

ADDENDUM-1

DATE: 06.11.2024

ESP Sinter Dust Conveying System for SAIL Bokaro Steel Plant

Tender Ref: 77/24/6094/BPA

NIC Tender ID: 2024_BHEL_40869_1

“Extension of due date for submission of offer”

Due date for submission of Offer has been extended to 20.11.2024

Submission of offer by 1.00 PM on 20.11.2024

Opening of Techno commercial bid at 4.00 PM on 20.11.2024

Any further addendum such issued carry part of the bidding documents and this will be available at the web site from where the original documents have been received / downloaded by the bidder. Hence, bidders are requested to visit the web site on regular basis.

The Pre-Bid Clarification-01 is enclosed.

For Further Queries if any, Contact:

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PRE BID CLARIFICATIONS
ESP Sinter Dust Conveying System for SAIL Bokaro Steel Plant -BHEL ISG
Tender ref. No. 77/24/6094/BPA

Sl. No.	Tender Document Description	Clause No.	Page No.	Existing Provision	Bidder's Query dtd. 29.10.2024	Clarification by BHEL dtd. 5-11-24
1	Contract No. T&C/(M)/A6356/LTE/AK/617 Scope of Work: Dismantling work	Volume II, 2.2.1	2.5		Bidder understood that Dismantling work for Battery Cyclone, supporting structure, existing ductwork, slurry discharge pump, ...etc are in BHEL scope	Bidder's understanding is correct.
2	Contract No. T&C/(M)/A6356/LTE/AK/617 2.2.1 Supply of Equipment	Volume II, 2.2.3.9	2.6 & 2.7	2 Nos. (1W+1SB) Screw / centrifugal air compressor	1. As per flow scheme and flow chart, total compressor number shall be 3 Nos. (2W+1SB) , please confirm 2. During detailing, we will submit the project DBR for compressor selection	1. Kindly follow Flow scheme.(No of compressors-3 (2W+1SB)) 2. Noted
3	Contract No. T&C/(M)/A6356/LTE/AK/617 2.2.1 Supply of Equipment	Volume II, 2.2.3.10	2.7	Fabrication & installation of Metallic slurry tank	1. BHEL to confirm the tank capacity to be considered. 2. What would be the application for slurry tank	1. Kindly consider 15 m3 approx. 2.Sinter dust slurry
4	Contract No. T&C/(M)/A6356/LTE/AK/617 Pneumatic Conveying System	Volume II, 3.8.1	3.14	Sr. No. 7.0) Total Design Conveying Capacity	1. Whether 10 TPH is for 4 conveying line per ESP i.e. 2.5 TPH per line 2. What would be the capacity for 1st, 2nd , 3rd & 4th field hopper 3. What would be the total normal dust distribution rate per ESP / per ESP hopper	Refer attached ash distribution data
5	Contract No. T&C/(M)/A6356/LTE/AK/617 3.8 Mechanical	Volume II		Equipment Capacities	We have noted all equipment capacities furnish in TS. However being a system designed all responsibility for the performance of the equipment lies with Bidder. Thus all equipment sizes shall be as per our std. & design. practice	Noted. This shall be subject to customer approval DDE.
6	Contract No. T&C/(M)/A6356/LTE/AK/617 3.8 Mechanical	Volume II, 3.8.1.11	3.142	4) Dome Surface: Cast Iron with Tungsten Carbide Coating, Hardness shall be decided during detailing	Our Dome Valve is made up of Graded CI with Hardness 200 – 220 BHN	Noted. This shall be subject to customer approval DDE.
7	Contract No. T&C/(M)/A6356/LTE/AK/617 3.8 Mechanical	Volume II, 3.8.1.17	3.144	4) Deflector Plate: Weld Hard Lined / Hardox	Deflector Plate are made up of Alloy CI material thus separate liners are not required	Noted. This shall be subject to customer approval DDE.
8	Contract No. T&C/(M)/A6356/LTE/AK/617 Goods Cum Passenger Lift	Volume II, 3.8.3	3.149	Goods Cum Passenger Lift	Same shall be Purchaser scope	Noted.
9	List of Acceptance Make				Please note below make were our self-make & already approved by project consultant CET: 1. Vent Filter / Bag Filter on Silo Top 2. Silo top Pressure Relief Valve 3. Expansion Joint / Rubber Bellow 4. Knife Gate Valve (Manual operated / Pneumatic cylinder operated)	Noted. This shall be subject to customer approval DDE.

