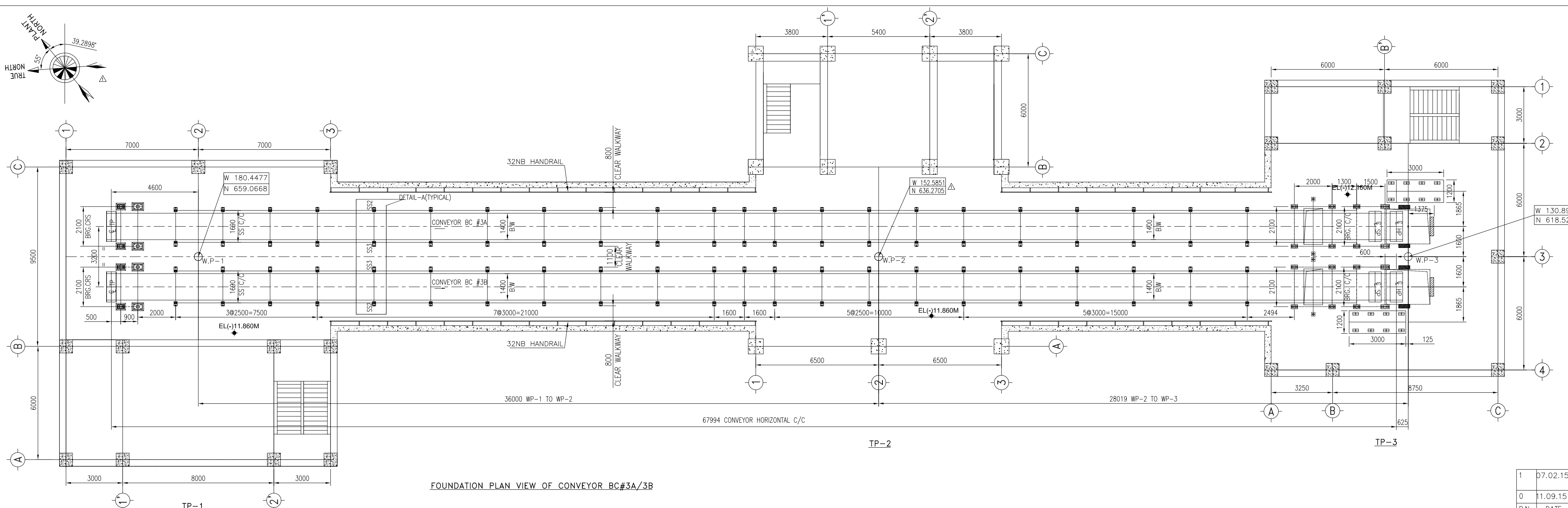
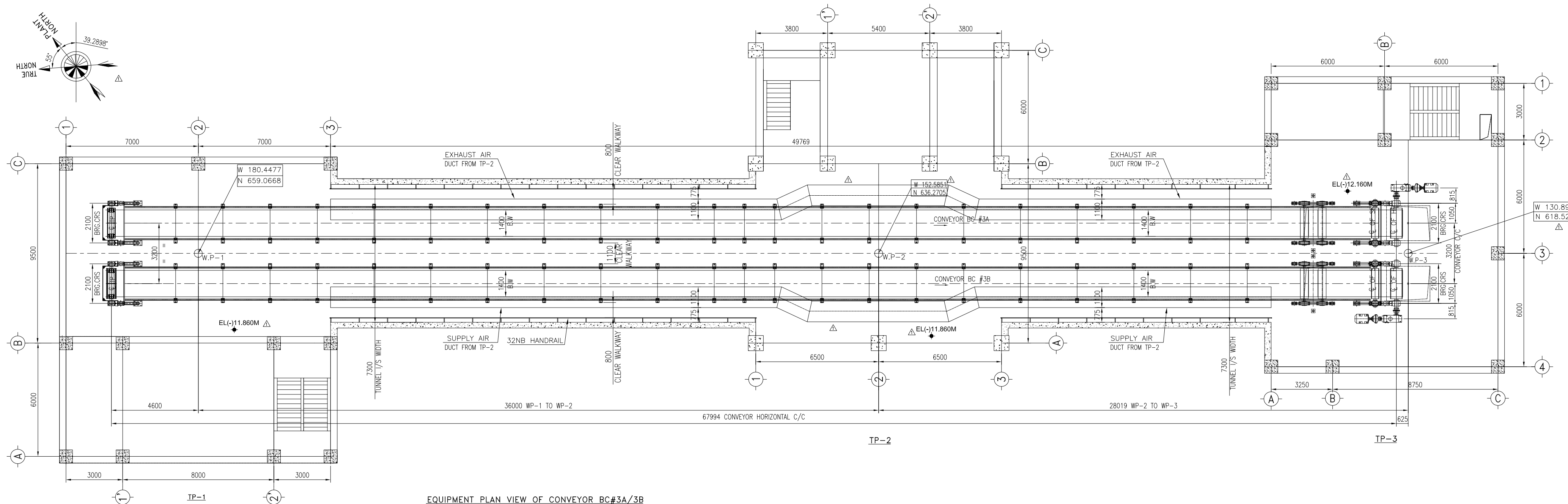
