



A Maharatna Company

एन टी पी सी लिमिटेड

(भारत सरकार का उद्यम)

NTPC Limited

(A Govt. of India Enterprise)

(Formerly National Thermal Power Corporation Ltd.)

(केंद्रीय कार्यालय नोएडा)

Corporate Center NOIDA

Reference : CC-ENGG-1150-001-110-PVM-F-049

Date : 29/06/2024

From : MANOJ PANDEY
ENGINEER

To : BHEL PEM,NOIDA

Cc :

Subject : EPC package of Singrauli Stage-III

Please find enclosed following drawings/ documents for necessary action at your end.

Vendor Drg. No. : PE-DG-512-100-M003

Orgn. Drg. No. : 1150-001-110-PVM-F-049

Revision No. : 00

Drg. Title : TG EQUIPMENT LAYOUT DRAWING AT 0 M

App. Category : CAT-III

Release Date : 29/06/2024



Scan to verify

Comments : (a) All TG Hall equipment Layout Drawings are to be extracted from 3D Model, however M/s BHEL has submitted 2D Drawings.b) 3D review model is required to be submitted along with the drawings to enable NTPC to review and approve these drawings. However, in the absence of 3D review Model, these drawings could not be reviewed in totality.c) M/s BHEL to prepare and plan 3D Model review on priority basis for liquidation of comments marked in these drawings.



Engineering Division
ISO 9001:2008 Certified



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टेलिफोन नं.- 0120-2410333, 2410116 फैक्स-0120-2410136, 2410137

पंजीकृत कार्यालय: एनटीपीसी भवन, स्कोप कॉम्प्लेक्स, 7 इंस्टीट्यूशनल एरिया, लोधी रोड, नई दिल्ली-110 003

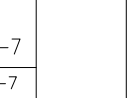
टेलिफोन नं.- 011-24361018 फैक्स-011-24361018, वेबसाइट: www.ntpc.co.in

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Corporate Center NOIDA

Reference : CC-ENGG-1150-001-110-PVM-F-050

Date : 29/06/2024

From : MANOJ PANDEY
ENGINEER

To : BHEL PEM,NOIDA

Cc :

Subject : EPC package of Singrauli Stage-III

Please find enclosed following drawings/ documents for necessary action at your end.

Vendor Drg. No. : PE-DG-512-100-M004

Orgn. Drg. No. : 1150-001-110-PVM-F-050

Revision No. : 00

Drg. Title : TG EQUIPMENT LAYOUT DRAWING AT MEZANINE FLOOR 9 M

App. Category : CAT-III

Release Date : 29/06/2024



Scan to verify

Comments : (a) All TG Hall equipment Layout Drawings are to be extracted from 3D Model, however M/s BHEL has submitted 2D Drawings.b) 3D review model is required to be submitted along with the drawings to enable NTPC to review and approve these drawings. However, in the absence of 3D review Model, these drawings could not be reviewed in totality.c) M/s BHEL to prepare and plan 3D Model review on priority basis for liquidation of comments marked in these drawings.



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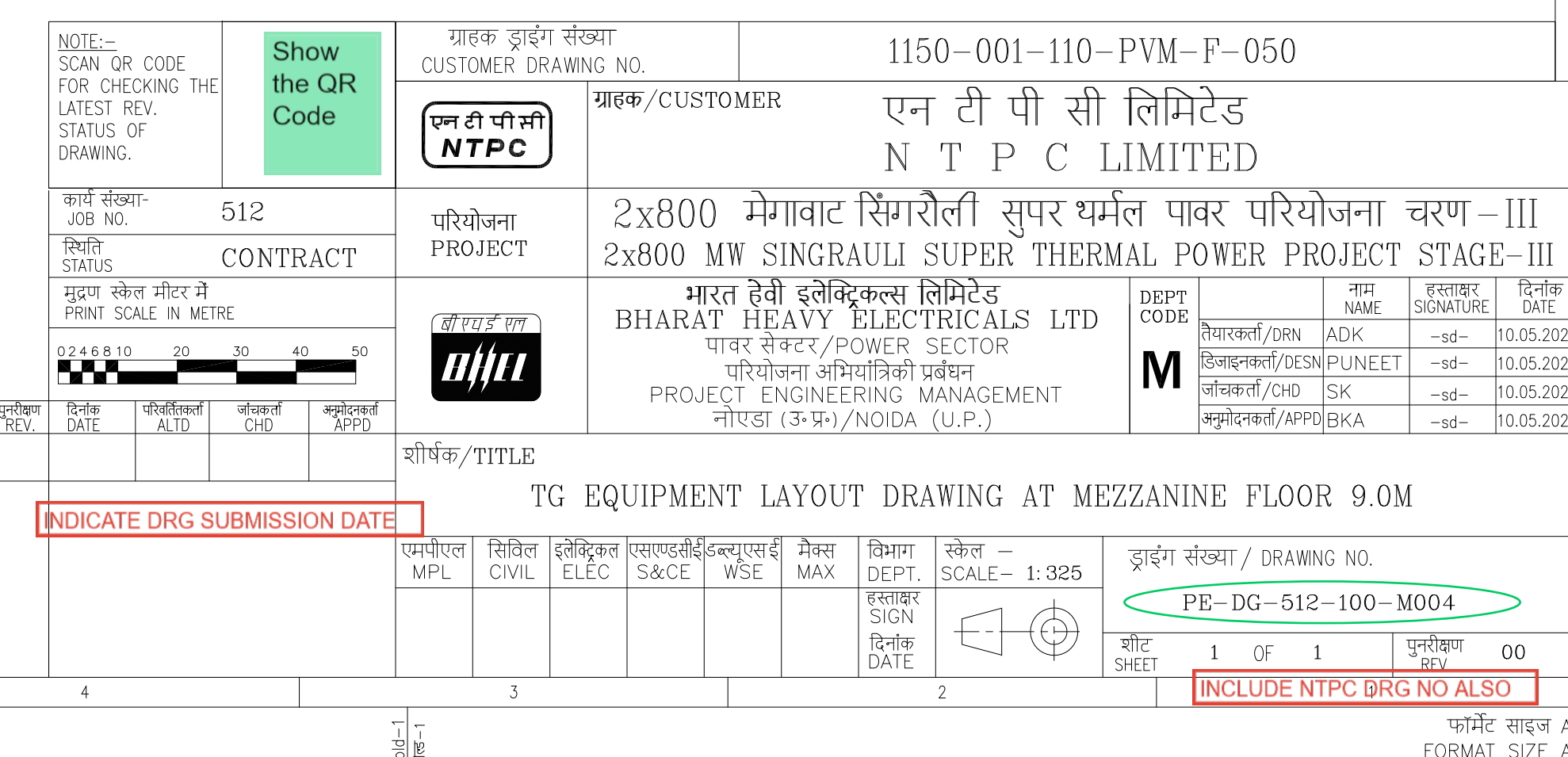
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Corporate Center NOIDA

Reference : CC-ENGG-1150-001-110-PVM-F-051

Date : 29/06/2024

From : MANOJ PANDEY
ENGINEER

To : BHEL PEM,NOIDA

Cc :

Subject : EPC package of Singrauli Stage-III

Please find enclosed following drawings/ documents for necessary action at your end.

Vendor Drg. No. : PE-DG-512-100-M005

Orgn. Drg. No. : 1150-001-110-PVM-F-051

Revision No. : 00

Drg. Title : TG EQUIPMENT LAYOUT DRAWING AT OPERATING GLOOR, 18M

App. Category : CAT-III

Release Date : 29/06/2024



Scan to verify

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Corporate Center NOIDA

Reference : CC-ENGG-1150-001-110-PVM-F-052

Date : 29/06/2024

From : MANOJ PANDEY
ENGINEER

To : BHEL PEM,NOIDA

Cc :

Subject : EPC package of Singrauli Stage-III

Please find enclosed following drawings/ documents for necessary action at your end.

Vendor Drg. No. : PE-DG-512-100-M006

Orgn. Drg. No. : 1150-001-110-PVM-F-052

Revision No. : 00

Drg. Title : TG EQUIPMENT PLAN AT UPPER FLOORS IN B-C BAY

App. Category : CAT-III

Release Date : 29/06/2024



Scan to verify

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Also ensure sufficient space for proper access and maintenance of equipment

Comments marked on TG equipment layout plan of other floors shall also be referred for subject drawing.

