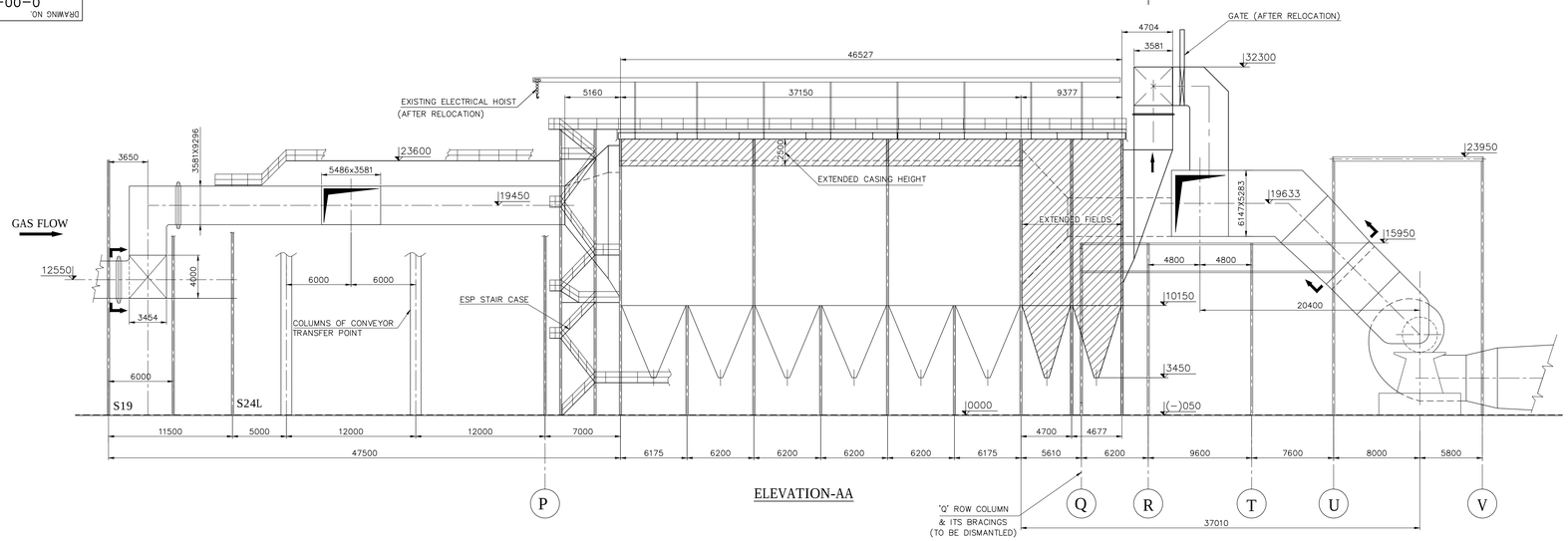
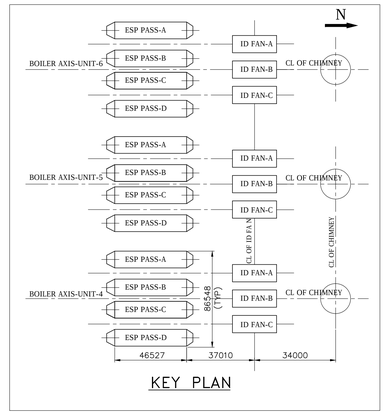
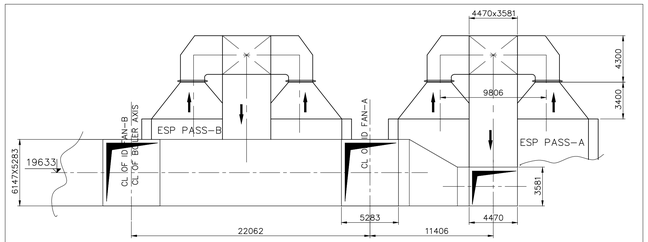
DRAWING NO. 0-00-111-27434

ALL DIMENSIONS ARE IN MILLIMETRES



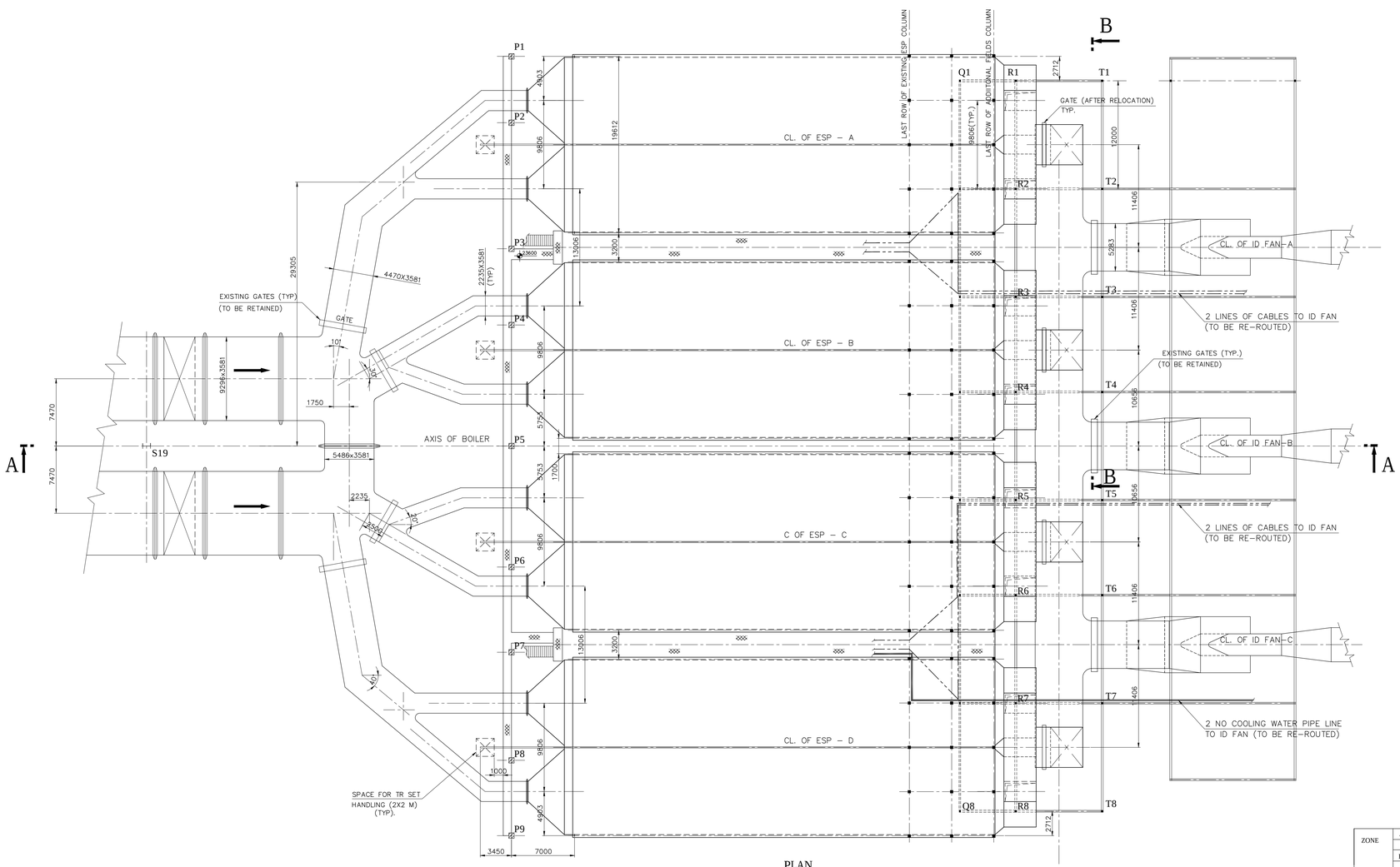




VIEW-AA

ESP OUTLET DUCT CONNECTION FOR ESP-A & B PASS.

MIRROR IMAGE APPLICABLE FOR ESP-C & D PASS.



NOTES:

01. [ ] INDICATES BHEL/TERMINAL POINTS / SCOPE OF SUPPLY.
MODIFIED ESP SIZE: FAA-6X45M+2X30M-2x96150-2; NO OF ESP PER BOILER: 4.
BOB - BOTTOM OF BASE PLATE.
TOF - TOP OF FLOOR GRILL.
(-)50 MM LEVEL REFERS TO ESP AREA GRADE ELEVATION.
(-)350 MM REFERS TO BOB LEVEL OF ESP COLUMN.