Sl. No.	Tender Document Description	Clause No.	Page No.	Existing Provision	Bidder's Query dtd. 29.10.2024	Clarification by BHEL dtd. 5-11-24
10	Annexure – 3 (Scope Matrix)	Note Sr. No.6)	Page 2 of 2	All drawings are submitted in PDF	Only piping layout & Silo GA shall be submitted in AutoCAD format. Rest all the drawings are submitted in PDF format	Noted.
11	Specification No. IS-1-23-2009/AHP/001	Section 2.0, Sr. No. 2.3 (A-8)	Page 5 of 16	Dust Conveying MS ERW Pipes	Please confirm whether Seamless Sch. Or ERW pipe to be considered	The dust conveying pipelines shall be seamless pipe (heavy duty) as per IS 1239 (Part-1):2004. Refer Volume II Clause 3.8.1.2 at Page No 3.140
12	Specification No. IS-1-23-2009/AHP/001	Section 2.0, Sr. No. 2.3 (A-31)	Page 5 of 16	Insertable Bag Filter	Furnish the capacity of Bag Filter to be considered	Shall be designed by bidder and subject to customer approval DDE.
13	Specification No. IS-1-23-2009/AHP/001	Section 2.0, Sr. No. 2.3 (A-33)	Page 6 of 16	Dismantling of staircase (as applicable)	Same shall be in BHEL scope	Bidder's understanding is correct.
14	Specification No. IS-1-23-2009/AHP/001	Section 2.0, Sr. No. 2.3 (A-34)	Page 6 of 16	Access staircase with handrail supporting structure	Please provide the drawing with weight details so that we can consider the same in our scope	Shall be designed by bidder and subject to customer approval DDE.
15	Specification No. IS-1-23-2009/AHP/001	Section 2.0, Sr. No. 2.3 (A-40)	Page 6 of 16	Rerouting of DN 200 Slurry Pipe line	Furnish the length of the pipeline to be rerouted	approx. 500 meters
16	Specification No. IS-1-23-2009/AHP/001	Section 2.0, Sr. No. 2.3 (D)	Page 7 of 16	Civil Work	We have understood that D&E is in Bidder scope however RCC work along with excavation are in BHEL scope	Refer Annexure-3-AHP-General Scope Matrix-Mechanical and Civil_Bokaro for clarification on scope of Civil works.
17	Equipment GA & Layout Plan				Please provide the location of 3 Nos. Silos	Refer attached tentative layout
18	PRE-QUALIFICATION REQUIREMENT (PQR) FOR BIDDERS - Rev 0	A 1 a	1	Pressure conveying system designed for 3 TPH or more from ESPs	Pressure conveying system designed for 3 TPH or more from ESPs . (the word "from ESP" may please be removed from PQ) alternatively collaborator credential allowed. SaveEco has high capacity fly ash conveying installations.	Bidder shall confirm to specification.
19	Enquiry Specification for Engineering, Supply, Erection & Commissioning AND PG Test Support	2.3 A 1	4	Motorized double cone valves	Motorized double cone valves are not used in Pneumatic Conveying System. Pneumatic Conveying System has pneumatic operated dust inlet valve which operates above 6 Bar. We can provide additional 1 No Pneumatic Operated Dust Inlet valve instead of Motorized double cone valve. One Dust Inlet valve shall open at any time.	Kindly follow specification
20	Enquiry Specification for Engineering, Supply, Erection & Commissioning AND PG Test Support	2.3 A 21	5	Screw conveyors below reception silos for discharging material over existing conveyors	Please specify the length of the Screw Conveyors	Shall be as per layout; refer Clause No 3.8.1.28 & 3.8.1.29 of Volume II Page 3.147
21	Enquiry Specification for Engineering, Supply, Erection & Commissioning AND PG Test Support	2.3 A 30	5	Extension of 01 no. existing sinter fines belt conveyor - 1.2 m wide	a) Please specify extension length. b) The Belting, Tail Pulley etc are existing and may require replacement. Kindly specify the total length of existing conveyor.	Refer clause No 2.7.4.18 of Volume II page no 2.21