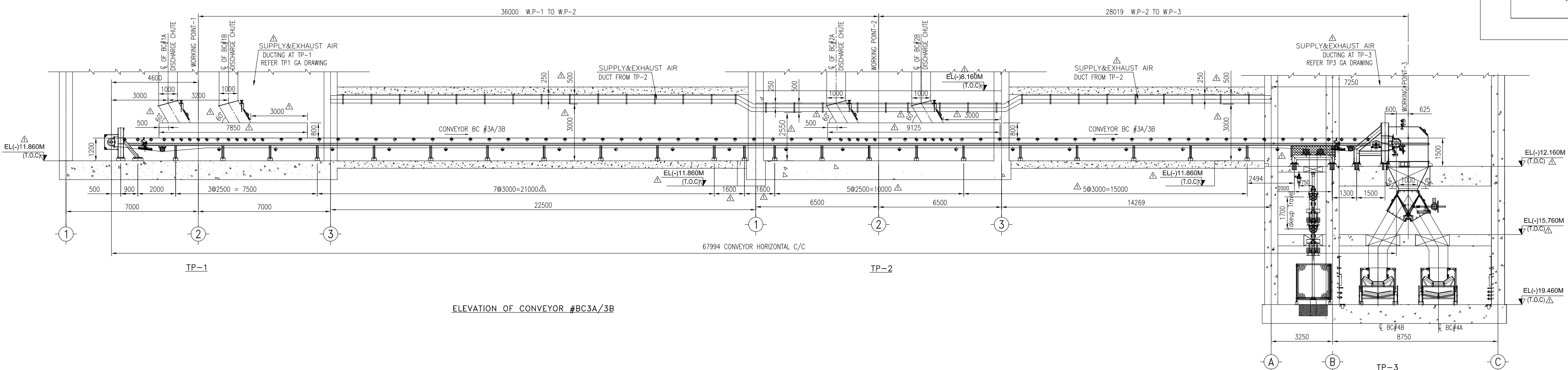
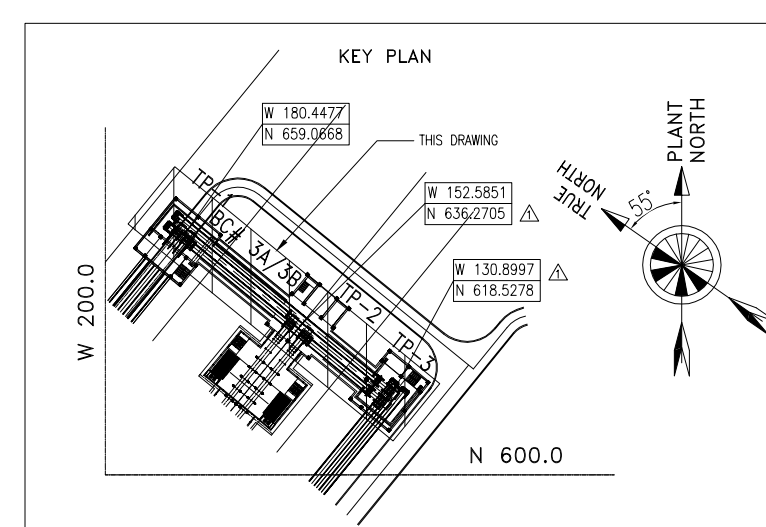