02. METHOD OF ESP RENOVATION & RETROFITTING ARE DETAILED BELOW;

A. EXISTING ESP INTERNALS (12.5 M FIELD HEIGHT) WILL BE REPLACED WITH NEW DESIGN INTERNALS OF 15 M TALL FIELD. FIRST SIX FIELDS ARE OF 4.5 M FIELD LENGTH AND REAR TWO FIELDS ARE 3.0 M LENGTH. THE ESP CASING WILL BE EXTENDED VERTICALLY FROM 12.5 M TO 15.0 M AND HORIZONTALLY BY 9.48 M AT OUTLET SIDE TO ACCOMMODATE TWO NEW FIELDS AS SHOWN IN THIS DRAWING VIEW-ELEVATION.

B. THE EXISTING PENT HOUSE WILL BE DISMANTLED TO ACCOMMODATE 15 M TALLER FIELDS.
THE EXISTING ESP OUTLET FUNNEL & ITS DUCTING WILL BE DISMANTLED TO ACCOMMODATE ADDITIONAL FIELDS.

C. THE EXISTING ESP INLET DUCT IS RETAINED AND CONNECTED TO MODIFIED ESP INLET FUNNEL.
ESP OUTLET FUNNEL & ITS DUCTING WILL BE NEW AND CONNECTED TO EXISTING ID FAN BUS DUCT.

D. 4 NOS GATE AT ESP OUTLET COMMON DUCT WILL BE RE-LOCATED AT NEW OUTLET FUNNEL COMMON DUCT AS SHOWN THE DRAWING. OTHER GATES AT ESP INLET DUCT AND AT ID FAN INLET DUCT ARE RETAINED.

03. INTERFERENCES OF EXISTING FACILITIES (ABOVE GROUND LEVEL) AT ESP OUTLET SIDE WITH LOCATION OF ADDIITONAL FIELDS & ITS HOPPER ARE GIVEN BELOW;
TO BE DISMANTLED:
- 'Q' ROW COLUMN (Q1 TO Q8) & ITS BRACING.

TO BE RE-LOCATED / RE-ROUTED:
- CABLES TO ID FAN BETWEEN ESP-A & B PASS AND C & D PASS.
- 2 NUMBER COOLING WATER PIPE LINE TO LUBE OIL SYSTEM OF ID FANS AT 'D' PASS OUTLET.
- ONE NO FIRE HYDRANT PIPE LINE AT UNIT-4 ESP 'D' PASS R.H.S OUTLET.

04. BELOW GROUND LEVEL FACILITIES IF ANY FOUND FOULING WITH FOUNDATION OF ADDITIONAL FIELDS COLUMN DURING EXECUTION ARE TO BE RE-ROUTED / RE-LOCATED BY M/s NTPC.

05. VACANT SPACE AVAILABLE IN THE EXISTING ESP CONTROL ROOM WILL BE MADE USE TO LOCATE ELECTRONIC CONTROL PANELS AND MCC FOR ADDITIONAL FIELDS.

06. EXISTING MATERIALS VIZ. CABLE TRAYS & SUPPORTS, STRUCTURAL MATERIALS, OUTER ROOF IN GOOD CONDITON (AFTER DISMANTLING) WILL BE MADE USE WHEREVER REQUIRED.

07. EXISTING OPACITY MONITORS WILL BE RETAINED FOR RE-USE.

08. ESP LAYOUT DRAWING IS SHOWN FOR ONE UNIT. THE SAME LAYOUT IS APPLICABLE FOR OTHER TWO UNITS.

09. SPACE FOR TR SET HANDLING IS IDENTIFIED AT ESP INLET SIDE. EXISTING ELECTRICAL HOIST WILL BE REUSED.

10. FOR ESP G.A DRAWING REFER BAP DRG NO. 0-00-111-27435 (NTPC DRG NO. 2100-104A-01-PVM-002).

CUSTOMER NOS: R4B9, R4C0 & R4C1

NTPC DRG NO: 2100-104A-01-PVM-004

CUSTOMER : NTPC LIMITED.,
PROJECT : KORBA STPP, STAGE-II (3X500MW)
RENOVATION & RETROFITTING OF ELECTROSTATIC PRECIPITATOR PACKAGE

BHARAT HEAVY ELECTRICALS LIMITED, UNIT: BOILER AUXILIARIES PLANT, RANIPET:632 406.

DEPT CODE	NAME	SIGN	DATE
M	DRN B.BEHERA	-sd-	28.02.13
	CHD M.RAVICHANDRAN		28.02.13
	APPD G.GUNASEKAR		28.02.13

TITLE PLOT PLAN & LAYOUT OF ESP & DUCTING FOR STAGE-II

SCALE : N.T.S

BAP DRAWING NO. 0-00-111-27434

BHEL DRAWING NO. RP-DG-486-107-004

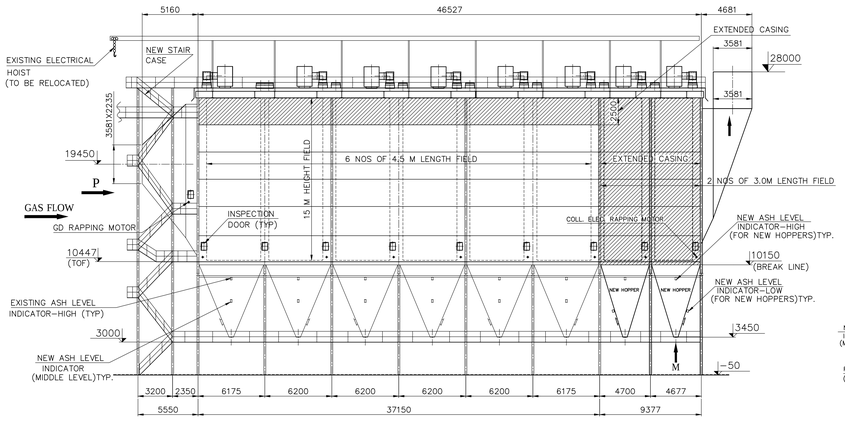
SHEET 1 OF 1 REV 00

ZONE	JOB NO.	STATUS	CONTRACT
	DISTRIBUTION		
	REV	DATE	ALTD: APPD:

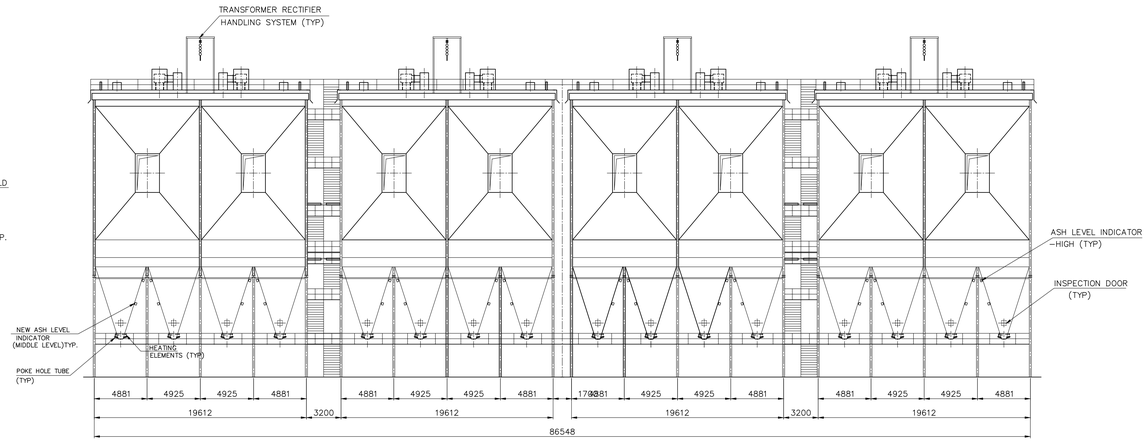
Size A0

DRAWING NO. 0-00-111-27435

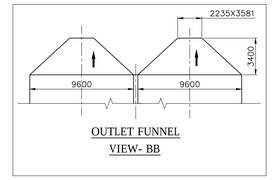
ALL DIMENSIONS ARE IN MILLIMETRES



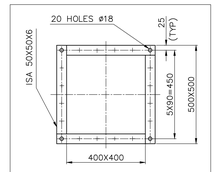
ELEVATION-AA



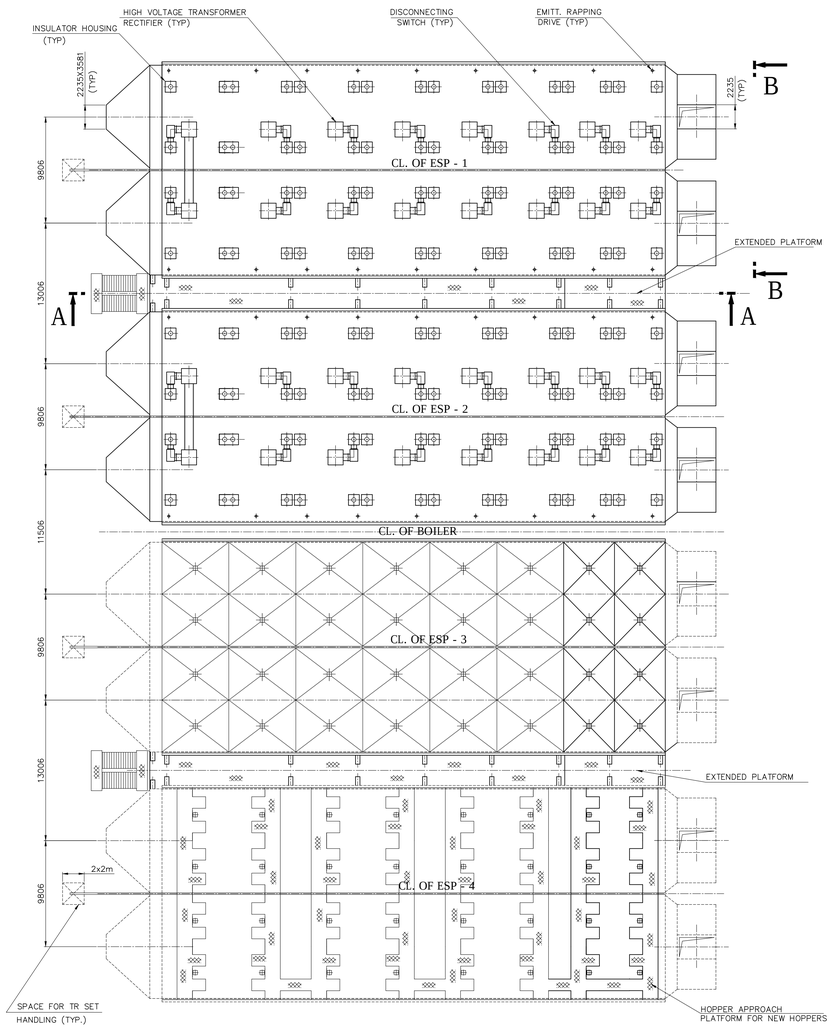
VIEW-P



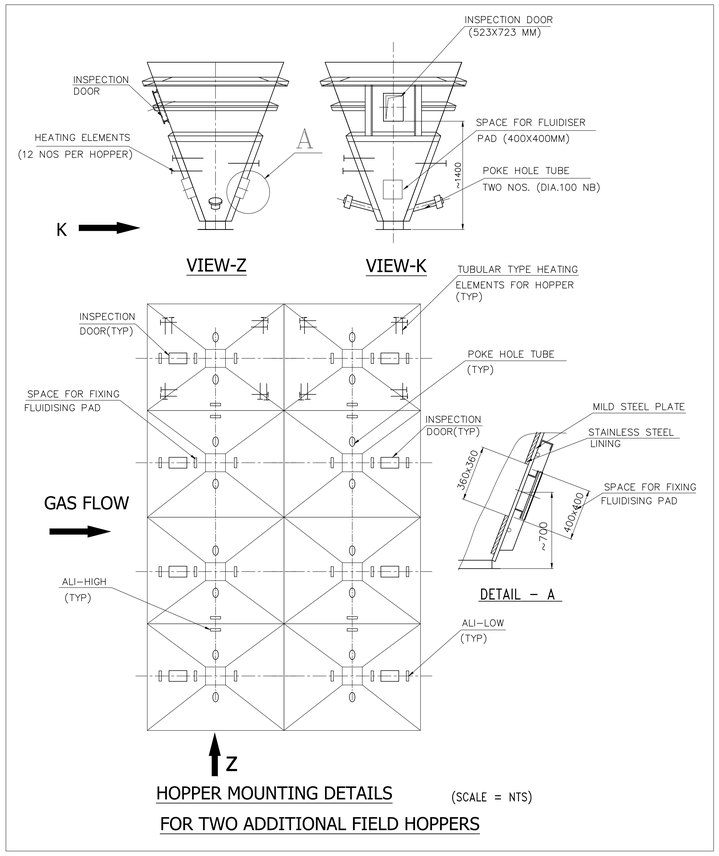
OUTLET FUNNEL
VIEW- BB



HOPPER BOTTOM FLANGE
VIEW-M



PLAN AT ROOF LEVEL / HOPPER BREAK LINE /HOPPER PLATFORM



HOPPER MOUNTING DETAILS (SCALE = NTS)

FOR TWO ADDITIONAL FIELD HOPPERS

NOTES:

01. MODIFIED ESP SIZE: FAA-6X45M+2X30M-2X96150-2; NO OF ESP PASSES PER BOILER: 4.
BOB - BOTTOM OF BASE PLATE.
TOF - TOP OF FLOOR GRILL.
(-) 50 MM REFERS TO ESP AREA GROUND LEVEL.
(-) 350 MM REFERS TO ESP BOTTOM OF BASE PLATE LEVEL.

02. METHOD OF ESP RENOVATION & RETROFITTING ARE DESCRIBED BELOW;
EXISTING ESP INTERNALS (12.5 M FIELD HEIGHT) WILL BE REPLACED WITH NEW DESIGN INTERNALS OF 15 M TALL FIELD. FIRST SIX FIELDS ARE OF 4.5 M FIELD LENGTH AND REAR TWO FIELDS ARE 3.0 M LENGTH. THE ESP CASING ARE EXTENDED VERTICALLY FROM 12.5 M TO 15.0 M AND HORIZONTALLY BY 9.48 M AT OUTLET SIDE AS SHOWN IN THIS DRAWING VIEW-ELEVATION.

03. PLATFORM & STAIR CASE TO BE SUITABLY EXTENDED TO C.E RAPPING DRIVE FOR ADDITONAL FIELDS AND ROOF TOP.

04. EXISTING HOPPER & ITS MOUNTINGS VIZ. HOPPER HEATER, THERMOSTAT, ASH LEVEL INDICATOR-HIGH LEVEL ARE RETAINED.

05. IN EXISTING HOPPER, NEW ASH LEVEL INDICATOR ONE NUMBER EACH AT MIDDLE LEVEL OF HOPPER WIL BE PROVIDED.

06. FOR NEW HOPPER, HOPPER MOUNTING DETAILS ARE SHOWN IN THIS DRAWING IN DETAIL. ONE NO. ASH LEVEL INDICATOR- HIGH & LOW FOR EACH HOPPER WILL BE PROVIDED.

07. INSTALLATION OF FLUIDISER PADS IN THE ADDITIONAL FIELD HOPPERS:

A) PROVISION IS MADE IN THE BOTTOM PORTION OF THE NEW HOPPERS FOR INSTALLING FLUIDISER PADS ON THE 2 OPPOSITE SIDE. FOR THIS PURPOSE 400X400MM FREE SPACE IS PROVIDED ON THE OPPOSITE SIDES (2 SIDES) OF EACH HOPPER.
HOWEVER, FOR EASY FIXING OF FLUIDISER PADS, THE STAINLESS STEEL LINING INSIDE THE HOPPER TO THE EXTENT OF 360X360MM WILL BE CUT AT BHEL WORKS DURING MANUFACTURING. THE HOPPER WALL TO THE REQUIRED DIMENSION SHALL BE CUT AT SITE BY ASH HANDLING SYSTEM VENDOR / ASH HANDLING SYSTEM EXECUTING AGENCY AT THE TIME OF INSTALLING FLUIDISER PADS.

B) THERMAL INSULATION SHALL BE APPLIED ON FLUIDIZING PADS AREA AFTER THE SAME IS INSTALLED BY THE ASH HANDLING SUPPLIER.

C) IN CASE ANY OF THE COMPONENTS OF ASH HANDLING SYSTEM IS TO BE SUPPORTED BELOW HOPPER, THE SUPPORT SHALL BE TAKEN FROM NEIGHBOURING COLUMN OR FROM GROUND. THE HOPPER WALLS SHALL NOT BE WELDED WITH STEEL MEMBERS FOR SUPPORTING OF ANY PIPE LINES, TRAYS ETC.,

D) THE ASH HANDLING SYSTEM SHOULD HAVE AN EXPANSION JOINT BELOW THE HOPPER OUTLET FLANGE TO TAKE CARE OF THERMAL EXPANSION DURING OPERATION.

08. EXISTING INSULATION & CLADDING WILL BE REPLACED WITH NEW LRB MINERAL WOOL OF 75 MM THICK AND CLADDING SHEET OF PLAIN ALUMINIUM SHEET OF 0.71 MM THICK FOR THE EXTENDED PORTION OF CASING, FUNNEL AND ROOF.

09. EXISTING MATERIALS VIZ. FLOOR GRILL, STAIR CASE, HAND RAILS, CABLE TRAYS & ITS SUPPORTS, OTHER STRUCTURAL MATERIALS, (AFTER DISMANTLING) WILL BE MADE USE WHEREVER REQUIRED..