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22	Enquiry Specification for Engineering, Supply, Erection & Commissioning AND PG Test Support	2.3 A 32	6	Fabrication (if applicable) & installation of metallic slurry tanks for operation of pumps	a) Please specify the Tank Dimension, Plate thickness, MOC of Liner with thickness. b) We understand the pumps are existing. If connecting piping is required, kindly furnish the piping details	a) Approx. dimensions are 3 m x 3 m x 1.7 mtrs; 10mm thick mother plate fitted with 6mm thick 304 grade SS liner in the tapered and lower portion pf the hopper. b) Bidder's understanding is correct. Piping details shall be DDE.
23	Enquiry Specification for Engineering, Supply, Erection & Commissioning AND PG Test Support	2.3 A 33	6	Dismantling of staircases (as applicable)	Please furnish details, like Picture, Height, Weight, etc	Approx. 30 MT.
24	Enquiry Specification for Engineering, Supply, Erection & Commissioning AND PG Test Support	2.3 A 40	6	Rerouting of DN 200 slurry pipe lines along sinter building	a) Length of Piping. b) Piping, Coupling, Fittings are existing and may require replacement.	a) Approx. 500 mtrs b) Noted
25	Enquiry Specification for Engineering, Supply, Erection & Commissioning AND PG Test Support	2.3 D 1 to 4	7	Civil Works	We understand our scope is limited to Design & Engineering as per Scope Sheet	Refer Annexure-3-AHP-General Scope Matrix-Mechanical and Civil_Bokaro for clarification on scope of Civil works.
26	Equipment GA & Layout Drawing			Unicon Engineers Drawing; Sheet 1 of 5, Rev-2	Kindly identify the location of Silo, Compressor Room, MCC Room, PLC room etc	Refer attached tentative layout
27	Annexure-3; GENERAL SCOPE MATRIX FOR ESP SINTER DUST PNEUMATIC CONVEYING SYSTEM (PCS) OF SAIL BOKARO-SP-1 (MECHANICAL and CIVIL)	C 2	1	Service water and Drinking water arrangement with required pipes and valves for ash handling buildings from PESD's terminal point to water tank for Compressor house, MCC cum Control room	Kindly quantify with Pipe Size, Length, No / Type of Valves, etc	Refer tentative layout for length. Pipe size, qty of valves shall be decided DDE.
28				General		Attached Annexure-E6 - Below Ground Earth Grid for better clarity.
29	Annexure-3; GENERAL SCOPE MATRIX FOR ESP SINTER DUST PNEUMATIC CONVEYING SYSTEM (PCS) OF SAIL BOKARO-SP-1 (MECHANICAL and CIVIL)	A.1		Structural steel works for supporting of AHP equipment below hoppers, pipes, insert plates, grating, handrails, Chequered plates, local control panel, junction boxes in ESP area	Noted for the scope mentioned . Furthermore, Kindly note that we will not be submitting any STAAD files, structural designs, St GA or fab drg for the support of the area mentioned for approval. We will provide and install the supports on site in accordance with our internal design.	To be decided DDE.
30	Annexure-3; GENERAL SCOPE MATRIX FOR ESP SINTER DUST PNEUMATIC CONVEYING SYSTEM (PCS) OF SAIL BOKARO-SP-1 (MECHANICAL and CIVIL)	A.2		Structural silo 5m3, 8m3 with supporting structures including Bag Filter, Staircase for silo, gratings, Chequered plates, handrails, grouting works etc.	The scope of work for civil execution indicated in column (7) is not included in the M/s Schenck scope of work and is not taken into account by us. BHEL to take care the same .	Supply of foundation bolts as per structural design is in Mechanical bidder's scope. Civil foundation along with foundation bolt fixing is in BHEL's scope