TECHNICAL SPECIFICATION										QTY FOR EACH
CONVEYOR IS: 1582	MATERIAL HANDLED	CONVEYOR NO/EQUIPMENT NO.		BC #34/3B						1 NO EACH
		RATED CAPACITY/DESIGN CAPACITY (T.P/H)		1200/1320						-
		BELT WIDTH (MM)/TROUSING ANGLE		1400 / 35 DEG						-
		VERTICAL LIFT (MM)		0.0						-
		HORIZONTAL CRS. (MM)		67994						-
		PROFILE LENGTH (MM)		67994						-
		ENDLESS BELT LENGTH(CONSIDERING SAG) (MM)		145000						-
		SPEED (M/SEC.)		2.55						-
		CONVEYOR LOCATION		BETWEEN TP-1 AND TP-3 Δ						-
		NUMBER OF FEEDING POINTS		2 (ONE FROM BC#1A/B AT TP-1 & Δ ONE FROM BC#2A/B AT TP-2) Δ						-
BELT IS: 1891	MATERIAL HANDLED	WEAR ANGLE (DEGREE)		710 Δ						-
		MATERIAL		Δ INCUSSED INDIAN COAL / IMPORTED COAL						-
		BULK DENSITY FOR CONVEYOR FEED (TON/CU.M)		0.8						-
		FOR STRUCTURAL DESIGN (TON/CU.M)		1.2						-
		LUMP SIZE (MM)		<1300						-
		MOISTURE CONTENT		20%						-
		MATERIAL TEMP.		AMBIENT (MAX. 50°)						-
		TYPE MAKE		Δ HEAVY DUTY N/N 500/4 GRADE-FR (CANADIAN BUREAU OF MINES STD.NO. CAN/CSA-M422-M87)/MAKE=APPROVED VENDOR						-
		TOP COVER THICKNESS (MM)		3						-
		BOTTOM COVER THICKNESS (MM)		3						-
SOLUTIONS (S&B31) THK/MM	BELT IS: 1891	BELT TENSION (N)		T1=25279.3, T2=10328, T3=18563.6, Te=16014.3						-
		TYPE OF JOINT		VULCANIZED						-
		DRIVE		#500X1600L6,16TH(MIN.) SHELLEN-8/C-45 SHAFT,						1 NO
		TAIL		#400X1600L6, 12TH(MIN.) SHELLEN-8/C-45 SHAFT,						1 NO
		TAKE-UP		#400X1600L6, 12TH(MIN.) SHELLEN-8/C-45 SHAFT,						-
		BEND		#323X1600L6, 12TH(MIN.) SHELLEN-8/C-45 SHAFT,						2 NOS
		SNWB		#323X1600L6, 12TH(MIN.) SHELLEN-8/C-45 SHAFT,						1 NO
		SHELL THICKNESS		1MM 10MM FOR DRIVE & 12MM FOR NON DRIVE PULLEYS						-
		DRIVE PULLEY		12 MM DIAMOND GROOVE SHEAR HARDNESS 55-65 A						-
		ALL OTHER PULLEYS		10 MM PLAN NEOPRENE RUBBER SHEAR HARDNESS 55-65 A						-
CARRYING	IDLERS (IS:8598)	3 ROLL 1W TRANSITION IDLERS		#152.4 ERW 4.85THK MS PIPE, DEEP GROOVE BALL BEG. (#30) AT 700MM SPACING MAXIMUM Δ						4 NOS
		3 ROLL 20 TRANSITION IDLERS		#152.4 ERW 4.85THK MS PIPE, DEEP GROOVE BALL BEG. (#30) AT 700MM SPACING MAXIMUM Δ						2 NOS
		3 ROLL 30 TRANSITION IDLERS		#152.4 ERW 4.85THK MS PIPE, DEEP GROOVE BALL BEG. (#30) AT 700MM SPACING MAXIMUM Δ						2 NOS
		3 ROLL 35 CARRYING IDLERS		#152.4 ERW 4.85THK MS PIPE, DEEP GROOVE BALL BEG. (#30) AT 1000MM SPACING MAXIMUM Δ						46 NOS
		3 ROLL 35 IMPACT IDLERS		#150.7 ERW 4.85THK MS PIPE, OD Φ 190, DEEP GROOVE BALL BEG. (#35), AT 450MM SPACING MAXIMUM						20 NOS
		3 ROLL 30 SELF ALIGNING CARRYING IDLERS		#152.4 ERW 4.85THK MS PIPE, DEEP GROOVE BALL BEG. (#35), 5000MM FROM HEAD & TAIL END THEREAFTER 1000MM MM SPACING						7 NOS