10. EXISTING OPACITY MONITORS WILL BE RETAINED FOR RE-USE.

11. FOR PLOT PLAN & LAYOUT OF ESP & DUCTING DRAWING REFER BAP DRG NO. 0-00-111-27434 (NTPC DRG NO. 2100-104A-01-PVM-004).

12. THIS ESP G.A DRAWING IS FOR ONE UNIT AND THE SAME IS APPLICABLE FOR OTHER TWO UNITS ALSO.

CUSTOMER NOS: R4B9,R4C0,R4C1

NTPC DRG NO: 2100-104A-01-PVM-002

CUSTOMER : NTPC LIMITED.,
PROJECT : KORBA STPP, STAGE-II (3X500MW)
RENOVATION & RETROFITTING OF ELECTROSTATIC PRECIPITATOR PACKAGE

JOB NO.	STATUS	CONTRACT
DISTRIBUTION		
ZONE	REV	DATE	ALTD:	CHD:	APPD:

BHARAT HEAVY ELECTRICALS LIMITED, UNIT: BOILER AUXILIARIES PLANT, RANIPET-632 406.

DEPT CODE		NAME	SIGN	DATE
M	DRN	R.HEMAMALINI	-sd-	26.02.13
	CHD	M.RAVICHANDRAN		26.02.13
	APPD	G.GUNASEKAR		26.02.13

TITLE: GENERAL ARRANGEMENT OF RETROFITTED ESP FOR STAGE-II

SCALE : N.T.S

BAP DRAWING NO. 0-00-111-27435

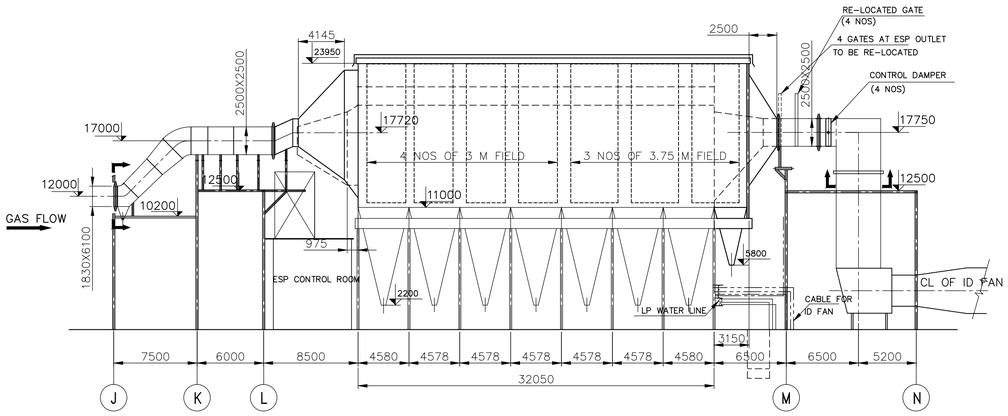
BHEL DRAWING NO. RP-DG-4B6-107-002

SHEET 1 OF 1 REV 00

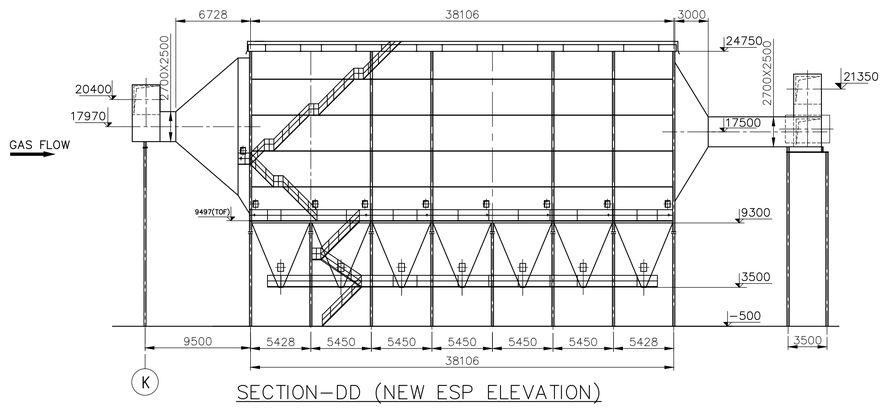
Size A0

DRAWING NO. 1-00-111-28767

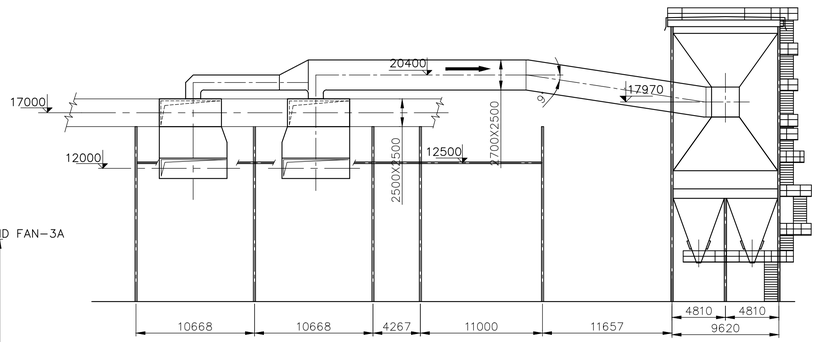
ALL DIMENSIONS ARE IN MILLIMETRES



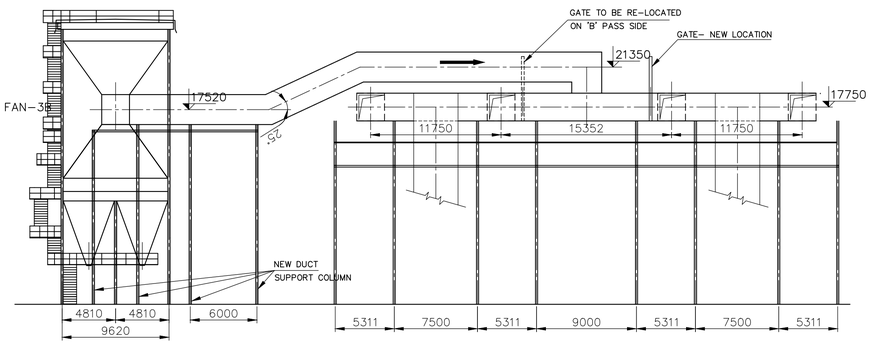
SECTION–AA (ELEVATION OF MODIFIED ESP WITH EXTENDED CASING)



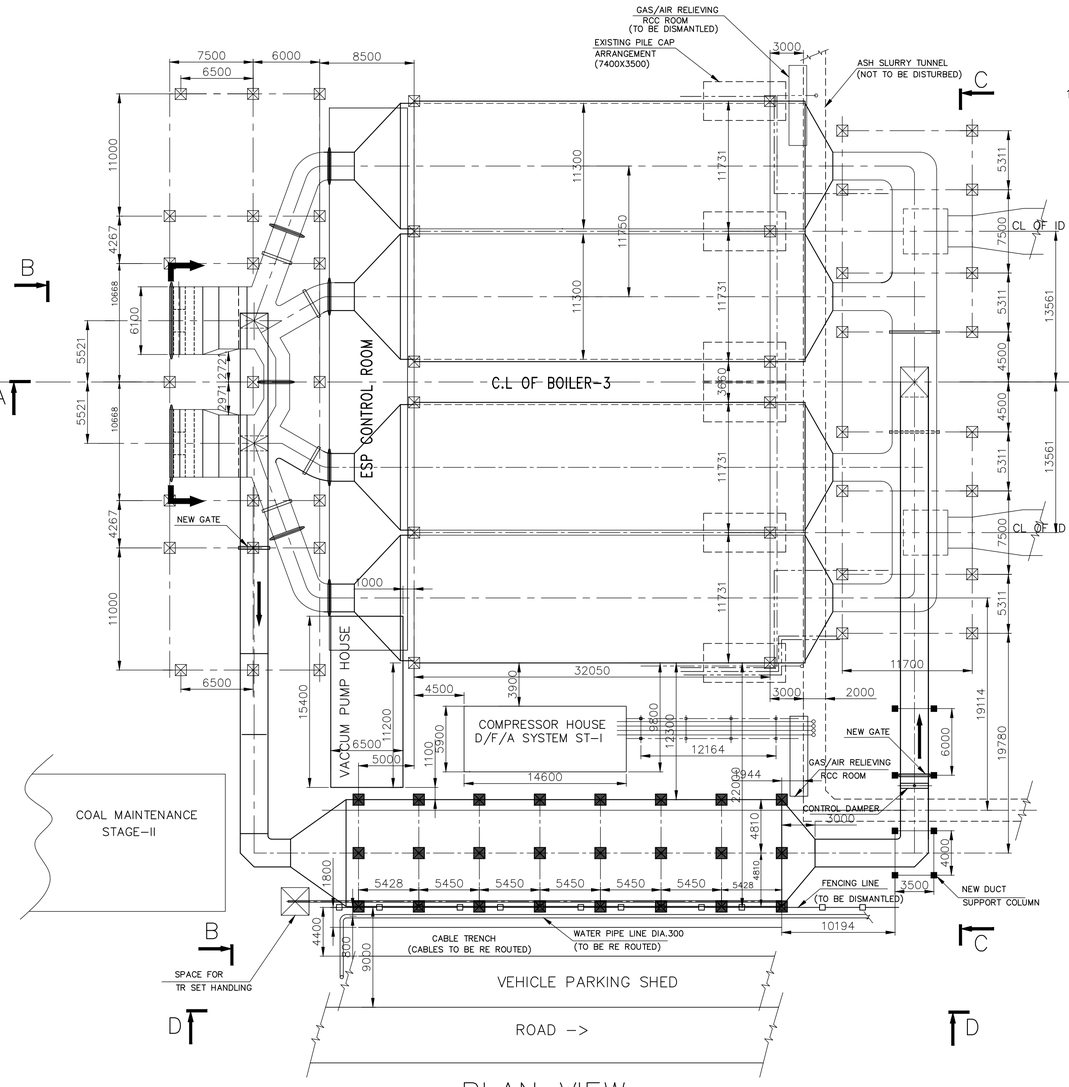
SECTION–DD (NEW ESP ELEVATION)



