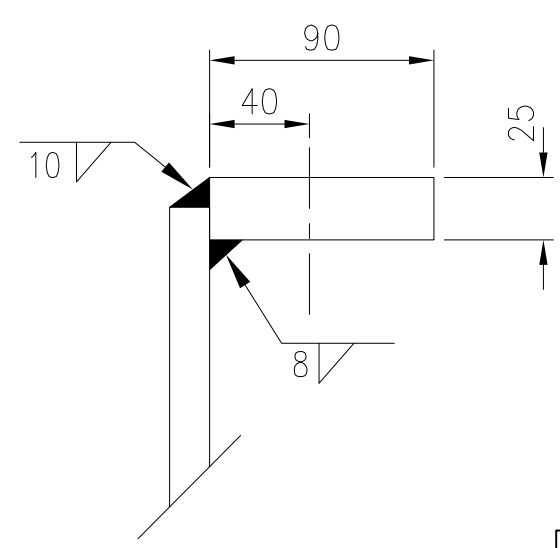
VIEW V4-V4



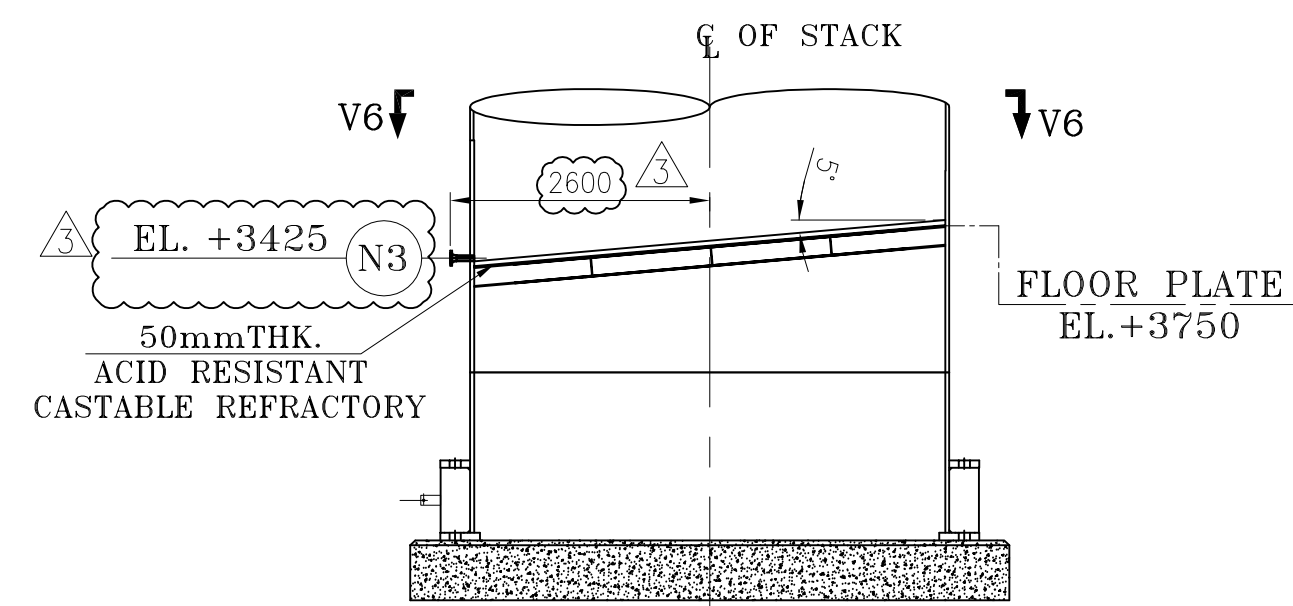
VIEW V5-V5



TYP. DETAIL FOR NOZZLE



SECTION S2-S2



DETAIL OF FLOOR PLATE

- GENERAL NOTES -

1. FOR NOTES & REFERENCE DRAWINGS SEE DEG NO. 51986-G057A-002.



DOCUMENT REVIEW DETAILS

Doc.	
1	No Comments
2	Proceed with manufacture / fabrication as per the commented document. Revised document required.
3	Document does not conform to basic requirements as marked. Resubmit for review.
R	Retained for Records.
V	Void