		SINGLE ROLL RETURN IDLER		#152.4 ERW 4.85THK MS PIPE, DEEP GROOVE BALL BEG. (#30), AT 3000MM SPACING MAXIMUM						16 NOS
		SINGLE ROLL SELF ALIGNING RETURN IDLER		#152.4 ERW 4.85THK MS PIPE, DEEP GROOVE BALL BEG. (#30), 1000MM FROM HEAD/TAIL END THEREAFTER 2000MM MM SPACING						4 NOS
		DEFLECTOR ROLLER		#219 ERW 6 THK MS PIPE,						1 NO
		MOTOR REDUCER	FRAME DETAILS	TYPE MAKE		TEFC SQUIRREL CASE , 51 DUTY, IP55 ABB/BEHL/ APPROVED VENDOR				
POWER RATING(KW)/RPM/FRAME SIZE				55/1500/250 MAA						-
SUPPLY VOLTAGE / DUTY				415V,3 PHASE,5 WIRE AC SUPPLY						-
MODEL NO./MAKE				B3-250/PREMIUM/APPROVED VENDOR						1 NO
MOLD BACK				YES, INTEGRAL Δ						-
RATIO				15:4						-
MECHANICAL RATING KW				191						-
BRAKE				NOT APPLICABLE						-
TYPE/SIZE/MAKE				SOLID SHAFT DELAY FILL TRACTION Δ SFCO-410 (DET./APPROVED VENDOR)						1 NO
RATING KW				89						-
TAKE UP COUPLING LOW TENSION	FRAME DETAILS	RATING KW/100 rpm Δ		390						1 NO
		TYPE		VGSTU						-
		TRAVEL (MM)		1700						-
		CASTIRON COUNTER WEIGHT (IN KG)		1500KG (300x300x50THK ~ 57 NOS.) Δ						LOT
		INTERNAL SCRAPER TYPE/MAKE		V-PLDISH TYPE, MAKE : HOSCH/APPROVED VENDOR						Δ 2 NO
		EXTERNAL SCRAPER TYPE/MAKE		PRIMARY WITH SPRING BLADE PRIME: APPROVED VENDOR						1 NO
		SKIRT BOARD		SECONDARY WITH TORSION ARM MAKE: APPROVED VENDOR						1 NO
		DECK PLATE		WIDEST PLATE ~ M.S,10MM THICK Δ LINER PLATE - 10MM THICK SS-409M ON SLIDING & ADJACENT SURFACE SKIRTBOARD HEIGHT-RODMM AND LENGTH AS INDICATED IN DETAILED VIEWS RUBBER SLIDING SHALL BE 20MM THICK WITH 45-50 SHORE HARDNESS						LOT
		HEAD FRAME, TAIL FRAME & DRIVE BASE FRAME		3MM THK MS CONTINUOUS PLATE						LOT
		BEND FRAME		MB 300						LOT
MISCELLANEOUS INFORMATION	FRAME DETAILS	SEAL PLATE		2MM THK MS PLATE Δ						LOT
		STRINGER		MC 125 Δ						LOT
		SHORT SUPPORT		MC 100						LOT
		DISCHARGE & FEED CHUTE		MOTHER PLATE ~ M.S,10MM THICK LINER PLATE ~ 10MM THICK SS-409M ON SLIDING SURFACE & ADJACENT SURFACE						LOT
		DISCHARGE HOOD		4MM THK MS PLATE WITH RUBBER CURTAIN						LOT
		COUPLING GUARD Δ		2MM THK MS SHEET						2 No.'s
		GRADE OF STEEL		BEAM(SWB), CHANNELS(MC) & PLATES OF <20MM THICK SHALL BE OF IS:2062 GRADE-A AND PLATES OF >20MM THICK SHALL BE OF IS:2062 GRADE-B						-
		PULL CHORD ROPE		PVC COATED 85 WIRE						136 Mtr
		PULL CORD SWITCH /LOCATION/MAKE		15 M FROM ENDS AND 30 M THROUGHOUT/BOTH THE SIDES OF CONVEYOR/JAYSHREE/KANA						3 PAIR
		BELT SWAY SWITCH/LOCATION/MAKE		15 M FROM ENDS AND 30 M THROUGHOUT/BOTH THE SIDES OF CONVEYOR/JAYSHREE/KANA						3 PAIR
SAFETY EQUIPMENT	FRAME DETAILS	ZERO SPEED SWITCH/LOCATION/MAKE		AT TAIL PULLEY GTU/JAYSHREE/KANA						1 No.