VIEW–BB (NEW ESP INLET DUCT ARRANGEMENT)



VIEW–CC (NEW ESP OUTLET DUCT ARRANGEMENT)



PLAN VIEW

NOTES:

[ ] INDICATES BHEL/TERMINAL POINTS / SCOPE OF SUPPLY.

MODIFIED ESP SIZE: 2FAA–4X30M+3X37.5M–108150–2; NO OF ESP PER BOILER: 2.
ADDITIONAL NEW ESP SIZE: FAA–7X37.5M–92150–2; NO OF ESP PER BOILER: 1.
BOB – BOTTOM OF BASE PLATE.
TOF – TOP OF FLOOR GRILL.

01. 0000 LEVEL REFERS TO THE FINISHED FLOOR LEVEL (FFL) OF TG AREA.
–500 MM REFERS TO BOB LEVEL OF ESP/DUCT SUPPORT COLUMN.

02. METHOD OF ESP RENOVATION & RETROFITTING ARE DETAILED BELOW;

A. EXISTING ESP INTERNALS ARE TO BE REPLACED WITH NEW DESIGN INTERNALS OF 12.5 M TALL FIELD. FIRST FOUR FIELDS ARE OF 3.0 M FIELD LENGTH AND REAR THREE FIELDS ARE 3.75 M LENGTH. HENCE, THE ESP CASING ARE EXTENDED VERTICALLY FROM 9.0 M TO 12.5 M AND HORIZONTALLY BY 3.15 M AT OUTLET SIDE AS SHOWN IN SECTION–AA.
ADDITONAL NEW ESP IS INSTALLED AT R.H.S OF EXISTING MODIFIED ESP BY THE SIDE OF VACCUM PUMP HOUSE / COMPRESSOR HOUSE. NEW ESP WILL HAVE SEVEN FILEDS OF 3.75 M LENGTH AND 15.0 M TALL FIELD.
ADDITONAL NEW ESP WILL BE CONNECTED BY DUCTING SYSTEM WITH EXISTING COMMON DUCT AS SHOWN IN VIEW–BB AND VIEW–CC. NEW DUCT COLUMN LOCATION ARE SHOWN IN THE DRAWING.

B. THE EXISTING ESP INLET DUCT IS MODIFIED TO MATCH WITH NEW FUNNEL ELEVATION AND DUCT FROM APH OUTLET TO ESP INLET ALONG WITH GATE IS RETAINED. ESP OUTLET FUNNEL AT EXTENDED CASING WILL BE CONNECTED TO EXISTING OUTLET DUCT.

C. EXISTING GATE AT ESP OUTLET DUCT AND AT COMMON DUCT WILL BE RE–LOCATED TO ENABLE ERECTION OF OUTLET FUNNEL AND NEW ESP OUTLET DUCT CONNECTION TO COMMON DUCT.

D. GATE AT NEW ESP INLET DUCT AND GATE & CONTROL DAMPER AT OUTLET DUCT IS MARKED IN PLAN VIEW. CONTROL DAMPER LOCATION AT MODIFIED ESP OUTLET DUCT IS MARKED IN SECTION–AA

03. INTERFERENCES OF EXISTING FACILITIES (ABOVE GROUND) WITH LOCATION OF EXTENDED CASING & ITS HOPPER, LOCATION OF ADDITIONAL NEW ESP ARE GIVEN BELOW;

TO BE RE–LOCATED / RE–ROUTED:
– CABLES TO ID FAN 3A & 3B, AIR LINE, COOLING WATER LINE TO LUBE OIL SYSTEM OF ID FANS.
– CABLES TO ASH SLURRY PUMP HOUSE.
– LP WATER HEADER PIPE LINE
– WATER PIPE LINE (DIA.300 MM) NEAR FENCING LINE
– CABLE LINE AT CABLE TRENCH(IF REQUIRED).

TO BE DISMANTLED:
– SMALL RCC ROOM (GAS & AIR RELIEVING ROOM) NEAR 'A' PASS SIDE.
– FENCING LINE NEAR PARKING SHED.
– MILL MAINTENANCE RECLAIMATION YARD..

NOT TO BE DISTURBED:
– ASH SLURRY TUNNEL BELOW GROUND LEVEL BETWEEN ESP OUTLET AND ID FAN..

04. BELOW GROUND LEVEL FACILITIES FOULING WITH FOUNDATION OF ESP/DUCT COLUMN DURING EXECUTION ARE TO BE RE–ROUTED / RE–LOCATED BY M/s NTPC.

05. EXISTING PILE CAP DETAILS ARE MARKED AT THE LAST ROW OF ESP COLUMN FOR REFERENCE.

06. INSULATION & CLADDING SHEET WILL BE REPLACED FROM APH OUTLET TO ID FAN INLET DUCT ALONG WITH METALLIC EXPANSION JOINT.

07. EXISTING ESP CONTROL ROOM IS RETAINED TO HOUSE TR SET EC PANELS OF MODIFIED & NEW ESP. ESP LTMSB & ACP PANELS OF EXISTING ESP MAY BE REPLACED AFTER RECEIPT OF AMENDMENT TO ORDER AT LATER DATE. IN CASE OF REPLACEMENT OF PANELS, EXISTING SPACE WILL BE MADE USE FOR LOCATING NEW ESP SWITCH GEAR PANEL.

08. NEW SERVICE TRANSFORMER WILL BE LOCATED ADJACENT TO AIR RECEIVER TANK & ESP CONTROL ROOM.

09. EXISTING MATERIALS VIZ. CABLE TRAYS & SUPPORTS, STRUCTURAL MATERIALS, OUTER ROOF IN GOOD CONDITON (AFTER DISMANTLING) WILL BE MADE USE WHEREVER REQUIRED.

10. EXISTING OPACITY MONITORS WILL BE RETAINED FOR RE–USE.

CUSTOMER NOS: R4B6, R4B7 & R4B8

ZONE	JOB NO.	STATUS	CONTRACT
	DISTRIBUTION		
	REV | DATE | ALTD: | CHD: | APPD:		

NTPC DRG NO: 2100–104A–01–PVM–003

CUSTOMER : NTPC LIMITED.,
PROJECT : KORBA STPP, STAGE–I (3X200MW)
RENOVATION & RETROFITTING OF ELECTROSTATIC PRECIPITATOR PACKAGE

BHARAT HEAVY ELECTRICALS LIMITED.
UNIT: BOILER AUXILIARIES PLANT,
RANIPET:632 406.