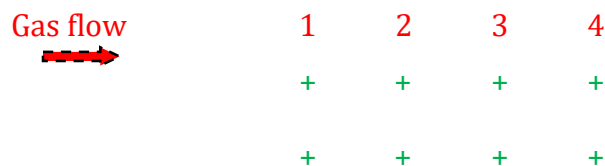
Sl. No.	Tender Document Description	Clause No.	Page No.	Existing Provision	Bidder's Query dtd. 29.10.2024	Clarification by BHEL dtd. 5-11-24
31	Annexure-3; GENERAL SCOPE MATRIX FOR ESP SINTER DUST PNEUMATIC CONVEYING SYSTEM (PCS) OF SAIL BOKARO-SP-1 (MECHANICAL and CIVIL)	A.4.1		Access/ Maintenance platform inside/ outside building shall be in PCS Mechanical supplier's scope	Noted for the scope mentioned . Furthermore, Kindly note that we will not be submitting any STAAD files, structural designs, St GA or fab drg for the support of the area mentioned for approval. We will provide and install the supports on site in accordance with our internal design.	To be decided DDE.
32	Annexure-3; GENERAL SCOPE MATRIX FOR ESP SINTER DUST PNEUMATIC CONVEYING SYSTEM (PCS) OF SAIL BOKARO-SP-1 (MECHANICAL and CIVIL)	A.5		Extension of 01 no. existing sinter fines belt conveyor - 1.2 m wide	<p>Please be noted that for such a modification/length extension project, we will not be submitting any structural design, STAAD file, St GA, or fab drawing for customer approval. We will supply and erect the items at the site in accordance with our internal design. Customer must provide the information on the current belt, including drive details that require extending.</p> <p>Further ,the scope of work for civil execution indicated in column (7) is not included in the M/s Schenck scope of work and is not taken into account by us. BHEL to take care the same .</p> <p>Extension of DE dusting pipe& suction hood for the extended length of the conveyor shall be in the scope of BHEL.</p>	<p>To be decided DDE.</p> <p>Supply of foundation bolts as per structural design is in PCS Mechanical supplier's scope. Civil foundation along with foundation bolt fixing is in BHEL's scope. Structural load details and base plate details to be provided by PCS Mechanical supplier for design of Civil foundation.</p> <p>Extension of belt conveyor shall be Complete in all aspects and shall be in bidder's scope.</p>
33	Annexure-3; GENERAL SCOPE MATRIX FOR ESP SINTER DUST PNEUMATIC CONVEYING SYSTEM (PCS) OF SAIL BOKARO-SP-1 (MECHANICAL and CIVIL)	A.6		Fabrication & installation of metallic slurry tanks for operation of pumps	Noted. We have assumed a 5 m3 tank in MS construction with 8 mm body THK and 6 mm Thk top cover with rung ladder for access to inside the tank as there was no specifications found in the NIT shared by BHEL for this tank. It has also been considered to use epoxy paint inside.	Refer reply at Sl No 3 & 22.
34	Annexure-3; GENERAL SCOPE MATRIX FOR ESP SINTER DUST PNEUMATIC CONVEYING SYSTEM (PCS) OF SAIL BOKARO-SP-1 (A.7		Access stair cases with handrail supporting structures	Noted .We comprehend that the above-offered 5 m3 tank has been requested for this arrangement.	This clause applies to all access stair cases applicable for the project.

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35	Annexure-3; GENERAL SCOPE MATRIX FOR ESP SINTER DUST PNEUMATIC CONVEYING SYSTEM (PCS) OF SAIL BOKARO-SP-1 (MECHANICAL and CIVIL)	C.2		Service water and Drinking water arrangement with required pipes and valves for ash handling buildings from PESD's terminal point to water tank for Compressor house, MCC cum Control room	Noted within the battery limit specified below . BHEL/Customer to provide the Cooling water supply and return header inside the building as per the layout requirement. Schenck will take the tap-off from the header and connect to the compressors/Air Dryer . Plumbing pipings with fitting up to water tank which may be placed above compressor house or somewhere else are not considered in Schenck Scope of work	Refer Reply at sl no 27.
36	ELECTRICAL & C&I SCOPE MATRIX FOR SINTER DUST PNEUMATIC CONVEYING YSYTEM	SL. NO (N-H1)			SCOPE DETAILS : Underground Earth Grid Schenck Remark : Since this involves civil activities, hence this is excluded from M/s Schenck scope of work /supply. BHEL to take care the same .	Kept in electrical scope as this is generally electrical contractor scope and include minor civil work . Bidder to follow specification.
37	ELECTRICAL & C&I SCOPE MATRIX FOR SINTER DUST PNEUMATIC CONVEYING YSYTEM	SL. NO (O2)			SCOPE DETAILS : Fire proof Paints Schenck Remark : Generally this is part of civil scope, hence this is excluded from M/s Schenck scope of work /supply. BHEL to take care the same .	As fire proof paints to be applied for electrical items like cables, etc crossing one area to area to stop spreading of fire, hence kept in electrical scope. Bidder to follow specification.