LEGENDS:		
CARRYING IDLER	CI	
RETURN IDLER	RI	
IMPACT IDLER	II	
SELF ALIGNING CARRYING IDLER	SACI	
SELF ALIGNING RETURN IDLER	SARI	
TRANSITION IDLER	TI	
PULL CHORD SWITCH	PCS	
BELT SWAY SWITCH	BSS	
ZERO SPEED SWITCH	ZSS	

LEGEND(FOR BELT TENSIONS) :-
T1- TIGHT SIDE TENSION
T2- SLACK SIDE TENSION
T3- TAIL TENSION
T _e - EFFECTIVE TENSION AT DRIVE PULLEY
T _{tu} - TAKEUP TENSION

HEAD PULLEY	HP
TAIL PULLEY	TP
SNUB PULLEY	SP
BEND PULLEY	BP
TAKEUP PULLEY	TU
WORKING POINT	WP
SHORT SUPPORT	SS
TOP OF CONCRETE	TOC
DEFLECTOR ROLLER	DR
INTERNAL SCRAPER	IS

OWNER:	TELANGANA STATE POWER GENERATION CORPORATION LTD. HYDERABAD – TELANGANA, INDIA
CUSTOMER'S CONSULTANT	DEVELOPMENT CONSULTANTS PVT. LTD. CONSULTING ENGINEERS KOLKATA . MUMBAI . CHENNAI . NEW DELHI