Signature with Date _____
Name of Reviewer _____
Page No. _____

NO	DATE	REVISION DESCRIPTION	BY	CHKD	APP.
3	21MAR22	ISSUED FOR APPROVAL	SLS	MSB	ART
2	28FEB22	ISSUED FOR APPROVAL	SLS	MSB	ART
1	04JAN22	ISSUED FOR APPROVAL	SLS	MSB	ART
0	05OCT21	ISSUED FOR APPROVAL	SLS	MSB	ART

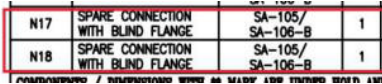
NO	DATE	REVISION DESCRIPTION	BY	CHKD	APP.
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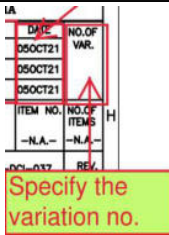
CUSTOMER: BHARAT HEAVY ELECTRICALS LIMITED, VISAKHAPATNAM
JOB SITE: PARADIP, ODISHA, INDIA
END USER: INDIAN OIL CORPORATION LIMITED
P.O. NO.: 7000000435 dated 23Aug2021

ZECCO, INC. 22151 EAST 91st STREET BROOKLYN, OH 44114 PHONE: (918) 258-8551 FAX: (918) 251-5519 www.zecco.com sales@zecco.com	GENERAL ARRANGEMENT VENT STACK TAG NO. 090-SK-001 S.O. NO. _____ DWG., SUB. CAT. & SYSTEM NO. _____ DWG. NO. 51986-G057A-003 REV. NO. 3	DRAWN SLS CHK MSB SCALE NTS DATE 05OCT21 APP ART HS
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DOCUMENT CATEGORY (USE "X" MARK)	DOCUMENT REVIEW STATUS (BY CLIENT)
☐ APPROVAL ☒ REVIEW ☐ INFORMATION	
CLIENT INDIAN OIL CORPORATION LIMITED PARADIP REFINERY PROJECT PARADIP, ORISSA	
CONSULTANT TECHNIP INDIA LIMITED	
PROJECT 525 TPD STANDBY SRU PROJECT IOCL PARADIP REFINERY, ODISHA, INDIA	

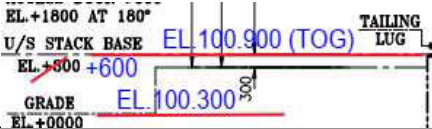
NAME	SIGN.	DATE	NO. OF VAR.
DRN. VISWANATH A		04.04.22	
CHD. SURENDRA S		04.04.22	
APPD. MADHU A		04.04.22	
DEPT. HPVP CODE	UNTO. DIMS. GR. G/M/F	SCALE NTS	WEIGHT (KG) ---
TITLE GENERAL ARRANGEMENT VENT STACK	CARD CODE N.A.	REF. TO ASSY. DRG. -N.A.-	ITEM NO. -N.A.-
BHEL DRG NO. 2443-INC-DCI-037 CUST DRG NO. 080557C-2689905.3 PKG-A1001-016 SHT. No 3		REV. 00 NO. OF SHT. 3	