PROJECT: SAIL BOKARO, SINTER PLANT-1,
REPLACEMENT OF 04 NOS. OF BATTERY CYCLONES WITH 04 NOS. OF ESPS
ESP DUST HANDLING SYSTEM INPUT (FOR PROPOSAL PURPOSE ONLY)

- No. of ESP streams per boiler = 1; 4 fields arrangement in series.
- Type of hopper = Pyramidal type
- No. of hoppers in width per stream = 2 No's
- No. of hoppers in length / per stream = 4 No's
- Total No. of hoppers per stream = $2 \times 4 = 8$ No's
- Total No. of hoppers per boiler = $2 \times 4 = 8$ No's.
- Hopper bottom level = ~ 3.5 m
- Hopper bottom opening = 400x400 mm
- Storage capacity > 100 hrs.

Hopper arrangement per ESP stream is shown (One streams per boiler applicable)



Pattern of dust collection rate in different ESP hoppers with all fields in service:

Field Sl.No	Dust collection per hopper (Kg/hr)	No. of hoppers per field	Dust collection per field per ESP stream (Kg/hr)
1	1021	2	2042
2	208	2	416
3	61	2	122
4	19	2	38
Total dust collected in one ESP stream (Kg/hr)			2618

- The ash distribution data provided in the above table is for one number ESP.
- The same data is applicable for other three ESP passes also.

PROJECT: SAIL BOKARO, SINTER PLANT-1,
REPLACEMENT OF 04 NOS. OF BATTERY CYCLONES WITH 04 NOS. OF ESPS
ESP DUST HANDLING SYSTEM INPUT (FOR PROPOSAL PURPOSE ONLY)

Note:

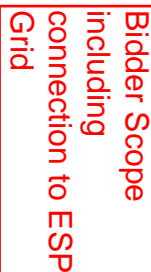
- Necessary margin shall be assumed in AHS design by the AHS vendor.
- AHS for first 3 fields of hopper may be designed for same capacity, taking into consideration that first two fields may go out of service. In case of first two fields out of service condition, 3rd field hopper dust collection to be considered same as dust collection in 1st field hopper as indicated above in table and so on. **(ISG to decide as per tender requirement)**

Further AHS agency shall take care of the following:

- 1) Dust handling system for new ESP shall be as per tender specification.
- 2) Double cone valves below hopper outlet flange as per tender specification.
- 3) Hopper aeration system including aeration pads, aeration blowers along with heaters as per tender.
- 4) Fluidizing system, Knife edge gate valve/rotary air lock valve for hoppers, if applicable, shall be in ISG scope.
- 5) Platform facilities for ESP dust handling system.
- 6) Dismantling/Re-routing of existing dust handling facilities, slurry tanks, pipe lines etc. as specified in tender specification 2.2.1, 2.2.2, 2.7.1 and other applicable specifications and as per site visit observations.
- 7) Other scope as per scope split details furnished separately by Marketing.

TABLE -1.1			BILL OF MATERIAL
S.No.	ITEM DESCRIPTION	QTY	REMARKS
1.	MAN EMBEDDING CONDUCTOR a) 2x75/210 G STRIP CONDUCTOR TYPE-A	1400M	BURIED IN SOIL
b)	75X10 G STRIP CONDUCTOR FOR RISERS	100M	
2.	MISCELLANEOUS a) 6mm DIA., 3000mm LONG O.L. PIPE ELECTRODE IN TREATED EARTH PIT (LIGHTNING PROTECTION).	6*	
b)	600X 600X 6MM COPPER PLATE ELECTRODE TREATED EARTH PIT (ELECTRONIC EQUIPMENT).	4	

THE QUANTITY LISTED BY (*) SHALL BE FINALIZED BASED ON LIGHTNING PROTECTION SIZING CRITERIA AND LIGHTNING PROTECTION LAWS OF ESP. M&S & ELECTRICAL BUILDINGS.



EARNING CONDUCTOR BURIED IN SOIL (2x15x10 OF STRIPS)

400 X800 36 MM COPPER PLATE ELECTRODE IN TREATED EARTH PIT

FOR EQUIPOTENTIAL EARTHINGS.