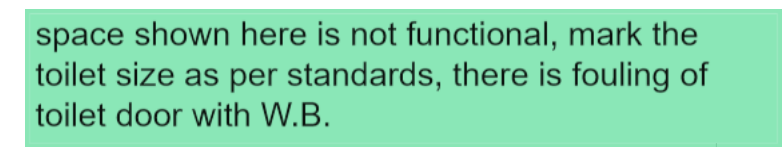
Actual location of cooling tower for AC plant to be marked.
Ensure proper spacing for proper movement of air.

i) Section VI, Part-A, Sub-Section-I Intent of Specification Clause No:4.08.00 and
ii) Section VI, Part-C, General Technical Requirements Clause No:8.03.04

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Qty of air washer units shall be as per design calculation during detailed engineering of ventilation system maintaining required air changes and location of Air washer unit may be revised as per requirements to avoid fouling and maintaining required air changes

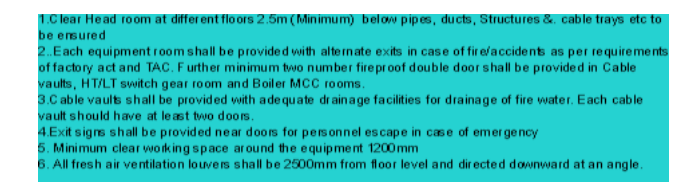
DETAIL OF Air Washer Layout AT 28.0 M FLOOR UNIT-1			
S.No.	DESCRIPTION	LOCATION	AREA TO BE CATERED
01	Air Washer -2J	BC Bay grid 3-4	0 Mtr floor, Mezzanine floor, Operating Floor and Unit 1
02	Air Washer -2F	BC Bay grid 4-5	
03	Air Washer -2G	BC Bay grid 4-5	

DETAIL OF Air Washer Layout AT 34.5 M FLOOR UNIT-1			
S.No.	DESCRIPTION	LOCATION	AREA TO BE COVERED
01	Air Washer -2ø	CD Bay grid 15-16	Boiler MCC & its Cable vault, CCR cable vault, UPS cable vault of Unit

Include all drawings related to HVAC and and Fire detection & protection system in the list of Reference drgs

proper routing shall be done to maintain air chnages required for sufficient cooling

proper routing shall be done to maintain required air changes as per design calculation for sufficient cooling



As per specs V/B, B-10, clause 2.01.05,
800 mm wide and 2.1 m high movement passage all around the cable trays
in the cable vault/ cable spreader room for easy laying/maintenance of cables



Unit Nomenclature to be corrected to Unit-8 & 9 wherever it is written as Unit 1 & 2.

1. ALL DIMENSION ARE IN MM AND LEVELS ARE IN METRES.
2. ALL ELEVATION MARKED ARE W.R.T. TO HALL FINISHED FLOOR ELEVATION OF EL 0.0M WHICH CORRESPONDS TO RL 276.50 M.
3. FOR CABLE TRAY/BUS DUCT/TRENCH/SPLIT LAYOUT, ELECTRICAL DRAWING TO BE REFERRED.

UPPER FLOORS IN B-C BAY

mention NTPC drg no also

स्कूल - 4.000 डाईंग संख्या / DRAWING NO.



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Corporate Center NOIDA

Reference : CC-ENGG-1150-001-110-PVM-F-053

Date : 01/10/2024

From : MANOJ PANDEY
ENGINEER

To : BHEL PEM,NOIDA

Cc :

Subject : EPC package of Singrauli Stage-III

Please find enclosed following drawings/ documents for necessary action at your end.

Vendor Drg. No. : PE-DG-512-100-M007

Orgn. Drg. No. : 1150-001-110-PVM-F-053

Revision No. : 01

Drg. Title : TG HALL CROSS SECTION

App. Category : CAT-II

Release Date : 01/10/2024



Scan to verify

Comments : (a) All TG Hall equipment Layout Drawings are to be extracted from 3D Model, however M/s BHEL has submitted 2D Drawings.b) 3D review model is required to be submitted along with the drawings to enable NTPC to review and approve these drawings. However, in the absence of 3D review Model, these drawings could not be reviewed in totality.c) M/s BHEL to prepare and plan 3D Model review on priority for liquidation of comments marked in these drawings and to review Equipment handling arrangements & man movement paths.



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Registered Office: NTPC Bhawan, Scope Complex, 7 Institutional Area, Lodhi Road, New Delhi-110 003






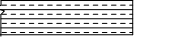
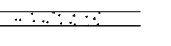
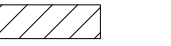







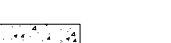



Telephone No: 011 24360100 Fax: 011 24361018, Website: www.ntpc.co.in

Accordingly, following may be noted:

- a) All TG Hall equipment Layout Drawings are to be extracted from 3D Model however M/s BHEL has submitted 2D Drawings.
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FRAMING FOR CRITICAL PIPING SUPPORT
EL.41.5M (BOS) B/W GRID 9/22-2/15




- | | |
|---|--|
|  | PIPE HATCH |
|  | VERTICAL BRACING |
|  | FIRE PROOF DOOR |
|  | GRATING |
|  | CHECKERED PLATE |
|  | REMOVABLE |
|  | HAND RAILING |
|  | CABLE TRAY |
|  | FIRE BARRIER WALL |
|  | INDICATES PIPES/CABLE TRESTLE |
|  | ROLLING SHUTTER |
|  | RAIL TRACK |
|  | PIPE TRENCH WITH PCC COVERED SAND FILLED |
|  | BRICK WALL |
|  | BUS DUCT |
|  | WALK WAY |
|  | CONCRETE |
|  | CHAIN PULLEY BLOCK |
|  | FIRE WALL |

Review bottom of monorail as only ~400mm space is available for hoist body. Top row of condenser tube is at EL.(+).6.987m (Refer Drg. no. 1150-001-110-PVM-B-084)


Indicate these levels in line with crane clearance drg. no 1150-001-110-PVM-B-416

1. ALL DIMENSION ARE IN MM AND LEVELS ARE IN METRES.
2. ALL ELEVATION MARKED ARE W.R.T. TG HALL FINISHED FLOOR ELEVATION OF EL 0.0M WHICH CORRESPONDS TO RL 276.50 M.
3. FOR CABLE TRAY/BUS DUCT/TRENCH/SPLIT LAYOUT, ELECTRICAL DRAWING TO BE REFERRED.


REFERENCE DRAWINGS:				
SL NO	TITLE	DRG. NUMBER	NTPC DRG. NUMBER	UNIT
1	TG EQUIPMENT PLAN AT EL 0.0 M	PE-DG-512-100-M003	1150-001-110-PVM-F-049	PEM
2	TG EQUIPMENT PLAN AT EL 6.5 M	PE-DG-512-100-M004	1150-001-110-PVM-F-050	PEM
3	TG EQUIPMENT PLAN AT 18.0 M	PE-DG-512-100-M005	1150-001-110-PVM-F-051	PEM

01	27.09.24	ASH	PP/KK	BKA	<div> <div>शॉर्टन/TITLE</div> <div>MAIN PLANT TG HALL CROSS SECTION</div> </div>									
1.	DMR. REVISED RUMI NATH NTPC COMMENS ROAD, LETTER NO. CS-20/2024/150-100-M007-PE-553 RTO. DTD. 29/06/2024.				मणाल MPL	तिलिज CIVIL	देविचंद ELEC	राधादेव S&CE	विजयलाल WSE	मेधा MAX	किष्ण DEPT.	स्केल - SCALE = 1:100	ड्राईंग संख्या / DRAWING NO. PE-DG-512-100-M007	
2.	REVISION MARKED AS A .				हस्ताक्षर SIGN	दिनांक DATE			शीट SHEET	1	OF	1	पुनरीक्षण REV.	01