DEPT CODE		NAME	SIGN	DATE
M	DRN	R.HEMAMALINI	–sd–	04.02.13
	CHD	M.RAVICHANDRAN		04.02.13
	APPD	G.GUNASEKAR		04.02.13

TITLE PLOT PLAN & LAYOUT OF ESP & DUCTING FOR STAGE–1 (UNIT–3)

SCALE : N.T.S

BAP DRAWING NO. 1–00–111–28767

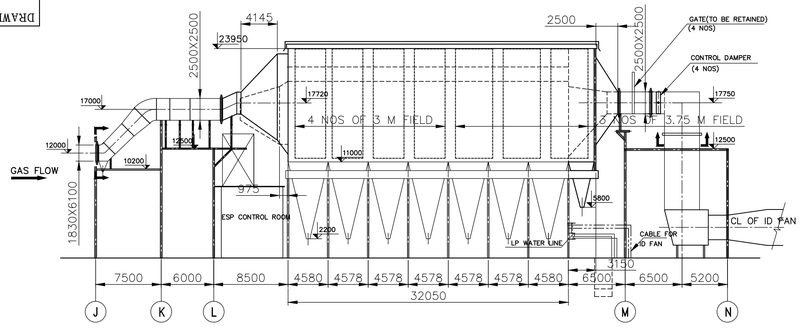
BHEL DRAWING NO. RP–DG–486–107–003

SHEET 2 OF 2 REV 00

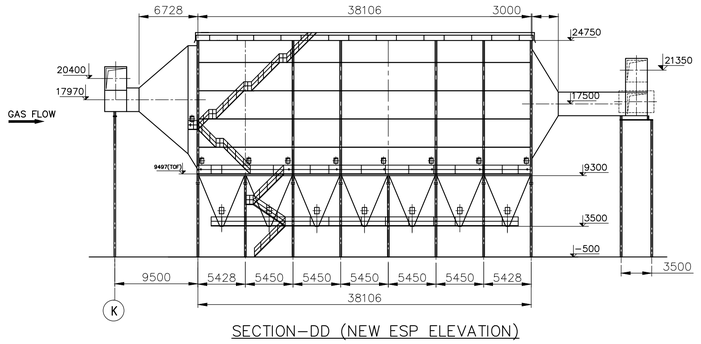
Size A1

DRAWING NO. 1-00-111-28766

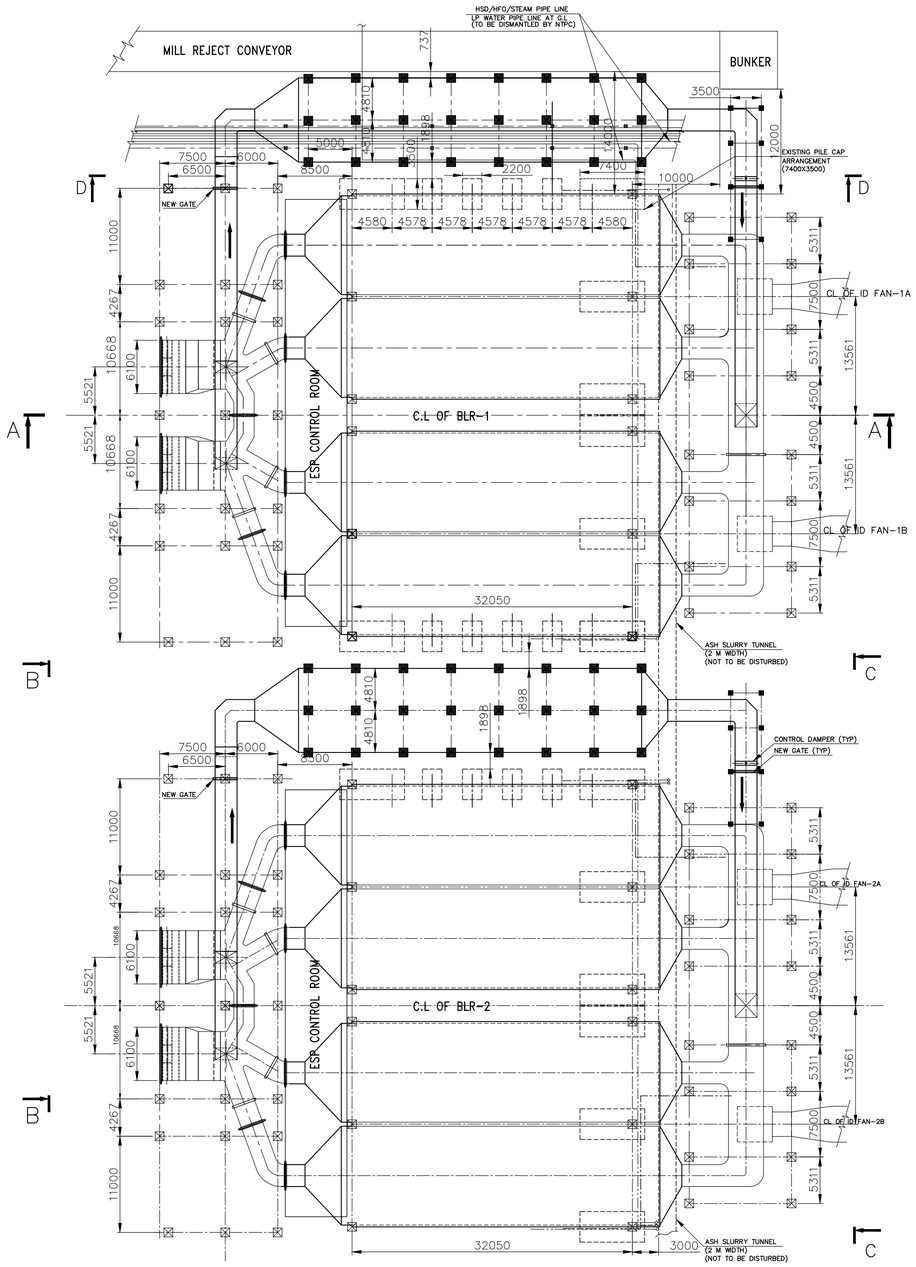
ALL DIMENSIONS ARE IN MILLIMETRES



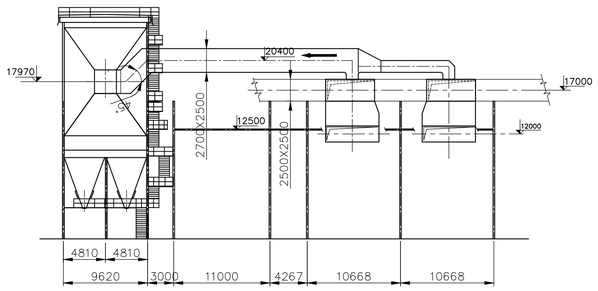
SECTION–AA (ELEVATION OF MODIFIED ESP WITH EXTENDED CASING)



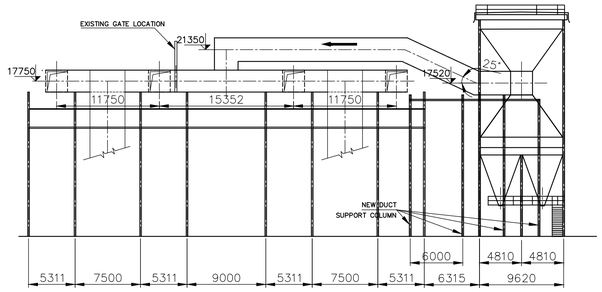
SECTION–DD (NEW ESP ELEVATION)



PLAN VIEW



VIEW–BB (NEW ESP INLET DUCT ARRANGEMENT)
APPLICABLE FOR UNIT 1&2



VIEW–CC (NEW ESP OUTLET DUCT ARRANGEMENT)
APPLICABLE FOR UNIT 1&2

NOTES:

[ ] INDICATES BHEL/TERMINAL POINTS / SCOPE OF SUPPLY.
MODIFIED ESP SIZE: 2FAA–4X30M+3X37.5M–108150–2; NO OF ESP PER BOILER: 2.
ADDITIONAL NEW ESP SIZE: FAA–7X37.5M–92150–2; NO OF ESP PER BOILER: 1.
BOB – BOTTOM OF BASE PLATE.
TOF – TOP OF FLOOR GRILL.

01. 0.000 LEVEL REFERS TO THE FINISHED FLOOR LEVEL (FFL) OF TG AREA. –500 MM REFERS TO BOB LEVEL OF ESP/DUCT SUPPORT COLUMN.

02. METHOD OF ESP RENOVATION & RETROFITTING ARE DETAILED BELOW;

A. EXISTING ESP INTERNALS ARE TO BE REPLACED WITH NEW DESIGN INTERNALS OF 12.5 M TALL FIELD. FIRST FOUR FIELDS ARE OF 3.0 M FIELD LENGTH AND REAR THREE FIELDS ARE 3.75 M LENGTH. HENCE, THE ESP CASING ARE EXTENDED VERTICALLY FROM 9.0 M TO 12.5 M AND HORIZONTALLY BY 3.15 M AT OUTLET SIDE AS SHOWN IN SECTION–AA.
ADDITIONAL NEW ESP IS INSTALLED AT L.H.S OF EXISTING ESP. NEW ESP WILL HAVE SEVEN FIELDS OF 3.75 M LENGTH AND 15.0 M TALL FIELD.
ADDITIONAL NEW ESP WILL BE CONNECTED BY DUCTING SYSTEM WITH EXISTING COMMON DUCT AS SHOWN IN VIEW–BB AND VIEW–CC. NEW DUCT COLUMN LOCATION ARE SHOWN IN THE DRAWING.