PROJECT :	KOTHAGUDEM THERMAL POWER STATION STAGE-VII, UNIT # 12 (1X800 MW), KOTHAGUDEM, TELANGANA, INDIA COAL HANDLING SYSTEM PACKAGE
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EPC CONTRACTOR 	BHARAT HEAVY ELECTRICALS LIMITED INDUSTRIAL SYSTEMS GROUP ISG-BANGALORE
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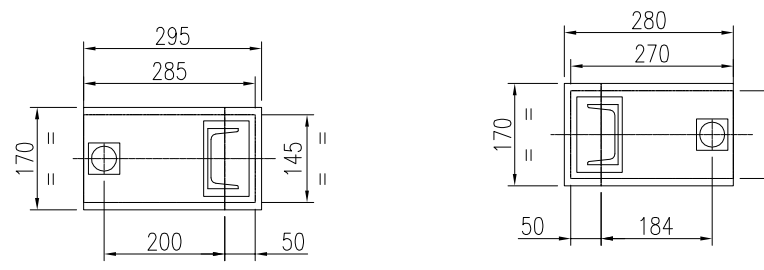
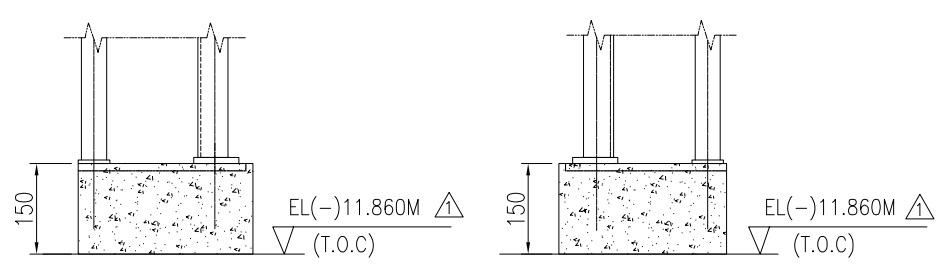
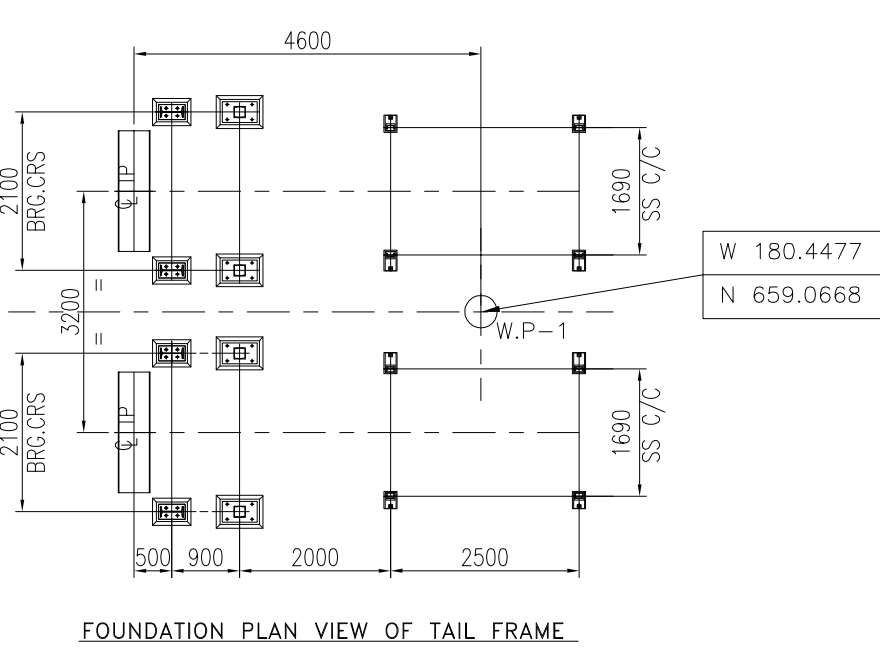
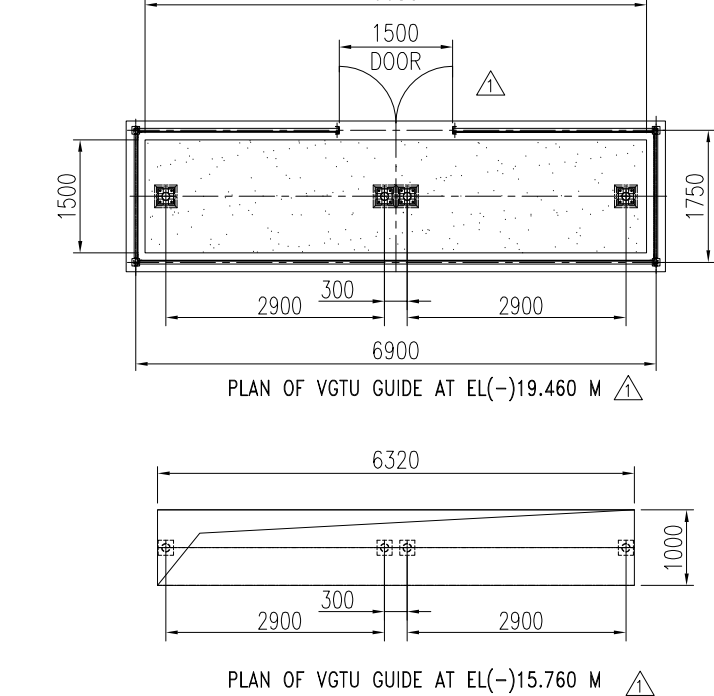
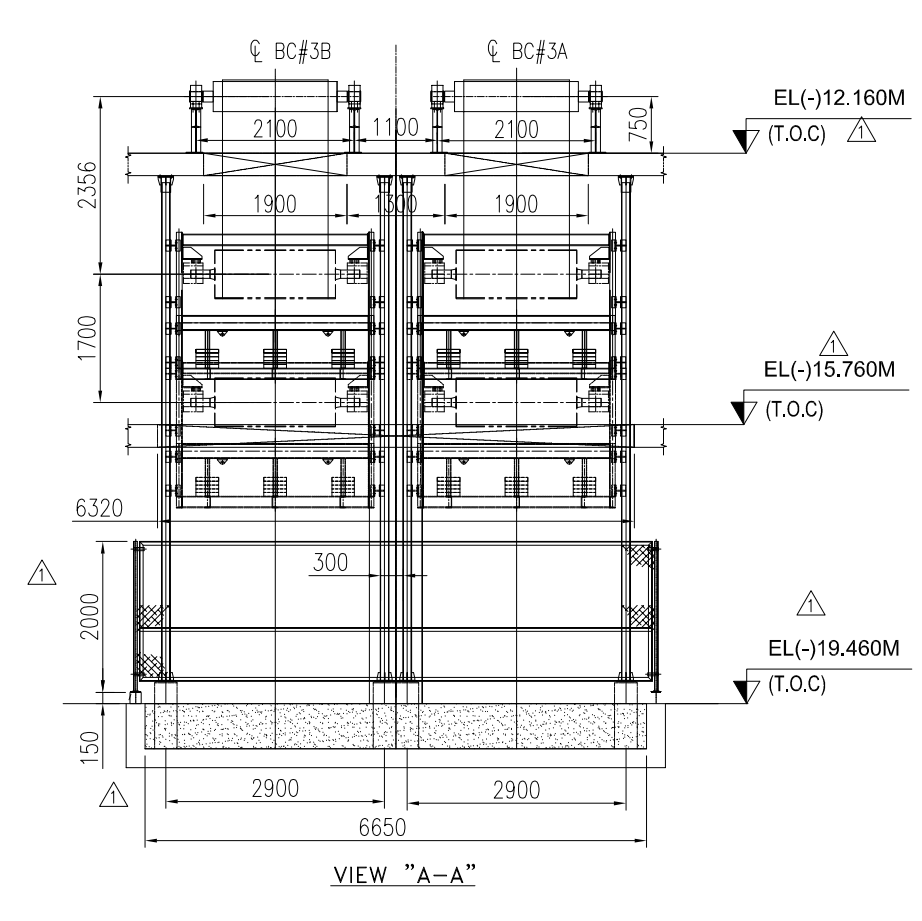
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DRN.	PVN		11.09.15	00
CHD.	SSD		11.09.15	NO. OF VAR
APP.	RSP		11.09.15	
			NO. OF SHEETS	02
			SHEET	01