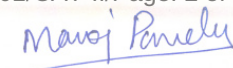
MAIN PLANT TG HALL CROSS SECTION

WSE	MAX	DEPT.	SCALE - 1:100
		हस्ताक्षर	

PE-DG-512-100-M002

	शीट	1	OF	1	पुनरीक्षण
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2	1	REV.
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S. No.	NTPC Observations on TG Equipment Layout drawings	BHEL Reply
TG HALL CROSS SECTION, (Drg. No. 1150-001-110-PVM-F-053_0)		
1	AS Per Specs. VI/B Sub Sec. G-03 clause 1.03.00,(34) If Bus-ducts are routed outside A-row on cantilever structure, the bidder shall provide walkway of 600 mm wide and 2100 mm clear height for maintenance. to be ensured.	In general walkway of 600 mm wide and 2100 mm clear height for maintenance shall be provided. However in case of layout constraint the clear height & width of walkway may be reduced in consultation with NTPC.
2	AS Per Specs. VI/B Sub Sec. G-03 clause 1.03.00, (45) "Routing of cables is not permitted as cantilever to TG building outside A-Row. These shall be suitably routed within TG building."	Routing of cables may please be permitted as cantilever to TG building outside A-Row in line with Talcher & Lara project.
3	Indicate Power and earth conductor connecting transformer yard and switchyard anchored on A-row columns. The loads due to the same shall be considered while designing the TG building.	These details shall be shown in respective electrical drawings, However the same has also been shown in plot plan. Suitable Load shall be taken care while designing TG building.
4	As per clause 1.02.00 (g), SubSection-G-03, Part-B, Section-VI of tech specs, Fire wall shall be provided on A-row of TG building in front of power transformers as per the statutory and safety requirements. Applicable for both units.	There is no requirement of fire wall on A-row of TG building in front of power transformers as transformers are far away from A row (more than 25m). As per the statutory and safety requirements the clearance from the transformer edge is 15m.
5	Levels to be marked. Clearances to be ensured.	Will be updated in the drawing after finalization of transformer yard layout.
6	Mark the level	These levels at the roof of AB bay vary in slope, same shall be indicated in respective civil drawing during detailed engineering.
7	Safe approach for maintenance of farthest member of DSL to be ensured. Distance from maintenance cage to be marked	The suitable approach for maintenance of farthest member of DSL will be ensured by mounting the cage on the crane bridge girders which are at extreme end of bay. Distance from maintenance cage will be ensure and same shall be marked in the vendor GA drawing for Crane during detailed engineering.
8	Safe approach and space for maintenance of exhausters to be ensured. Handling arrangement for exhausters to be also ensured. Exhausters to be suitably staggered away from critical equipments and spares	Noted.
9	in-between columns, walkway shall be provided in entire column sectional depth.	Noted.
10	It should be by BHEL	Confirmed, Being an EPC job, Civil menas by BHEL-CIVIL.
11	Provide walkway for TDBFP crane approach at B-row also	Walkway 500mm has been provided & Updated in the revised drawing.
12	Mention reference drawings	Updated in the revised drawing.
13	Indicate Level	These elevation will be as per approved CCD of crane.
14	Mark the level. Minimum Clearance of 7m to be maintained	The details shown in this drawing is indicative , However customer concern regarding minimum clearance of 7.0M has been noted.
15	Clear headroom of 2100 mm above cable tier top of beam to ensure space for cable laying below the bottom of interconnecting platform beam 1.A walkway of 600mm (minimum width) with hand rails & toe guards shall be provided all along length of the gallery of pipe & cable trestle for maintenance of cables where the height of trestle is more than 3 m. Ladders for approach to these platforms shall be provided near roads, passage ways and turning points. 2.A clear head room of 2.1 m over the walkways of Pipe/cable trestle galleries for all tiers shall be ensured. 3.Also, clear gap between structures of each tier of trestle shall be maintained as 2.1 m (minimum).	Noted, Customer specification shall be followed.
16	DA	Updated in the revised drawing.
17	Refer following Specification Requirements: i) Section VI, Part-A, Sub-Section-I Intent of Specification Clause No:4.08.00 and ii) Section VI, Part-C, General Technical Requirements Clause No:8.03.04 Accordingly, following may be noted: (a) All TG Hall equipment Layout Drawings are to be extracted from 3D Model, however M/s BHEL has submitted 2D Drawings. (b) 3D review model is required to be submitted along with the drawings to enable NTPC to review and approve these drawings. However, in the absence of 3D review Model, these drawings could not be reviewed in totality. (c) M/s BHEL to prepare and plan 3D Model review on priority basis for liquidation of comments marked in these drawings.	Noted, Customer specification shall be followed.
18	1. All opening shall be covered 2. Access and handrails shall be provided to all platforms 3. Adequate headroom and clearance shall be ensured	Noted, Customer specification shall be followed.
19	Mark the QR code	Updated in the revised drawing.

Point-5 pending



A Maharatna Company

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(भारत सरकार का उद्यम)

NTPC Limited

(A Govt. of India Enterprise)

(Formerly National Thermal Power Corporation Ltd.)

(केंद्रीय कार्यालय नोएडा)

Corporate Center NOIDA

Reference : CC-ENGG-1150-001-133-PVM-B-046

Date : 07/01/2026

From : AKASH GARG
ENGINEER

To : BHEL PEM,NOIDA

Cc :

Subject : EPC package of Singrauli Stage-III

Please find enclosed following drawings/ documents for necessary action at your end.

Vendor Drg. No. : PE-DG-512-165-N004

Orgn. Drg. No. : 1150-001-133-PVM-B-046

Revision No. : 01

Drg. Title : MACHANICAL GA OF CW AND ACW PUMP HOUSE

App. Category : CAT-II

Release Date : 07/01/2026



Scan to verify

Comments : Comments Marked



Engineering Division
ISO 9001:2008 Certified



अधियांत्रिकी कार्यालय परिसर, प्लॉट नं.- ए 8ए, सेक्टर-24, पोस्ट बॉक्स नं.- 13, नोएडा (उ.प्र.) पिन-201 307

टेलिफोन नं.- 0120-2410333, 2410116 फैक्स-0120-2410136, 2410137

पंजीकृत कार्यालय: एनटीपीसी भवन, स्कोप कॉम्प्लेक्स, 7 इंस्टीट्यूशनल एरिया, लोधी रोड, नई दिल्ली-110 003

टेलिफोन नं.- 011-24361018 फैक्स-011-24361018, वेबसाइट: www.ntpc.co.in

ENGINEERING OFFICE COMPLEX, Plot No: A-8A, Sector-24, Post Box No: 13, Noida (UP), Pin-201 307

Telephone No: 0120-2410333, 2410116 Fax-0120-2410136, 2410137

Registered Office: NTPC Bhawan, Scope Complex, 7 Institutional Area, Lodhi Road, New Delhi-110 003

Telephone No: 011 24360100 Fax: 011 24361018, Website: www.ntpc.co.in

COMPLIANCE SHEET

Document / Drawing Title	MECHANICAL GA OF CW WATER PUMP HOUSE
NTPC Document / Drawing No.	1150-001-133-PVM-B-046
BHEL Document / Drawing No.	PE-DG-512-165-W004
Revision No. (Commented)	00
Contractor	BHEL
Contract Name & package	NTPC Singrauli 2x800MW Stage-III (EPC package)
NTPC Reference No.	CC-ENGG-1150-001-133-PVM-B-046 Date : 30/12/2024

SI No.	NTPC Comments	BHEL Reply
1	All pump related dimensions shall be kept under HOLD till approval of pump GAD.	Drawing is updated as per CW Pump GA Drawing and Sump Model Study Report.
2	Verify Coordinates with GLP Submitted	Verified.
3	Two (02) numbers of drainage pumps for each pit with its drives, associated piping, valves, fittings, filters, specialties, accessories & instrumentation, and control. BHEL to mention the related drg no.	Requirement of Drainage pumps for CW Pits are already covered at S.No. 1.2(q) in Doc. No. 1150-001-133-PVM-B-2426 & 1150-001-136-PVM-B-2430. Also, 2 Sump Pumps against both the pits are already mentioned in the drawing.
4	not legible	Revised.
5	Dewatering pit details?	Plan dimensions of the pits were already indicated. Depth of the Pit is added in the Section View 'A-A'.
6	?	Marked.
7	BHEL to mention the related drg no.	Mentioned in List of Reference Drawings.
8	Drg NOT submitted	Submitted & approved in CAT-II by NTPC.
9	What is this?	This is the Hose connection for EH-BFV shown indicatively.