65mm DIA. 3000mm LONG CL PIPE ELECTRODE IN TREATED EARTH (GALVANIZING PROTECTION)

PIGTAIL ROSSER (75x10 OF PLAT)

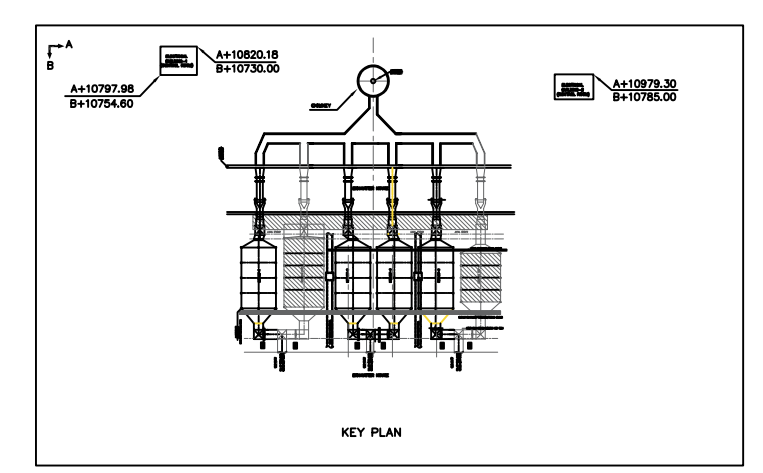
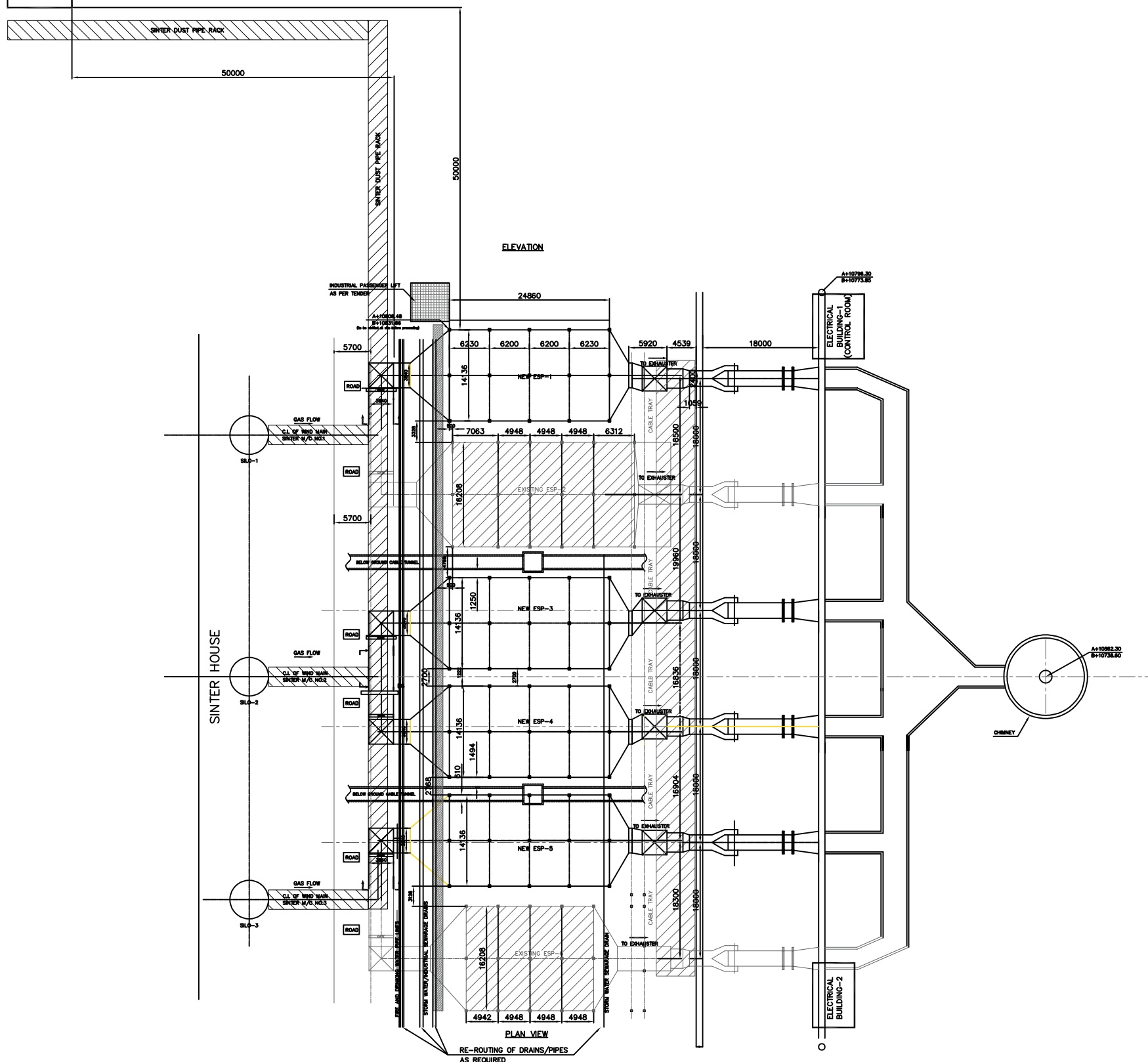
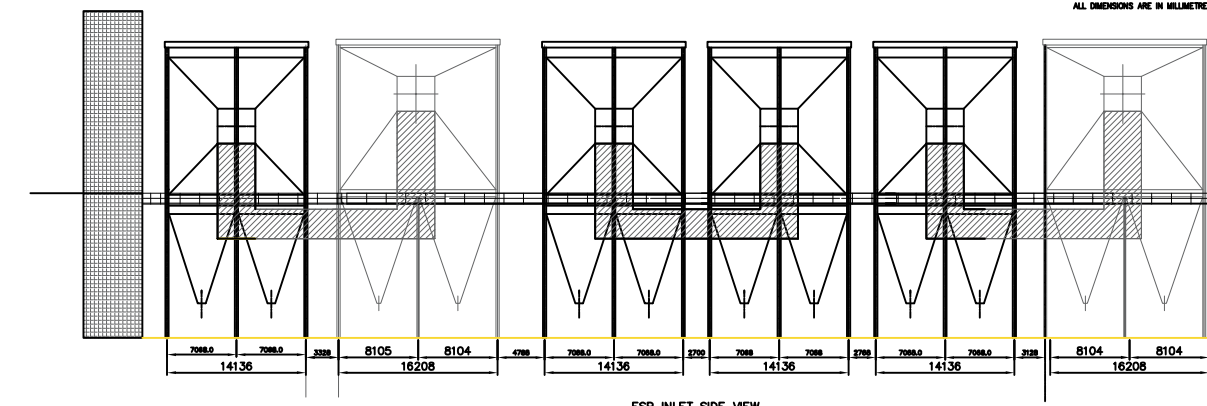
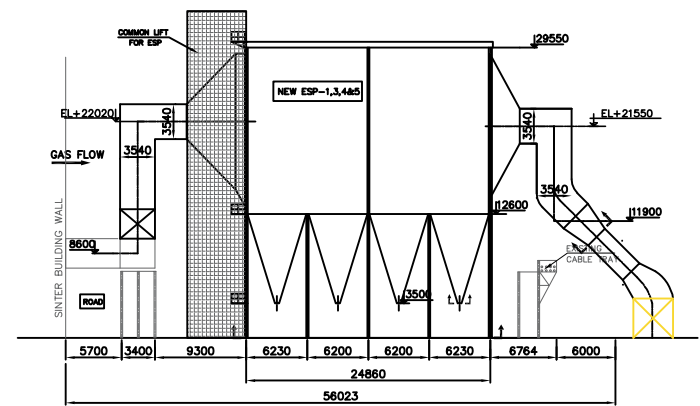
REFERENCE DOCUMENTS/DRAWINGS