Project Name		525 TPD STANDBY SRU PROJECT IOCL PARADIP REFINERY, ODISHA, INDIA	
CRS Date		15-Mar-22	
CUSTOMER DOC. NO.		080557C-26899053-PKG-A0102-237	
Zeeco DWG.No		51986-G057A-001	
BHEL DOC. NO.		2443-INC-DCI-037	
Document Name		Vent Stack GAD	
Subject		CRS of Vent Stack GAD Incinerator	
Rev		2	
No.	Pg. No.	Comments	M/s Zeeco's Response
1	1	This calc. is closed as void due to the following reasons: In reference to the previous comments, vendor has agreed to compliance to all the code and requisition requirements. However, we find that vendor is not complying with the requirements specified at Cl. 7.2.4a of IS 6533 Pt. 2 pertaining to the the height of the belling/ flaring. Vendor to ensure compliance to code. -Dynamic load calculations are incorrect as the Units considered for Pdyn shall be Kg and not Kg/m. Vendor to check and correct the calculations. -There is an error in the duct opening reinforcement calculations. Vendor to check and correct	The gemetry proposed is superior than the codal specification. We request to accept the geometry followed. Dynamic loads & Duct openning calculations will be revised as per comments.
2	1	Vendor to clarify how differential expansion shall be taken care between shell and strakes	Slots are provided in the cleat welded on stack and the strake and the same are connected with each other by bolts. The same arrangement is followed in the
3	1	Vendor to add painting and primer details, surface prep. details. Vendor to ensure compliance to PR requirements.	Zeeco will ensure MR requirement as per painting spec Hwever GAD will not have painting details.Seperate painting procedure will be submitted for review . Painting procedure documet ref number will be mentioned in GAD
4	1	In reference to the previous comments, vendor has agreed to compliance to all the code and requisition requirements. However, we find that vendor is not complying with the requirements specified at Cl. 7.2.4a of IS 6533 Pt. 2 pertaining to the the height of the belling/ flaring. Vendor to ensure compliance to code.	With reference to the response for point no 1 the geometry is superior than the codal specification
5	1	Strake projection of 290 is incorrect as per code. Same shall be 310 mm min. Vendor to check and correct as per IS 6533 pt. 2. As commented previously, specify strake thickness.	Noted and updated in the revised drawing
6	1	Add following notes -All sharp corners shall be ground smooth. - All RF pads shall have 6mm vent holes - Ensure rust protective coating on all machined surfaces and threaded connections immediately after machining. -Inside surface of welds shall be chipped back to sound metal and relded to ensure full penetration for all but welds	Noted and updated in the revised drawing
7	1	Vendor to include the following information in design data: - Design wind speed - Seismic Zone - Joint Efficiency. - Weight of unlined stack	Noted and updated in the revised drawing
8	1	Vendor to consider square (600x600) manway instead of round 600 dia. for ease of access	Noted, Zeeco has followed Licensor Datasheet and designed circular Manhole, however based on comment from EIL we will updateit as Square shape. Please note Obtaining deviation will not be scope of Zeeco for this change
9	1	Description mismatch with the DS of stack. Check and correct.	Noted and updated in the revised drawing
10	1	Add column/note for surface finish	Noted and updated in the revised drawing
11	1	Update in DS. 	Noted, will be updated in next revision
12	1	Vendor had confirmed in the CRS to include lug and trunion detail in this submission. However the same are not indicated. Vendor to show lifting lugs/trunion the GAD	Noted, the lifting lugs and trunnion details will be provided in next revision
13	1	As insulation thickness is 76 mm, vendor needs to check and correct this dimension.	Noted and updated in the revised drawing
14	1	Specify Anchor bolt MOC.	Noted and updated in the revised drawing
15	1	Check and correct the date.	This is Rev.0 date and no need to change for every revision, for latest date refer revision table.
16	1	Vendor to capture the record of revision in this space.	Per instruction from BHEL, Zeeco will update only Zeeco's Title block, Rest shall be updated by respective agency
17	1	Vendor has resubmitted doc. on 02.03.22. Previous doc. was closed on 21.01.22. Vendor to ensure timely resubmission of documents	Noted