	TITLE : GA OF BC#3A/3B
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SCALE	BHEL JOB NO. IS-1-14-2006	BHEL-ISO DRG. NO.: IS-1-GA-690-101-M009	REV. 01
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SIZE-A

BHEL DRG NO. IS-1-GA-690-101-M009



Equipment Load Data per footing (in Tonnes)			
EL(-)11.8600 M		BC #3A/3B	Short post (In Tunnel)
Footing Marking		SS2	SS3
No of Footing		26	26
Dead Load	DL	0.6	0.6
Live Load	LL	0.2	0.2
Belt Pull	Hx(Starting)	0.35	0.35
	Hx(Running)	0.3	0.3
	Vy (Starting)	—	—
	Vy (Running)	—	—

NOTES(FOR LOAD DATA DIRECTION):

1: IN VERTICAL DIRECTION SYMBOL -VE IMPLIES UPWARD FORCE AND +VE IMPLIES DOWNWARD FORCE

2: IN HORIZONTAL DIRECTION SYMBOL -VE IMPLIES FORCE TOWARDS CONVEYOR HEAD END
FORCE TOWARDS CONVEYOR TAIL END

3: LOAD DATA FURNISHED FOR CONVEYORS ARE FOR INFORMATION AND REFERENCE ONLY.

1	07.02.16	REVISED AS PER DCPL COMMENTS REVISED AS MARKED		
0	11.09.15	FOR APPROVAL		
R.No.	DATE	BRIEF RECORD	BY	APPD
REVISIONS				

OWNER:	TELANGANA STATE POWER GENERATION CORPORATION LTD.					
	HYDERABAD - TELANGANA, INDIA					
CUSTOMER'S CONSULTANT	DEVELOPMENT CONSULTANTS PVT. LTD. CONSULTING ENGINEERS KOLKATA . MUMBAI . CHENNAI . NEW DELHI					
PROJECT :	KOTHAGUDEM THERMAL POWER STATION STAGE-VII, UNIT # 12 (1X800 MW), KOTHAGUDEM, TELANGANA, INDIA COAL HANDLING SYSTEM PACKAGE					
EPC CONTRACTOR	BHARAT HEAVY ELECTRICALS LIMITED INDUSTRIAL SYSTEMS GROUP ISG-BANGALORE					
BHEL'S CONTRACTOR			NAME	SIGN	DATE	REV.
		DIN.	P/W		11.09.15	00
		CHD.	SSD		11.09.15	NO. OF
		APP.	RSP		11.09.15	OF
TITLE :	GA OF BC#3A/3B					02
						02
	SHEET NO.					REV.

COMPLIANCE REPORT

Project : 1 x 800 MW(Unit-12) Kothagudem Thermal Power Station

Owner : Telangana State Power Generation Corporation Limited

Owner's Consultant : Development Consultants Private Limited

EPC Contractor : BHEL Industrial System Group

Package : Coal Handling System

Drawing&Document No/Rev No : IS-1-GA-690-101-M009(Rev-1)

Drawing/Document Name : GA of BC#3A/3B

Sl.No	Owner/Owner's Consultant's Comment	BHEL Reply	Comments/Conclusion by Owner/Owner's Consultant
A	Sheet 1 of 2		
1	Indicate Chute angle? (Typ.)	Noted and incorporated in revised document	
2	Cutout dimensions,centerline & elevation of duct to be indicated	Please note that clear headroom and duct dimension indicated. For duct dimensions clearances ,openings,etc in the TP's please refer to respective transfer tower GA drawing	
3	Mention clear height inside tunnel inline with spec.	Noted and incorporated in revised document	
4	Skirt board length & height to checked w.r.t. DS system	Skirt board dimensions are 3000mm ahead of front edge and 500mm behind rear edge of chute with 800mm height, which will take care of DFDS system requirement.	
5	Monorail & hoist to be shown. EL from bottom of monorail to be indicated.	Please note that this is the conveyor GA drawing and details related to conveyor alone(starting from bottom of skirt board top sheet to discharge chute flange) will be indicated in here. For the details of floor openings, handling arrangement,cut outs, duct locations in the transfer tower area please refer to the respective transfer tower GA drawing. As duplication of information will lead to discrepancy	
6	Lifting arrangement not shown		
7	Furnish flap gate no.		
8	Elevations not matching with conveyor profile GA bearing drg no. IS-1-GA-690-101-M004, Rev. 00	Updated as per the latest conveyor profile GA drg no. IS-1-GA-690-101-M004, Rev. 02	
9	Indicate floor opening dimensions	Noted and incorporated in revised document	
10	Indicate walkways (Typ.)	Noted and incorporated in revised document	
11	Please note that while revising Mech. GA of any conveyor, please consider the comments mentioned here	Noted	
12	Mention minimum clear height available	Noted and incorporated in revised document	
13	For comments on VGTU, refer detailed view in next sheet	Noted and suitably incorporated in revised document	

COMPLIANCE REPORT

Project : 1 x 800 MW(Unit-12) Kothagudem Thermal Power Station

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Owner's Consultant : Development Consultants Private Limited

EPC Contractor : BHEL Industrial System Group

Package : Coal Handling System

Drawing&Document No/Rev No : IS-1-GA-690-101-M009(Rev-1)