1. NOTES & DETAILS FOR PLANT EARTHING & LIGHTNING PROTECTION SYSTEM, DOC. NO. PY-DN-4-M224-8906-01.
2. SZING CRITERIA FOR PLANT EARTHING SYSTEM, DWG. NO. PY-CZ-4-M224-8906-01



NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS AND ELEVATION OR GO-DOWNIES ARE IN METERS.
2. FOR GENERAL NOTES & DETAILS OF FINISHING SYSTEM, REF. DOCUMENT NO. 14224-8906-01, 10, 11.
3. FINISHING SYSTEM IS TYPICAL, ACTUAL FINISHING TO BE DONE AT SITE CLEARING CONTRACTOR'S FOUNDATION ETC.
4. FINISHING SYSTEMS SHALL BE PROVIDED AFTER EITHER ALTERNATE COLUMN OF ESB STRUCTURE.
5. THE NO. OF RISERS & STATIONING INDICATED IN THIS LAYOUT IS TENTATIVE ONLY, HOWEVER RISERS SHALL BE PROVIDED FOR ALL MOTORS/DRUMS AND EXACT LOCATION OF RISERS TO BE DECIDED BY CIVIL/ELECTRICAL CONTRACTOR BASED ON SURF AT SITE CONDITION.
6. FINISHING CONDUCTOR SHALL BE Laid AT A DEPTH OF 800mm BELOW GROUND LEVEL.
7. ANNUAL 300MM DEPTH COVERAGE SHALL BE PROVIDED OVER THE GROUND CONDUCTOR WHILE CROSSING THE ANY UNDER GROUND UTILITIES /CONCRETE FOUNDATIONS.
8. FINISHING CONDUCTOR ALONG THE CABLE TRAYS & PIPE RACKS SHALL BE PROVIDED AS REQUIRED.
9. UNDERGROUND FINISHING LAYOUT FOR ESB RACK IS SHOWN IN THIS DRAWING.
10. UNDERGROUND FINISHING LAYOUT FOR COMPRESSOR HOUSE SHALL BE INCLUDED IN NEXT REVISION ON FINALIZATION OF COMPRESSOR HOUSE LAYOUT.