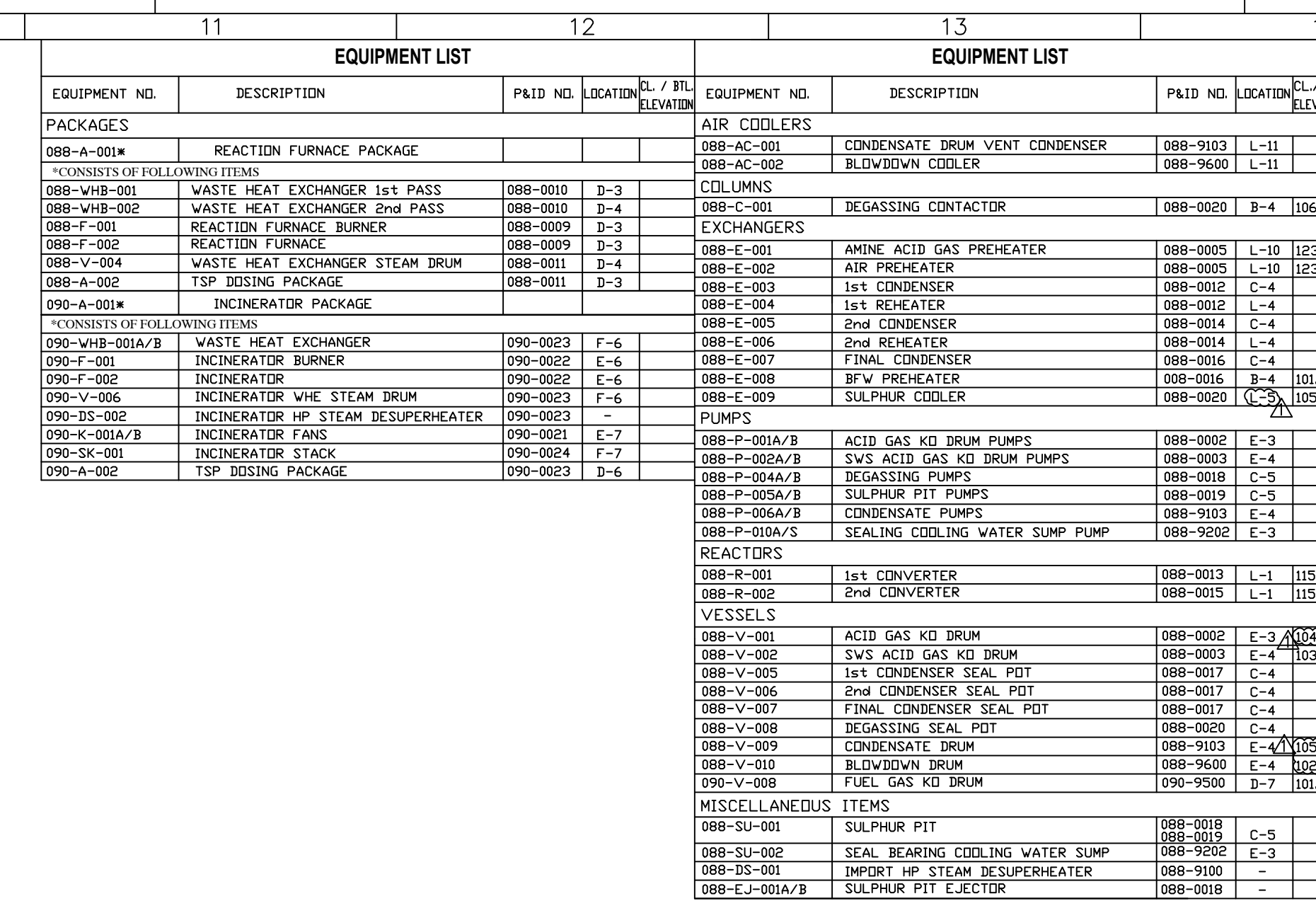
No.	Pg. No.	Comments	M/s Zeeco's Response
18	1	Vendor shall put his signature here.	Per instruction from BHEL, Zeeco will update only Zeeco's Title block, Rest shall be updated by respective agency
19	1	Specify the variation no. 	Please note, as per instruction from BHEL, the same shall be updated by BHEL while submitting further
20	1	Vendor to clarify why the GAD is NTS. Vendor to prepare the GAD as per scale.	we confirm here that drawing is in scale, However there are many views in one sheet with different scale for clear visualization of parts, and we can not mention one scale for one sheet, due to this reason NTS mentioned in title block.
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22	2	As commented previously, vendor to provide chain type gate at the platform entry from ladder.	Noted and updated
23	3	As commented previously, vendor to show drain pipe and funnel arrangement in the GAD. Vendor to show the same and distance of drain pipe from the stack center line. Note- Drain pipe shall steer clear from the bottom chair.	Only Drain nozzle s shown in GAD as it is Equipment GAD. Drain piping will be part of Piping drawings.
24	3	As commented previously, floor plate shall be structurally stiffened/ supported. However, vendor has not indicated the floor plate stiffener details (MOC, size etc. in the GAD. Also indicate the floor plate thickness.	Noted and updated
25	3	Specify refractory and anchor MOC.	Noted.To be updated in next revision after receipt of drawing from refractory vendor.
26	3	Specify gap from stack outlet. Vendor to ensure sufficient gap for flue gas dispersion.	Noted and updated
27	3	Reinforcement detail is not clear.Vendor to show this view in the GAD so that the reinforcement detail can be checked.	Noted and it will be updated based on the final calculations
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28	7	1.Vendor shall ensure that the aviation lights at top of stack are placed so farbelow the top, so that generated heat cannot damage the luminaries and its supports.	Noted, Warning lights are located as per IS 6533 guidelines, Top light will come below 1.5mtrs of stack top.
29	7	2. Separate drawing shall be furnished for lighting of incinerator package(including lighting in stack).	ACWL elevation and quantity is shown in GAD
30	7	3) Proper access for maintenance of Aviation fixtures shall be ensured at respective elevations	Aviation fixtures are mounted on platform so proper access is available.
31	7	4) 02 nos. earthing lugs shall be provided at diametrically opposite positions	Noted and updated
32	8	5) 03 sets of double aviation lamps shall be provided at this elevation	Noted
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33	13	DIMENSIONS OF ANCHOR PLATE & SLEEVE SHALL BE MENTIONED IN THE DRAWING	
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Except Aviation fixtures other lighting fixtures also to be shown for area lighting, in separate drawing