COMPLIANCE SHEET

SI No.	NTPC Comments	BHEL Reply
10	typ. ?	Noted and mentioned
11	Hydra movement over CW supply & return duct may take place during transformer handling. CW duct to be encased in complete area in front & side of transformers.	Details of CW Piping outside CW Pump House are not covered in this drawing.
12	Please mark clear dimensions (LxB)	Maintenance bay dimensions are already indicated in the drawing.
13	pls indicate the space (LxBx dept) provided for the required support	Dimensions for Screen/Gate Storage area are already indicated in the drawing.
14	pls mention the end point of hook approach	End Hook Approach are already mentioned in the drawing.
15	C&I control room---Please indicate internal layout showing panels/24 V DC Charger/cable trenches etc. Also indicate 24 V DC battery in ventilated battery room.	Internal Details for Electrical & Control Room shall be shown in Drg. No. 1150-001-215-PVE-F-2311.
16	Plz mark width	
17	Verify Coordinates with GLP Submitted	Confirmed.
18	Please check wrt HIS requirement and confirm	Checked & Confirmed.
19	Mark locating details	Details of Cage Ladder shall be provided in Forebay Civil Drawing (Drg. No. 1150-001-133-PVC-C-038).
20	Please furnish staircase details. Step width, height and handrail height shall take into account maintenance requirement	These details are part of Civil Drawing. (1150-001-133-PVC-C-1132)
21	The drawing has been approved in Cat-II. However, BHEL to note the following: (1) BHEL has not submitted the PUMP GA drawing (no.-150-001-133-PVM-B-035) accordingly, details pertaining to PUMP has been kept on HOLD.	Noted. Drawing is resubmitted after finalization of required details.

Akash

COMPLIANCE SHEET

SI No.	NTPC Comments	BHEL Reply
	(2) Document to be resubmitted only after approval of corresponding pump GA(s). (3) HOLD shall be removed only after finalisation of GA drawing of PUMP.	
22	Please submit the revised document ONLY AFTER approval of corresponding Pump GA	Noted.
23	Verify Coordinates with GLP Submitted	Verified.
24	<p>As per tech specification section-VI, Sub-section-IIA-11, cl. no. 1.01.00, BHEL to confirm the following :</p> <p>(i) One (1) number of Pump Discharge Butterfly valve of required size with all accessories and Electro-hydraulically operated actuators (to be installed) for each CW pump.</p> <p>(ii) Two (2) numbers of Duct Interconnection Butterfly valves with all accessories, counter flanges, and Electric actuators for interconnecting the CW ducts (as applicable).</p> <p>(iii) One (1) number of rubber expansion joint to suit CW pump discharge pipe with counter flanges, accessories including control rod assemblies, bolts, nuts, washers, gaskets for each CW pump.</p> <p>(iv) Butterfly Valve (s) with all accessories in the re-circulation pipeline, with actuators</p> <p>(v) All Associated piping and valves etc. as applicable for main CW system.</p> <p>((vi) Complete lubrication system consisting of 2x100% horizontal centrifugal type lubricating water pumps & its drives for each CW pump along with its all required accessories, piping, associated valves,</p>	<p>All these items are already mentioned at S.No. 1.2 in Doc. No. 1150-001-133-PVM-B-2426</p> <p>include this drg in Ref drg list</p>

Akash

COMPLIANCE SHEET

SI No.	NTPC Comments	BHEL Reply
	<p>strainer in the discharge of lube water pumps etc. and instrumentation & control system.</p> <p>(Vii) Sealing water system consisting of 2x100% capacity for each CW pump with its drives, associated piping, valves, fittings, filters, specialties, accessories & instrumentation, and control.</p> <p>(viii) Minimum twenty (20) nos of Automatic air release valves (ARVs) of 200 mm NB (minimum) size along with its isolation valves for CW system. Necessary stub connection in CW duct for mounting ARVs.</p>	
25	<p>Also mark bottom of crane hook level.</p> <p>Ensure sufficient clearance to remove the longest component/ shaft/ motor.</p> <p>Crane elevations to be decided accordingly.</p>	Crane Hook Level is already mentioned in the drawing as per practice. Crane elevations are fixed considering sufficient clearance to remove the longest component/ shaft/ motor.
26	Convenient crane hook approach to the most distant equipment to be handled for maintenance to be ensured.	Confirmed.
27	Design\Details\cap. of the EOT crane shall be as per provision indicated in the tech spec.	Confirmed.
28	Please review adequacy of Crane hook approach for handling valve	Reviewed and is in order.
29	BHEL to review the max elevation of EOT crane in lifted condition in-light of the height of the pump\motor to be removed in case of O&M stage. Accordingly height may be revised.	Reviewed and is in order.
30	Please check adequacy for removing the 4m long gates/ racks	Checked and is in order.

Akash

COMPLIANCE SHEET

SI No.	NTPC Comments	BHEL Reply
31	As per tech specification section-VI, Sub-section-IIA-11, cl. no. 1.01.00, BHEL to confirm the following : (i) Carrying out transient analysis. (ii) Carrying out physical sump model study and Conductance of computer-based model study using Computational Fluid Dynamics (CFD) techniques, utilizing "Star CD", Fluent or CFX CFD modeling code for the CW sump including forebay, transition zone, CW channel from cooling tower to CW pump house. (iii) Complete lubrication system consisting of 2x100% horizontal centrifugal type lubricating water pumps & its drives for each CW pump along with its all required accessories, piping, associated valves, strainer in the discharge of lube water pumps etc. and instrumentation & control system.	Confirmed.
32	Pitch, height, pipe thickness?	In Mechanical GA Drawing, Hand Rails are shown to ensure the provision of Hand rails at marked locations. Further details of Hand Rails shall be provided as per Civil Specification and Approved Civil Drawings.
33	Slope angle to be marked as per HIS requirement. Length of transition zone shall be provided accordingly.	Transition Zone updated as per Sump Model Study.
34	PUMP RELATED DIMENSION is on HOLD. Pump details shall be as per finalised drawing drg. no.- 1150-001-133-PVM-B-035 (GA, CROSS SECTION & DATASHEET AND PERFORMANCE CHARACTERISTICS OF CW PUMP ALONG WITH FOUNDATION AND LOAD DETAILS) BHEL is requested to submit the drawing to review the related details	Noted.
35	Indicate full doc. no.	Revised.

COMPLIANCE SHEET

SI No.	NTPC Comments	BHEL Reply
36	The dosing/ makeup lines shall be upstream of Transition Zone to support laminar flow	Dosing/Recirculation Line is shown upstream of CW Forebay in the Transition Zone as per other NTPC projects. CW Makeup connection is added as per comment. CW Makeup & Acid Dosing lines not shown
37	Also indicate CW makeup line	Indicated.
38	Please ensure smooth/ rounded corners for better transition	Noted & updated as per Sump Model Study. Upstream corners shall also be rounded as marked
39	Stoplogs details & Trash Rack details shall be as per finalised drawings. BHEL to mention the drawings no related to stoplogs & Trash Rack.	Only Quantity, Opening Size and MOC is mentioned in this drawing for further procurement purpose. Further, details shall be as per Stoplogs & Trash Rack drawings. These Drawing nos. are not available in DREAMS and hence not mentioned.
40	BHEL to review the qty considering the flow requirements	Quantities of Gates are in order and provided as per NTPC Specification Requirement (Cl. 5.18.01.01 (a) of SUB-SECTION-D-1-5, Page 62 of 127.
41	Mention ref doc. no.	Mentioned in Reference Drawing List.
42	BHEL to mention the related drg no.	Mentioned in Reference Drawing List.
43	(1) Drg title mentioned for sl. no (i) shall be as per drawing no." Layout of CW piping(between A-Row to Pump House/ Cooling Tower) (2) Drgs mentioned at sl. no. (ii) to Vii) has not been submitted by BHEL, BHEL to submit the same as per provision indicated in Tech spec to review the related details	(1) Revised (2) Noted
44	Furnish reference doc no.s for all ref drgs	Mentioned.
45	BHEL to mention the Fire Detection & Protection Drawings, Air Conditioning system and Ventilation System drawing in the rference drawing list for clarity	Drawing No. for Fire Detection & Protection added. CWPH being Open building, Air Conditioning system and Ventilation is not applicable. BHEL to review for the C&I Control Room and MCC room/toilet etc.