B. THE EXISTING ESP INLET DUCT IS MODIFIED TO MATCH WITH NEW FUNNEL ELEVATION AND DUCT FROM APH OUTLET TO ESP INLET ALONG WITH GATE IS RETAINED. ESP OUTLET FUNNEL AT EXTENDED CASING WILL BE CONNECTED TO EXISTING OUTLET DUCT.

C. GATE AT NEW ESP INLET DUCT AND GATE & CONTROL DAMPER AT OUTLET DUCT IS MARKED IN PLAN VIEW. CONTROL DAMPER LOCATION AT MODIFIED ESP OUTLET DUCT IS MARKED IN SECTION–AA

03. INTERFERENCES OF EXISTING FACILITIES (ABOVE GROUND) WITH LOCATION OF EXTENDED CASING & ITS HOPPER, LOCATION OF ADDITIONAL NEW ESP ARE GIVEN BELOW;

TO BE RE–LOCATED / RE–ROUTED:
– CABLES TO ID FAN 3A & 3B.
– INSTRUMENT AIR LINE, COOLING WATER LINE TO LUBE OIL SYSTEM OF ID FANS.
– LP WATER HEADER PIPE LINE

TO BE DISMANTLED:
– HSD/HFO/STEAM PIPE LINE AT 4 M ELEVATION, LP WATER PIPE LINE AT G.L BY L.H.S SIDE OF UNIT–1 ESP TO BE DISMANTLEDM/s NTPC.

NOT TO BE DISTURBED:
– ASH SLURRY TUNNEL BELOW GROUND LEVEL BETWEEN ESP OUTLET AND ID FAN..

04. BELOW GROUND LEVEL FACILITIES FOULING WITH FOUNDATION OF ESP/DUCT COLUMN DURING EXECUTION ARE TO BE RE–ROUTED / RE–LOCATED BY M/s NTPC.

05. EXISTING PILE CAP DETAILS ARE MARKED AT THE LAST ROW OF ESP COLUMN FOR REFERENCE.

06. INSULATION & CLADDING SHEET WILL BE REPLACED FROM APH OUTLET TO ID FAN INLET DUCT ALONG WITH METALLIC EXPANSION JOINT.

07. EXISTING ESP CONTROL ROOM IS RETAINED TO HOUSE TR SET EC PANELS OF MODIFIED & NEW ESP. ESP LTMSB & ACP PANELS OF EXISTING ESP MAY BE REPLACED AFTER RECEIPT OF AMENDMENT TO ORDER AT LATER DATE. IN CASE OF REPLACEMENT OF PANELS, EXISTING SPACE WILL BE MADE USE FOR LOCATING NEW ESP SWITCH GEAR PANEL.

08. NEW SERVICE TRANSFORMER WILL BE LOCATED ADJACENT TO AIR RECEIVER TANK & ESP CONTROL ROOM.

09. EXISTING MATERIALS VIZ. CABLE TRAYS & SUPPORTS, STRUCTURAL MATERIALS, OUTER ROOF IN GOOD CONDITON (AFTER DISMANTLING) WILL BE MADE USE WHEREVER REQUIRED.

10. EXISTING OPACITY MONITORS WILL BE RETAINED FOR RE–USE.

CUSTOMER NOS: R4B6, R4B7 & R4B8

NTPC DRG NO: 2100–104A–01–PVM–003

CUSTOMER : NTPC LIMITED.,
PROJECT : KORBA STPP, STAGE–I (3X200MW)
RENOVATION & RETROFITTING OF ELECTROSTATIC PRECIPITATOR PACKAGE

BHARAT HEAVY ELECTRICALS LIMITED, UNIT: BOILER AUXILIARIES PLANT, RANIPET-632 406.

DEPT CODE		NAME	SIGN	DATE
M	DRN	R.HEMAMALINI	–sd–	04.02.13
	CHD	M.RAVICHANDRAN		04.02.13
	APPD	G.GUNASEKAR		04.02.13

TITLE PLOT PLAN & LAYOUT OF ESP & DUCTING FOR STAGE–1 (UNIT–1&2) — SCALE : N.T.S

BAP DRAWING NO. 1-00-111-28766

BHEL DRAWING NO. RP–DG–486–107–003

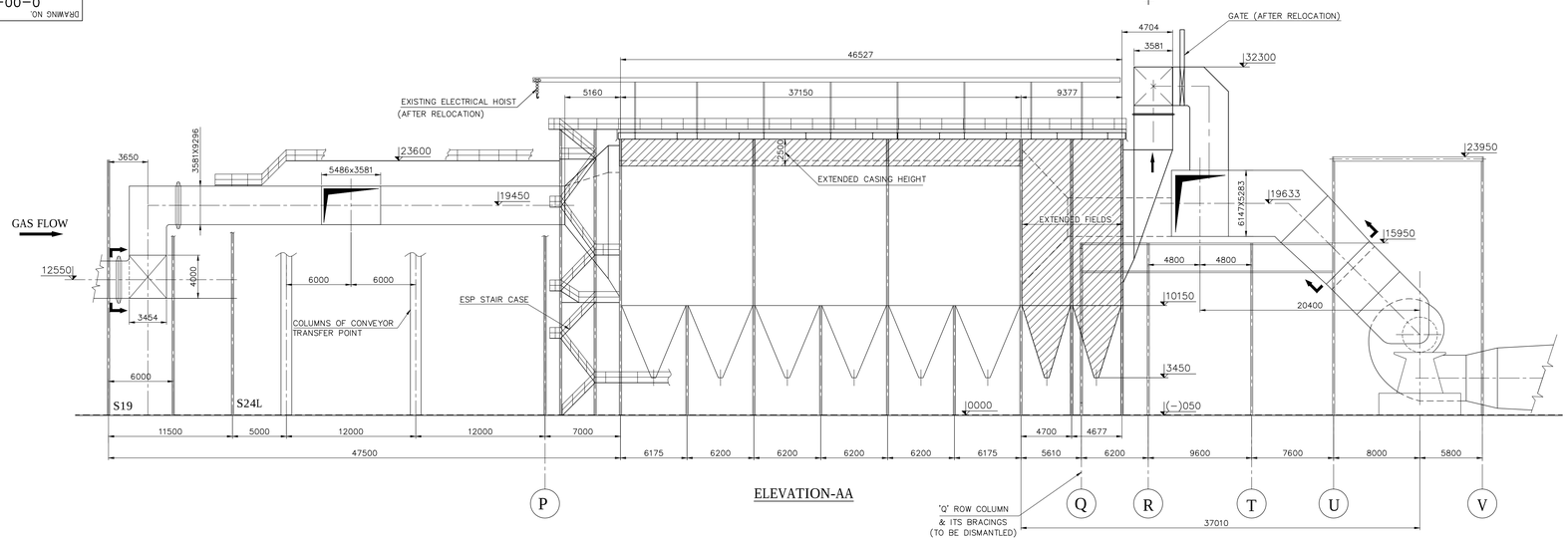
SHEET 1 OF 2 — REV 00

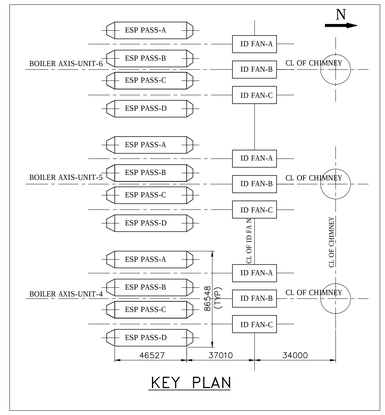
ZONE	JOB NO.	STATUS	CONTRACT
	DISTRIBUTION		
	REV. | DATE. | ALTD: | CHD: | APPD:		