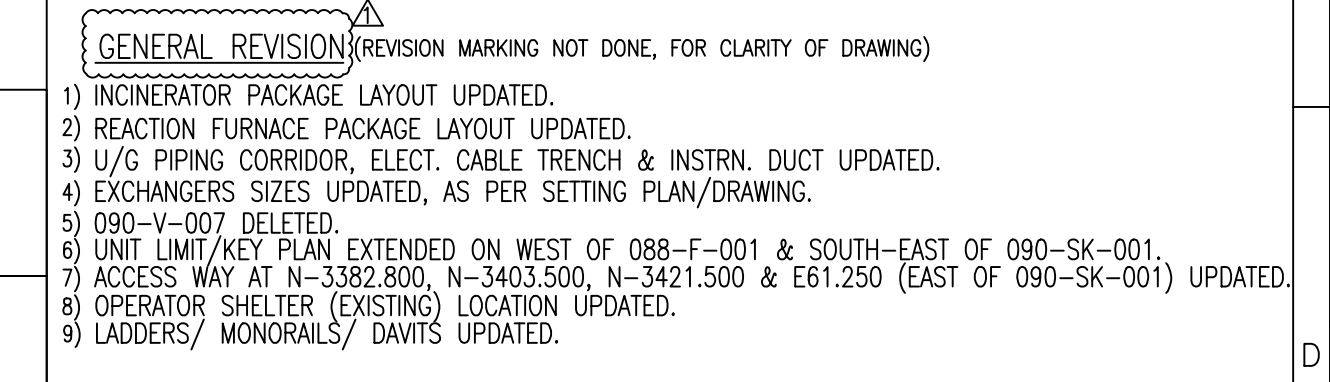
Drawing not found updated.

No.	Pg. No.	Comments	M/s Zeeco's Response
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37	14	PLATFORM WIDTH & ELEVATION SHALL BE AS PER VENDOR/ PIPING REQUIREMENTS. HANDRAILS, PLATFORM GRATINGS & STRUCTURAL STEEL SHALL BE INLINE WITH EDB REQUIREMENTS AND TENDER STANDARDS/ SPECIFICATIONS.	Noted

DOCUMENT CATEGORY	DOCUMENT REVIEW STATUS (BY CLIENT)																						
(USE "X" MARK) ☒ APPROVAL ☐ REVIEW ☐ INFORMATION																							
CONTRACTOR DOCUMENT REVIEW ☐ 1 - NOT REVIEWED/ RESUBMIT ☒ 2 - REVIEWED (WITH COMMENTS) ☐ 3 - REVIEWED (NO COMMENTS) THIS APPROVAL DOES NOT ABSOLVE THE SUPPLIER / CONTRACTOR OF THEIR CONTRACTUAL OBLIGATIONS / RESPONSIBILITIES. Checked by Sribalakumaran Pandian 2022.05.02 13:23:54 +05'30' <table border="1" style="width:100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DETAILS OF REVISION</th> <th>PREPARED</th> <th>CHECKED</th> <th>APPROVED</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>15.03.2022</td> <td>REVISED & ISSUED FOR ENGINEERING</td> <td style="text-align: center;">AG</td> <td style="text-align: center;">AV</td> <td style="text-align: center;">LSJ</td> </tr> <tr> <td>0</td> <td>08.06.2021</td> <td>ISSUED FOR ENGINEERING</td> <td style="text-align: center;">AG</td> <td style="text-align: center;">AV</td> <td style="text-align: center;">LSJ</td> </tr> </tbody> </table>						REV	DATE	DETAILS OF REVISION	PREPARED	CHECKED	APPROVED	1	15.03.2022	REVISED & ISSUED FOR ENGINEERING	AG	AV	LSJ	0	08.06.2021	ISSUED FOR ENGINEERING	AG	AV	LSJ
REV	DATE	DETAILS OF REVISION	PREPARED	CHECKED	APPROVED																		
1	15.03.2022	REVISED & ISSUED FOR ENGINEERING	AG	AV	LSJ																		
0	08.06.2021	ISSUED FOR ENGINEERING	AG	AV	LSJ																		
CLIENT	INDIAN OIL CORPORATION LIMITED PARADIP REFINERY PROJECT PARADIP ODISHA																						
CONSULTANT	TECHNIP ENERGIES																						
PROJECT	525 TPD STANDBY SRU PROJECT IOCL PARADIP REFINERY, ODISHA, INDIA																						
ESC	BHEL Hyderabad																						
DEPT. PE&SD.	CODE 450	DRN	NAME	SIGN	DATE	EIL																	
		CHD	V UDAY		20.04.22																		
		APPD	G SRIKANTH		20.04.22																		
The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED, It must not be used directly or indirectly in any way detrimental to the interest of the company		TITLE- UNIT PLOT PLAN STAND BY SRU-3 & TAIL GAS INCINERATOR																					
		BHEL/EIL DRG NO.- B366-088-16-43-00001					REV																
		CUST. DRG NO.- 080557C-26899053-PIP-A0201-001					2																
		SHT NO.- 1 of 2	NO. OF SHT.- 2																				