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(Formerly National Thermal Power Corporation Ltd.)

(केंद्रीय कार्यालय नोएडा)

Corporate Center NOIDA

Reference : CC-ENGG-1150-001-136-PVM-B-071A

Date : 10/01/2026

From : AKASH GARG ENGINEER	To : BHEL PEM,NOIDA
Cc :	
Subject : EPC package of Singrauli Stage-III Please find enclosed following drawings/ documents for necessary action at your end.	
Vendor Drg. No. : PE-DG-512-172-N004A Orgn. Drg. No. : 1150-001-136-PVM-B-071A Revision No. : 02 Drg. Title : GA & PIPING LAYOUT IN AND AROUND AUX CT & RAW WATER P/H App. Category : CAT-II Release Date : 10/01/2026	 Scan to verify
Comments : comments marked. As commented in previous revision, discussed in TCM dated 07th to 09th Oct 2025 and confirmed by BHEL in the CRS sheet, Revise the piping layout to route all the pipes either on pedestal or trestle.	



Engineering Division
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अधियंत्रिका कार्यालय परिसर, प्लॉट नं.- ए 8ए, सेक्टर-24, पोस्ट बॉक्स नं.- 13, नोएडा (उ.प्र.) पिन-201 307

टेलिफोन नं.- 0120-2410333, 2410116 फैक्स-0120-2410136, 2410137

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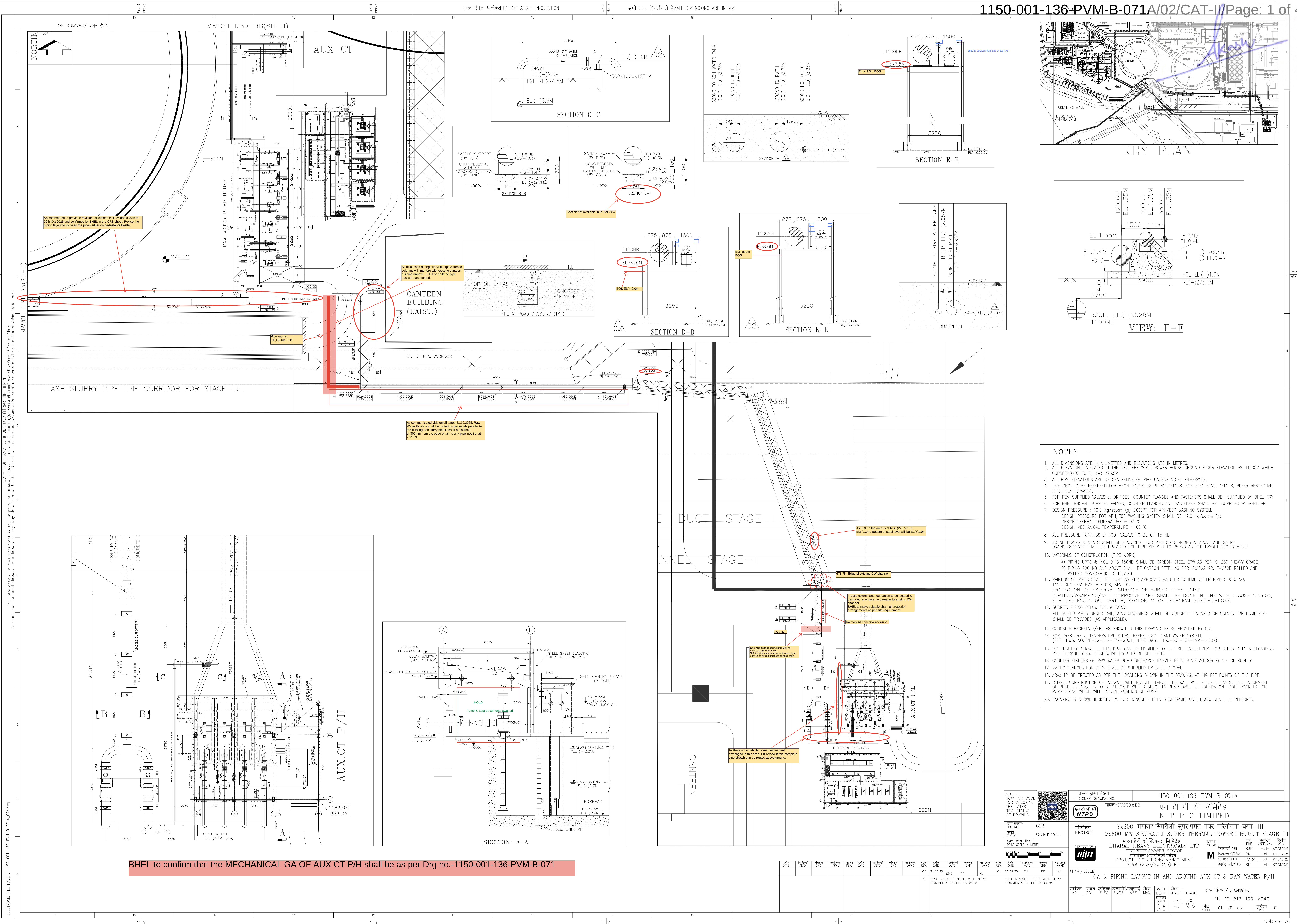
टेलिफोन नं.- 011-24361018 फैक्स-011-24361018, वेबसाइट: www.ntpc.co.in

ENGINEERING OFFICE COMPLEX, Plot No: A-8A, Sector-24, Post Box No: 13, Noida (UP), Pin-201 307

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Telephone No: 011 24360100 Fax: 011 24361018, Website: www.ntpc.co.in




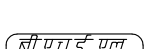

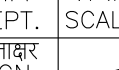
BHEL to confirm that the MECHANICAL GA OF AUX CT P/H shall be as per Drg no.-1150-001-136-PVM-B-071