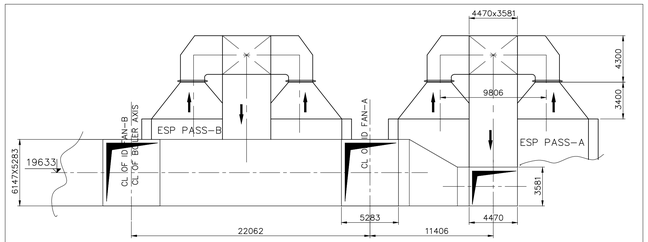
Size A1

DRAWING NO. 0-00-111-27434

ALL DIMENSIONS ARE IN MILLIMETRES



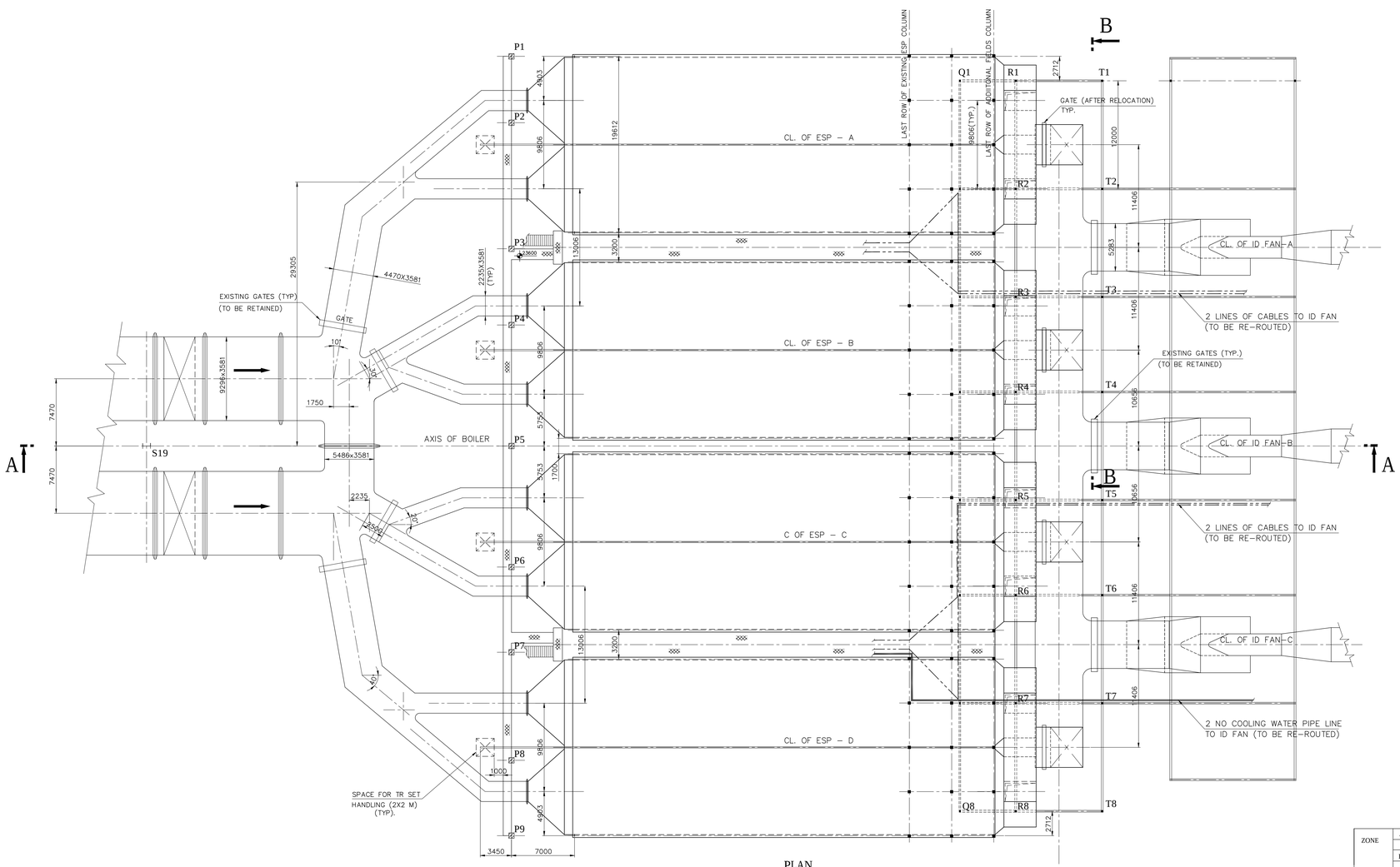




VIEW-AA

ESP OUTLET DUCT CONNECTION FOR ESP-A & B PASS.

MIRROR IMAGE APPLICABLE FOR ESP-C & D PASS.



NOTES:

01. [ ] INDICATES BHEL/TERMINAL POINTS / SCOPE OF SUPPLY.
MODIFIED ESP SIZE: FAA-6X45M+2X30M-2x96150-2; NO OF ESP PER BOILER: 4.
BOB - BOTTOM OF BASE PLATE.
TOF - TOP OF FLOOR GRILL.
(-)50 MM LEVEL REFERS TO ESP AREA GRADE ELEVATION.
(-)350 MM REFERS TO BOB LEVEL OF ESP COLUMN.

02. METHOD OF ESP RENOVATION & RETROFITTING ARE DETAILED BELOW;

A. EXISTING ESP INTERNALS (12.5 M FIELD HEIGHT) WILL BE REPLACED WITH NEW DESIGN INTERNALS OF 15 M TALL FIELD. FIRST SIX FIELDS ARE OF 4.5 M FIELD LENGTH AND REAR TWO FIELDS ARE 3.0 M LENGTH. THE ESP CASING WILL BE EXTENDED VERTICALLY FROM 12.5 M TO 15.0 M AND HORIZONTALLY BY 9.48 M AT OUTLET SIDE TO ACCOMMODATE TWO NEW FIELDS AS SHOWN IN THIS DRAWING VIEW-ELEVATION.

B. THE EXISTING PENT HOUSE WILL BE DISMANTLED TO ACCOMMODATE 15 M TALLER FIELDS.
THE EXISTING ESP OUTLET FUNNEL & ITS DUCTING WILL BE DISMANTLED TO ACCOMMODATE ADDITIONAL FIELDS.

C. THE EXISTING ESP INLET DUCT IS RETAINED AND CONNECTED TO MODIFIED ESP INLET FUNNEL.
ESP OUTLET FUNNEL & ITS DUCTING WILL BE NEW AND CONNECTED TO EXISTING ID FAN BUS DUCT.

D. 4 NOS GATE AT ESP OUTLET COMMON DUCT WILL BE RE-LOCATED AT NEW OUTLET FUNNEL COMMON DUCT AS SHOWN THE DRAWING. OTHER GATES AT ESP INLET DUCT AND AT ID FAN INLET DUCT ARE RETAINED.

03. INTERFERENCES OF EXISTING FACILITIES (ABOVE GROUND LEVEL) AT ESP OUTLET SIDE WITH LOCATION OF ADDIITONAL FIELDS & ITS HOPPER ARE GIVEN BELOW;
TO BE DISMANTLED:
- 'Q' ROW COLUMN (Q1 TO Q8) & ITS BRACING.

TO BE RE-LOCATED / RE-ROUTED:
- CABLES TO ID FAN BETWEEN ESP-A & B PASS AND C & D PASS.
- 2 NUMBER COOLING WATER PIPE LINE TO LUBE OIL SYSTEM OF ID FANS AT 'D' PASS OUTLET.
- ONE NO FIRE HYDRANT PIPE LINE AT UNIT-4 ESP 'D' PASS R.H.S OUTLET.

04. BELOW GROUND LEVEL FACILITIES IF ANY FOUND FOULING WITH FOUNDATION OF ADDITIONAL FIELDS COLUMN DURING EXECUTION ARE TO BE RE-ROUTED / RE-LOCATED BY M/s NTPC.

05. VACANT SPACE AVAILABLE IN THE EXISTING ESP CONTROL ROOM WILL BE MADE USE TO LOCATE ELECTRONIC CONTROL PANELS AND MCC FOR ADDITIONAL FIELDS.

06. EXISTING MATERIALS VIZ. CABLE TRAYS & SUPPORTS, STRUCTURAL MATERIALS, OUTER ROOF IN GOOD CONDITON (AFTER DISMANTLING) WILL BE MADE USE WHEREVER REQUIRED.

07. EXISTING OPACITY MONITORS WILL BE RETAINED FOR RE-USE.

08. ESP LAYOUT DRAWING IS SHOWN FOR ONE UNIT. THE SAME LAYOUT IS APPLICABLE FOR OTHER TWO UNITS.

09. SPACE FOR TR SET HANDLING IS IDENTIFIED AT ESP INLET SIDE. EXISTING ELECTRICAL HOIST WILL BE REUSED.

10. FOR ESP G.A DRAWING REFER BAP DRG NO. 0-00-111-27435 (NTPC DRG NO. 2100-104A-01-PVM-002).

CUSTOMER NOS: R4B9, R4C0 & R4C1

NTPC DRG NO: 2100-104A-01-PVM-004

CUSTOMER : NTPC LIMITED.,
PROJECT : KORBA STPP, STAGE-II (3X500MW)
RENOVATION & RETROFITTING OF ELECTROSTATIC PRECIPITATOR PACKAGE

BHARAT HEAVY ELECTRICALS LIMITED, UNIT: BOILER AUXILIARIES PLANT, RANIPET:632 406.

DEPT CODE	NAME	SIGN	DATE
M	DRN B.BEHERA	-sd-	28.02.13
	CHD M.RAVICHANDRAN		28.02.13
	APPD G.GUNASEKAR		28.02.13

TITLE PLOT PLAN & LAYOUT OF ESP & DUCTING FOR STAGE-II

SCALE : N.T.S

BAP DRAWING NO. 0-00-111-27434

BHEL DRAWING NO. RP-DG-486-107-004

SHEET 1 OF 1 REV 00

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