[illegible]



- NOTES:**
01. NEW ESP - 1, 3, 4 & 5 SUPPLIED BY BHEL. GENERAL ARRANGEMENT OF ALL BHEL SUPPLIED ESPs ARE SIMILAR
 02. [Symbol] INDICATES ESP TERMINAL POINTS FROM SINTER M/C OUTLET FLANGE TO INLET OF EXPANSION JOINT AT EXHAUSTERS
 03. EL (+)0.0 CORRESPONDS TO FINISHED FLOOR LEVEL (FFL) OF ESP AREA
EL (+)0.300 M LEVEL REFERS TO ESP SUPPORTING STRUCTURE BOTTOM OF BASE PLATE LEVEL (BOB)
 04. EXISTING BATTERY CYCLONES & OTHER ASSOCIATED FACILITIES TO BE COMPLETELY DISMANTLED/RELOCATED FOR CASTING CIVIL FOUNDATION FOR NEW ESPs AND DUCT SUPPORT STRUCTURES.
 05. PROPOSED LOCATION OF PASSENGER ELEVATOR IS TENTATIVE AND TO BE FINALISED AFTER CONFIRMATION BY SAIL
 06. REFER FOLLOWING DRAWINGS/DOCUMENTS
SAIL DOC. NO: BSL/SP-1/4-ESP_s/MAIN-PKG/B/U/352 (BHEL DRG NO: SAIL-BSL-ESP-MECH-002) FOR ESP GENERAL ARRANGEMENT
SAIL DOC. NO: BSL/SP-1/4-ESP_s/MAIN-PKG/B/U/353 (BHEL DRG NO: SAIL-BSL-ESP-MECH-003) FOR ESP FOUNDATION LOADING PLAN
SAIL DOC. NO: BSL/SP-1/4-ESP_s/MAIN-PKG/B/S/357 (BHEL DRG NO: SAIL-BSL-ESP-MECH-007) FOR DUCT FOUNDATION LOADING DATA
 07. COORDINATES OF NEW ESP-1 COLUMN MARKED REFERRING EXISTING COORDINATES AVAILABLE WHICH ARE MARKED BASED ON MANUAL MEASUREMENTS AS STATED IN EXISTING LAYOUT DRAWING PROVIDED BY SAIL

CUSTOMER NO. 7013, 7021, 7022, 7023									
REVISION		DATE		REMARKS		PREPARED		APPROVED	
BSL DRG. NO.				BSL-SP-1/4-SBP/MAIN-PKG-B/1/361				[0]	
		STEEL AUTHORITY OF INDIA LTD							
		BOKARO STEEL PLANT							
SAIL		CONSULTANT							
UNIT:		CENTRE FOR ENGINEERING AND TECHNOLOGY, RAICHUR							
CONTRACTOR:				M/S BHARAT HEAVY ELECTRICALS LIMITED					
SUB VENDOR:		PLANT-ET							
PROJECT:		REPLACEMENT OF INSULATING OIL BINS OF BATTERY CHARGING AND OIL BINS OF STEEL FURNACE (PKG-3) - IMPROVED TYPE OF CONTRACT - BSL-SP-1							
TITLE:		LAYOUT PLAN OF MANUFACTURED PIPES/STEEL AND STEEL ARMATURES							
REV.	DATE	REVISION	BY	DATE	BY	SCALE: N.T.S.		SHEET: A1	
1	10/01/2016	REV.							
DRAWN		VISHVA		02.07.24		SAIL-BSL-ESP-MECH-01		SHEET NO:REV	
CHECKED		RDK		02.07.24				1	
APPROVED		SHY		02.07.24				1	
(Tht. Applicable)									
BS		CE		APP		BFD			
Sht. A0									