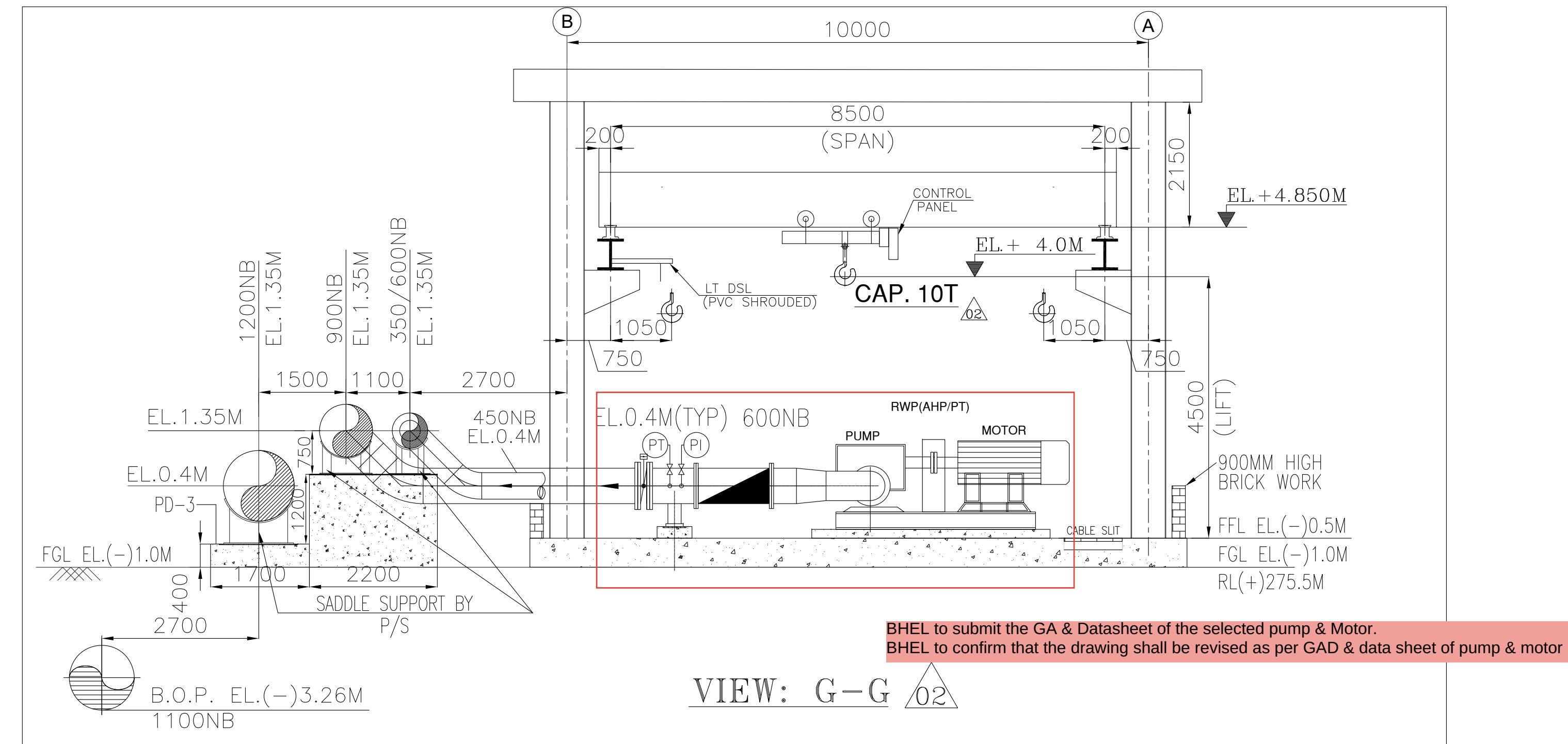



	NB	OD	THICK.
25	34.2	4.0	
40	48.8	4.0	
50	60.8	4.5	
80	89.5	4.8	
100	115.0	5.4	
150	166.5	5.4	
200	219.1	6.0	
250	273.0	6.0	
300	323.9	6.0	
350	355.6	6.0	
400	406.4	6.0	
450	457.0	6.0	
500	508.0	6.0	
600	610.0	6.0	
700	711.0	7.0	
800	813.0	8.0	
900	914.0	10.0	
1100	1118.0	10.0	
1200	1219.0	12.0	

- HOLDS:**
1. GA of Aux. cooling tower (DCT)
 2. GA of self cleaning strainer.
 3. GA of pumps.
 4. Valves & Orifices

DRUG DATE	DRUGS/ALTO	DRUGS/CHD	DRUGS/APPD	DRUGS/REV.	DRUG DATE	DRUGS/ALTO	DRUGS/CHD	DRUGS/APPD	DRUGS/REV.	DRUG DATE	DRUGS/ALTO	DRUGS/CHD	DRUGS/APPD
									02	31.10.25	SDK	PP	IKU
										1.	DRG. REVISED INLINE WITH NTPC		

NOTE.— SCAN QR CODE FOR CHECKING THE LATEST REV. STATUS OF DRAWING. 		डाटा नं. / डेटा नं. CUSTOMER DRAWING NO.		1150-001-136-PVM-B-071A					
		एन टी पी सी NTPC		ग्राहक/CUSTOMER		एन टी पी सी लिमिटेड N T P C LIMITED			
कार्य स्थान / JOB NO. 512		परियोजना PROJECT		2x800 मेगावाट सिंगरोली सुपर थर्मल पावर परियोजना चरण -III 2x800 MW SINGRAOLI SUPER THERMAL POWER PROJECT STAGE-III					
दस्तावेज DRAWN BY CONTRACT				भारत हेवी इलेक्ट्रिकलिमिटेड BHARAT HEAVY ELECTRICALS LTD		DEPT. OF M		जमा करार ORDERED DATE	
मूल संश्लेषण ORIGINAL SCALE		पावर वर्क/POWER SECTOR भारतीय नौसैन्यीकी प्रबन्धन PROJECT ENGINEERING MANAGEMENT नौका (उप.)/NOIDA (U.P.)		डिजाइनर/DIN		रजिस्टर REGD. NO.		दिनांक DATE	
		28.07.25 RJK PP KU		संपूर्ण COMPLETE		28.07.25 RJK PP KK		28.07.25	
DRG. REVISION INLINE WITH NTPC COMMENTS DATED 23.03.25		टाइटिल GA & PIPING LAYOUT IN AND AROUND AUX CT & RAW WATER P/H		डिजाइन स्केल / DRAWING NO. PE-DG-512-100-M049		<div style="text-align: center;">  उत्तर NORTH </div>			
फ़ायनेल MPL CIVIL		इलेक्ट्रिक ELEC		सामग्री/सुरक्षा SACR WSE		विभाग DEPT. MAX		केवल - SCALE: 1 : 400	
4		3		2		1		02 02 03	
								कुल पृष्ठ TOTAL PGS. 02	



PROJECT ENGINEERING MANAGEMENT नगर (F-32)/INDIA (U.P.)										PP/HR	+85	01.03.2025
अनुमोदन/अपुनः										HR	+85	27.03.2025
ड्राइंग DATE	वीरवार A.T.O	बुधवार O.D	शुक्रवार A.P.T	शनिवार SUN	रविवार DATE	वीरवार A.T.O	बुधवार O.D	शुक्रवार A.P.T	शनिवार SUN			
02					रविवार SUN	ड्राइंग DATE	वीरवार A.T.O	बुधवार O.D	शुक्रवार A.P.T	शनिवार SUN		
1:					01	28.07.25	RJK	PP	KU			
DRG. REVISED INLINE WITH NTPC COMMENTS DATED 13.08.25					DRG. REVISED INLINE WITH NTPC COMMENTS DATED 25.03.25							
शीट/TITLE												
GA & PIPING LAYOUT IN AND AROUND AUX CT & RAW WATER P/H												
परमाणु MPL	मिविल CIVIL	इलेक्ट्रिक ELEC	सायबर S&CE	मैकेनिकल M&E	इन्व्.सर्वे INVS	मैक्स MAX	किंग SCALE	कोट --	1:400			ड्राइंग रीजमा / DRAWING NO.
PE-DG-512-100-M049									हार्डवेयर SIGN			
रिक्त DATE									शीट SHEET			
03							OF		03		पुनरीक्षण REV	02
फार्मट साइज FORMAT SIZE A4												

Kash

S. No.	NTPC Observations on	BHEL Reply
	GA & PIPING LAYOUT IN AND AROUND AUX CT & RAW WATER P/H PE-DG-512-172-N004A_R01 (NTPC Drg. No: 1150-001-136-PVM-B-071A)	
1	CRS sheet to be attached here only . Not to be enclosed as supporting document.	Noted.
2	presentation of this drawing in Model is not proper. BHEL to submit the drawing so as to review the indicated details properly	Details updated in the revised drawing.
3	Revise the piping layout to route all the pipes either on pedestal or trestle. Pipes to be buried underground in exceptional cases only.	Noted, Pipes burried are only in exceptional cases.
4	Maintain same level for bottom of pipes for ease of erection. Also ensure minimum 1000mm ground above top of pipe of the largest dia pipe.	Updated in the revised drawing, Further 1.0M ground above top of pipe has already been maintained.
5	1. Furnish sectional view. 2. Maintain same level for bottom of pipes for ease of bed preparation and erection at site.	Updated in the revised drawing.
6	as commented earlier in Rev-), BHEL to indicate the pump house drawing in a separate sheet clearly indicating the pump house iayout and suction & delivery pipe routing.	Updated in the revised drawing.
7	Level of pipe shall be governed by top of curb wall of forebay.	HOLD Removed.
8	Identify these pipes	These pipes are not applicable, Hence has been deleted.
9	Identify these pipes	These pipes are not applicable, Hence has been deleted.
10	level of trestle Shall be finalized after joint site visit	Noted, However, 3.0M height has been decided based on BHEL previous site visit.
11	This stretch of pipe is passing through existing facilities of Stage-I & II. BHEL to conduct joint site visit & site survey with NTPC team to identify the existing structures/facilities and hindrance in routing the pipe in this area.	Noted, Site visit done and drawing revised based on MOM of TCM#110 dtd: 09/10/25.
12	Refer drg. no. 1150-001-136-PVM-B-071, Rev-02 for road and drain layout in this area. Further, extent & level of underground pipe & encasing to be finalized after conducting site visit.	Noted, Site visit done and drawing revised based on MOM of TCM#110 dtd: 09/10/25.
13	Concrete encasing may be suitably strengthened or reinforced at road crossings to ensure no damage to pipe in case of heavy vehicle movement on the road.	Noted and same shall be taken care in respective civil drawing.
14	Indicate locating coordinates of all the pipes at all bends.	Updated in the revised drawing.
15	Why layout of this area is indicated twice in the drawing?	This is the blown-up view, as was desired by NTPC.
16	Also add following in continuation of note 11: Protection of external surface of buried pipes using coating/wrapping/anti-corrosive tape shall be done in line with clause 2.09.03, Sub-Section-A-09, Part-B, Section-VI of technical specifications.	Customer specification shall be followed.
17	BHEL to enclose the list of reference drawing for clarity	Reference drawing list already added in sheet 02.
18	Indicate locating coordinates of all the pipes at all bends.	Updated in the revised drawing.
19	Revise the piping layout to route all the pipes either on pedestal or trestle. Pipes to be buried underground in exceptional cases only.	Noted, Pipes burried are only in exceptional cases.
20	This stretch of ash slurry corridor is not yet final. Re-route the raw water pipes independent of this corridor and keep the crossing with ash slurry corridor under HOLD.	This area of pipe is routed independently, not routed on Ash slurry corridor.
21	Drawing shall be approved in Cat-I after removal of all holds.	However, CAT-II approval is required to proceed with concurrent engineering at our end.