REF. DWG. NO.		REFERENCE DRAWING TITLE	
088557-C00-DWG-0031-001		OVERALL SITE PLAN	
NOTES :- 1. ALL DIMENSIONS ARE IN MM. AND COORDINATES ARE IN M. UNLESS OTHERWISE SPECIFIED. 2. ALL ELEVATIONS ARE IN M. AND ARE WITH REFERENCE TO HIGHEST POINT OF PAVEMENT EL. 100.300M WHICH CORRESPONDS TO 4.360M ABOVE 1 M.S.L. (INDIAN MEAN SEA LEVEL). 3. EXISTING FACILITIES LIKE CENTRAL PIPE RACK, OWS PIT, OPERATOR SHELTER, CABLE TRENCH/CHTRY ETC. ARE SHOWN FOR REFERENCE. FOR DETAIL, REFER EXISTING DRAWINGS. 4. IN-LINE EQUIPMENTS LIKE EJECTOR, DESUPERHEATER ARE NOT SHOWN. 5. DELETED Δ 6. REFER INSTRUMENT DUCT LAYOUT DWG NO. 8366-999-16-51-00801 FOR INSTRUMENT CABLE DUCT AND ANALYSER PANEL / SHELTER DETAILS. 7. FOR ELECTRICAL CABLE DETAILS REFER RESPECTIVE ELECTRICAL DRAWINGS. 8. FOR STRUCTURAL DETAILS REFER RESPECTIVE STRUCTURAL DRAWINGS. 9. FOR INCINERATOR PACKAGE, REFER VENDOR DRAWING "GENERAL ARRANGEMENT INCINERATOR SYSTEM (2443-INC-DCI-029)". Δ INCINERATOR SYSTEM (2443-INC-DCI-029)". HOLDS: 1. PUMPS DIMENSIONS 2. 088-AP-001, 002 & 098-AC-001 DIMENSION Δ			



UNIT	DESCRIPTION	CAPACITY	LICENSOR
088	STANDBY SULPHUR RECOVERY UNIT (SRU)	525 TPD	BLACK & VEATCH
090	TAIL GAS INCINERATOR	—	

AG	ABOVE GROUND
UG	UNDER GROUND
TS	TECHNOLOGICAL STRUCTURE
EL	ELEVATION
WP	WORKING POINT
RP	PIPE RACK
FS	FIXED SADDLE
SL	SLIDING SADDLE
P.F.	PLATFORM
RL	REDUCED LEVEL
MSL	MEAN SEA LEVEL
C	CENTER LINE
HPP	HIGHEST POINT OF PAVEMENT
FNL	FINISHED GRADE LEVEL
TDS	TOP OF STEEL
NTS	NOT TO SCALE
MM	MILLIMETER
M	METER
 EWSW	EYE WASH & SAFETY SHOWER)
	PAVING
	GRATING
	EXISTING FACILITY / STRUCTURE