Pipe routing to be revised as commented in previous revision.



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(केंद्रीय कार्यालय नोएडा)

Corporate Center NOIDA

Reference : CC-ENGG-1150-001-136-PVM-F-186

Date : 26/03/2026

From : AKASH GARG
ENGINEER

To : BHEL PEM,NOIDA

Cc :

Subject : EPC package of Singrauli Stage-III

Please find enclosed following drawings/ documents for necessary action at your end.

Vendor Drg. No. : PE-DG-512-100-M044

Orgn. Drg. No. : 1150-001-136-PVM-F-186

Revision No. : 01

Drg. Title : GA & PIPING LAYOUT IN AND AROUND CLARIFIED WATER PUMP
HOUSE

App. Category : CATREL

Release Date : 26/03/2026



Scan to verify

Comments : This is an Auto archive drawing developed & released by BHEL. Review and approval of the same is not envisaged by NTPC Engineering.



Engineering Division
ISO 9001:2008 Certified



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**Name of the Project/ Package : SINGRAULI SUPER THERMA: POWER PROJECT
STAGE-III, EPC package of Singrauli Stage-III**

Drawing / Document Number : 1150-001-136-PVM-F-186

**Drawing / Document Title : GA & PIPING LAYOUT IN AND AROUND CLARIFIED
WATER PUMP HOUSE**

“We confirm that this document meets all the contract requirements including safety and statutory requirements and facilitate ease of operation and maintenance. In case any deviation is found, the Contractor shall carry out all required changes/ modifications without any cost implications to NTPC. In addition, Penalty on account of non-compliance of contract specification as deemed fit by the Employer shall be recovered”

Erection BOQ of Automatic Fire Spray system for Turbine Oil canal Piping and MOT : 2x800 MW SINGRAULI										
SL. No.	ITEM DESCRIPTION	MATR. CODE	UNIT	BOQ FOR OIL CANAL PIPING FOR UNIT 3 & 4	BOQ FOR MOT, PURIFIER & COOLER FOR UNIT 3 & 4	TOTAL BOQ	UNIT WEIGHT (IN KG)	TOTAL WEIGHT (IN KG)	Oil canal Wt	MOT FF Wt
1	GI PIPE as per IS:1239 (Medium grade)									
1.1	MS PIPE MED IS:1239 (GALV) - 25 NB	PY9752060307	METERS	55	0	55	2.41	132.6	132.55	0
1.2	MS PIPE MED IS:1239 (GALV) - 50 NB	PY9752060331	METERS	150	240	390	5.03	1961.7	754.5	1207.2
1.3	MS PIPE MED IS:1239 (GALV) - 80 NB	PY9752060358	METERS	85	0	85	8.36	710.6	710.6	0
1.4	MS PIPE MED IS:1239 (GALV) - 100 NB	PY9752060366	METERS	120	108	228	12.2	2781.6	1464	1317.6
2	MS Pipe as per IS:1239 (Med Grade)								0	0
2.8	MS PIPE MED IS:1239 - 100 NB	PY9752062148	METERS	20	18	38	12.2	463.6	244	219.6
2.12	MS PIPE MED IS:1239 - 25 NB	PY9752062113	METERS	280	360	640	2.41	1542.4	674.8	867.6
2.15	MS PIPE MED IS:1239- 65 NB (Pylon support)	PY9752062180	METERS	0	180	180	6.42	1155.6	0	1155.6
3	VALVES								0	0
3.15	GATE VALVE- 100NB (WITH LIMIT SWITCH AND LO/LC ARRANGEMENT)	PY9752127177	NOS.	4	4	8	46	368.0	184	184
3.18	GATE VALVE CI, 50 NB PN 1.6 FF ENDS	PY9752127266	NOS.	2	2	4	22	88.0	44	44
	STRAINERS								0	0
0.01	MS Y STRAINER WITH SS MESH-100NB	PY9752284019	NOS.	2	2	4	47	188.0	94	94
4	DELUGE VALVE								0	0
4.2	CI DELUGE VALVE (WET TRIM)-100NB	PY9751388058	NOS.	2	2	4	97	388.0	194	194
6	QB DETECTOR								0	0
6.1	QB DETECTOR-79 DEG	PY9751389011	NOS.	72	72	144	0.25	36.0	18	18
7	HWV Spray nozzle								0	0
7.1	SPRAY NOZZLE- K-23 * 120 Deg	PY9751390010	NOS.	72	91	163	0.25	40.8	18	22.8
8	MVW Spray nozzle								0	0
9	Pressure Switch (0 - 8 KG/CM2G)	PY9756321148	NOS.	4	4	8	2	16.0	8	8
10	Solenoid Valve	PY9751410010	NOS.	2	2	4	2	8.0	4	4
11	Deluge Valve Control panel (DVLCP)		NOS.	2	2	4	3	12.0	6	6
12	Orifice plate								0	0
12.2	100NB	PY9752282016	NOS.	2	2	4	2	8.0	4	4
	FITTINGS								0	0
	ASTM A 234 BUTT WELD								0	0
13.9	ELBOW 90D LR CS (A234GRWPB) 4" STD BW	PY9752101089	NOS.	7	7	14	3.85	55.4	27.72	27.72
14	Fitting-Equal Tee								0	0
14.7	TEE STRT CS 4" STD BW	PY9752108075	NOS.	2	0	2	5.76	13.8	13.824	0
	ASTM A 105 SOCKET WELD								0	0
15	EQUAL ELBOW 90 DEG								0	0
15.1	ELBOW 90D CS (A105) 1" CL3000 SW	PY9752110037	NOS.	35	84	119	0.49	58.3	17.15	41.16
17.1	RED ELB90D CS 1"X0.5" CL3000 SC	PY9752236103	NOS.	0	24	24	1.12	26.9	0	26.88
18.1	RDTEE CS (A105) 1" X 0.5" CL3000 SC	PY9752111483	NOS.	0	42	42	1.26	52.9	0	52.92
19.1	TEE STRT CS (A105) 1" CL3000 SW	PY9752111033	NOS.	98	120	218	0.57	124.3	55.86	68.4
20.1	ASTM A 105 SOCKET WELD-REDUCER-25x15NB(15NB SCREWED)	PY9752123406	NOS.	98	84	182	0.54	98.3	52.92	45.36
20.2	ASTM A 105 SOCKET WELD-REDUCER-25x15NB	PY9752123023	NOS.	2	2	4	0.38	1.5	0.76	0.76
	GI FITTINGS BUTT WELD								0	0
21	EQUAL ELBOW 90 DEG								0	0
21.2	ELBOW 90D LR CS (GALV) 4" STD BW	PY9752101402	NOS.	35	24	59	3.85	227.2	134.75	92.4
21.3	GI FITTINGS BUTT WELD-EQUAL ELBOW 90 DEG-80NB	PY9752101399	NOS.	16	0	16	2.03	32.5	32.48	0
21.4	ELBOW 90D LR CS (GALV) 2" STD BW	PY9752101470	NOS.	22	60	82	0.65	53.3	14.3	39
24.5	GI FITTINGS BUTT WELD-REDUCER-100X80NB	PY9752238114	NOS.	14	0	14	1.71	23.9	23.94	0
24.9	GI FITTINGS BUTT WELD-REDUCER-80X50NB	PY9752238076	NOS.	5	0	5	1.02	4.9	4.896	0
26.2	GI FITTINGS BUTT WELD-EQUAL TEE-100NB	PY9752108385	NOS.	0	2	2	6.0	14.4	0	14.4
26.3	GI FITTINGS BUTT WELD-EQUAL TEE-80NB	PY9752108377	NOS.	2	0	2	3.82	9.2	9.168	0
26.4	GI FITTINGS BUTT WELD-EQUAL TEE-50NB	PY9752108440	NOS.	0	29	29	1.88	54.1	0	54.144
27.1	ELBOW 90D CS(A105-GALV) 1" CL3000 SC	PY9752110185	NOS.	94	0	94	1.12	105.3	105.28	0
31.2	GI FITTINGS THREADED-REDUCING ELBOW 90 DEG -25x20NB	PY9752236073	NOS.	94	0	94	1.12	105.3	105.28	0
34.1	HALF CPLNG CS A105(GALV) 1" CL3000 SC	PY9752093230	NOS.	94	0	94	0.21	19.7	19.74	0
34.2	HALF CPLNG CS A105(GALV) 0.75" CL3000 SC	PY9752093221	NOS.	0	96	96	0.1	9.6	0	9.6
35.8	FLNG SLIPON IS2062 4" CL150 B16.5 FF	PY9752125085	NOS.	14	14	28	5.1	142.8	71.4	71.4
35.11	FLNG SLIPON IS2062 2.5" CL150 B16.5 FF	PY9752125069	NOS.	0	72	72	3.3	237.6	0	237.6
35.20	FLNG SLIPON IS2062 1" CL150 B16.5 FF	PY9752125034	NOS.	24	84	108	0.8	86.4	19.2	67.2
36	GI Flanges								0	0
36.2	FLNG IS2062(GALV) 4" CL150 B16.5 SO-FF	PY9752125441	NOS.	10	6	16	5.1	81.6	51	30.6
36.3	GI Flanges-80NB SOFF	PY9752125433	NOS.	5	0	5	3.7	17.8	17.76	0
36.5	FLNG IS2062(GALV) 2" CL150 B16.5 SC-FF	PY9752125417	NOS.	19	62	82	1.9	155.0	36.48	118.56
36.7	GI END CAP-100 NB (PY9752181201)	PY9752181201	NOS.	0	2	2	5	10.0	0	10
36.11	GI END CAP-50 NB (PY9752181295)	PY9752205097	NOS.	5	0	5	2.3	11.0	11.04	0
36.12	GI END CAP-25 NB	PY9752205070	NOS.	5	0	5	0.7	3.4	3.36	0
	Gaskets-300NB								0	0
	Gaskets-250NB								0	0
	Gaskets-200NB								0	0
37.2	Gaskets-100NB		NOS.	14	18	32	0.5	16.0	7	9
37.3	Gaskets-80NB		NOS.	2	0	2	0.4	1.0	0.96	0
37.4	Gaskets-65NB		NOS.	0	60	60	0.35	21.0	0	21
37.5	Gaskets-50NB		NOS.	10	60	70	0.3	20.9	2.88	18
37.6	Gaskets-25NB		NOS.	12	42	54	0.25	13.5	3	10.5
38.2	L- ANGLE-75X75X8mm thk	AA1012508137	MTRS	36	0	36	9	324.0	324	0
38.3	L- ANGLE-50x50x6mm thk	AA1012508080	MTRS	36	72	108	5	540.0	180	360
39.2	C-CHANNEL-ISMIC 100	AA1012708039	MTRS	13	24	37	10	372.0	132	240
40.2	MS PLATES-150x150x8mm thk		NOS.	120	132	252	1.5	378.0	180	198
	STUD WITH TWO NUTS M27X170								0	0
	STUD WITH TWO NUTS M24X150								0	0
	STUD WITH TWO NUTS M20X130								0	0
41.6	STUD WITH TWO NUTS M16X90	PY9752070078	NOS.	163	528	691	0.2	138.2	32.64	105.6
41.7	STUD WITH TWO NUTS M14X70 (25NB) FOR DETECTION ONLY	PY9752070841	NOS.	48	144	192	0.41	78.7	19.68	59.04
42.1	ANCHOR FASTENER M10 X 100	PY9752246028	NOS.	288	528	816	0.35	285.6	100.8	184.8
43.5	U-BOLT GALVANIZED 4"	PY9752207090	NOS.	24	36	60	0.838	50.3	20.112	30.168
43.6	U-BOLT GALVANIZED 3" (M8-80NB)	PY9752207081	NOS.	18	0	18	0.4	7.2	7.2	0
43.8	U-BOLT GALVANIZED 2"(M8-50NB)	PY9752207065	NOS.	60	96	156	0.332	51.8	19.92	31.872
43.1	U-BOLT GALVANIZED 1"(M6-25NB)	PY9752207049	NOS.	72	120	192	0.215	41.3	15.48	25.8
						TOTAL Wt(Kg)	14076.714		6428.43	7648.284
							Total Wt. (MT)	U#1	3.21	3.82
								U#2	3.21	3.82
									6.43	7.65

512- 2x800 MW NTPC Singrauli TPP								
SCHEDULE OF WEIGHT AND DIMENSION - PEM SCOPE OF WORK								
SR. NO	PACKAGE DESCRIPTION	QUANTITY FOR STATION (Nos)	PLAN DIMENSION	WEIGHT		Pkg-A	Pkg-B	REMARKS
				PER UNIT (In Tonnes)	TOTAL FOR STATION (In Tonnes)			
1	SINGLE GIRDER CRANE 1. Compressor House crane 2. RAW WATER PUMP HOUSE crane 3. AUX CT PUMP HOUSE- -screen & gate handling 4. AUX CT PUMP HOUSE crane 5. CW PUMP HOUSE- screen & gate handling	5	15mX3mX2.5m (Each)	6	30	12	18	Area given are average area for one SG CRANE which are tentative & may vary.
2	ELECTRIC HOISTS 1. VACUUM PUMP - 4nos. 2. DMCW TG - 2nos. 3. DMCW SG - 2 nos. 4. CW BUTTERFLY VALVE -2 nos. 5. ACW PUMP - 2 nos. 6. CST Pump House - 1 nos. 7. DM Pump House - 1 nos. 8. CLARIFIED WATER PH -1 nos. 9.ESP CONTROL ROOM UNIT-8 - 1 nos. 10. ESP CONTROL ROOM UNIT-9 - 1 nos. 11. BOILER SWGR ROOM - 1 nos. 12. TG BUILDING (ELEVATOR M/C ROOM) - 2 nos. 13. ESP CONTROL ROOM BUILDING (ELEVATOR M/C ROOM PER UNIT) - 2 nos. 14. SERVICE BUILDING (ELEVATOR M/C ROOM) - 2 nos. 15. FIRE WATER PUMP HOUSE - 1 nos. 16. AC PLANT ROOM - MAIN POWER HOUSE - EL 0.0M - 1 nos.	26	1.5mX2mX2m(Each)	1	26	13	13	Area given are average area for one Electric hoist which are tentative & may vary.
3	Chain pulley block 1. Lube oil unloading - 1 nos. 2. LPBP Valve actuator - 4 nos. 3. Fire water booster pump house - 1 nos.	6	1 mX 1 mX 1 m	0.5	3	1.5	1.5	Area given are average area for one CPB which are tentative & may vary.