Drawing/Document Name : GA of BC#3A/3B

14	1. Show walkway (Side & Central) in both plan and elevation views. Please note that clear height of 3.5 M (Min.) to be provided in tunnels. Please indicate the same in drg. / 'Note'. 2. Show atleast one cross over through the length, 3. All co-ordinates need to be checked with Plot Plan & TP GA	1) Walkway indicated in elevation and plan views. Please note that as per the specification 'Noted and incorporated in revised document e-PCT-TS-K-02-2014-15-Vol-IVA, Page no. 27 , Caluse 07.14.02 conveyor galleries, the clear height in gallery and tunnel is 3m. The same is considered. 2) Please note that the as per specification cross overs to be provided at every 100m. In this case as the tunnel length between transfer points TP-1 and TP-3 is hardly 50m, cross over is not considered. Request to accept the same. 3) Coordinates updated	
15	Co-ordinates are not matching with TP-1 & TP-2 Mech. GA drawings. Please check.	Noted and incorporated in revised document	
16	Indicate monorail, various openings / cutouts	Please note that this is the conveyor GA drawing and details related to conveyor alone(starting from bottom of skirt board top sheet to discharge chute flange) will be indicated in here. For the details of floor openings, handling arrangement, cutouts, duct locations in the transfer tower area please refer to the respective transfer tower GA drawing. As duplication of information will lead to discrepancy	
17	Indicate monorail		
18	Indicate platform level here	Noted and incorporated in revised document	
19	Provide cross sectional view	'Noted and incorporated in revised document. Please note that all the cross sections of conveyor both in tunnel and in gallery are furnished in drawing "typical conveyor cross section.(IS-1-GA-690-100-M003)". The same is indicated in reference drawing list.	
20	Indicate ventilation duct dimensions, distance from columns, cutouts here	Noted and incorporated in revised document. For duct dimensions clearances ,openings,etc in the TP's please refer to respective transfer tower GA drawings	
21	Indicate conveyor location, No. of feeding points & wrap angle	Noted and incorporated in revised document	
22	Please update this table as per DCPL comments in Conveyor calculations	Noted and incorporated in revised document	

COMPLIANCE REPORT

Project : 1 x 800 MW(Unit-12) Kothagudem Thermal Power Station

Owner : Telangana State Power Generation Corporation Limited

Owner's Consultant : Development Consultants Private Limited

EPC Contractor : BHEL Industrial System Group

Package : Coal Handling System

Drawing&Document No/Rev No : IS-1-GA-690-101-M009(Rev-1)

Drawing/Document Name : GA of BC#3A/3B

23	Please indicate imported / indian coal considered here, if blended, mention % also.	Noted and incorporated in revised document	
24	Heady duty for conveyor belt	Noted and incorporated in revised document	
25	Please indicate the nomenclature for T1, T2, T3 & Te	Noted and incorporated in revised document	
26	Indicate spacing of idlers	Noted and incorporated in revised document	
27	Indicate the type of hold back whether it is integral	Noted and incorporated in revised document	
28	Please note that brake shall be provided wherever coasting time comes positive in calculation. No deviation is acceptable.	Please refer to the latest coasting time calculation document (Rev-01) with compliance for non provision of brake	
29	Please note that as per clause no. 7.09.08, it is clearly indicated that 'Take-up weight material shall be made of cast iron blocks.' Please provide the same accordingly. Also Indicate weight of each segment of counter weight and the nos. to be provided	Noted and incorporated in revised document	
30	Location of scrappers to be indicated. Please note that internal scraper to be provided near tail pulley & bend pulley.	Noted and incorporated in revised document	
31	Type of coupling to be mentioned	Noted and incorporated in revised document	
32	As per conveyor power calculation, HG TU has been indicated near tail end. Please check.	Please refer to the latest conveyor profile GA drg no. IS-1-GA-690-101-M004, Rev. 02 and the updated conveyor power calculation document	
33	Type of rubber and shore hardness to be indicated for skirtboard	Noted and incorporated in revised document	
34	10 mm thk for uncrushed coal for skirtboard liner	Noted and incorporated in revised document	
35	Skirtboard height to be indicated	Noted and incorporated in revised document	
36	Include coupling guard in the table	Noted and incorporated in revised document	
37	Provide stringer & short support calculation	Short support and stringer sizing is part of fabrication detail. The same shall be suitably sized. Presently MC100 and MC125 is considered based on BHEL's experience from earlier reference projects	

COMPLIANCE REPORT

Project : 1 x 800 MW(Unit-12) Kothagudem Thermal Power Station

Owner : Telangana State Power Generation Corporation Limited

Owner's Consultant : Development Consultants Private Limited

EPC Contractor : BHEL Industrial System Group

Package : Coal Handling System

Drawing&Document No/Rev No : IS-1-GA-690-101-M009(Rev-1)

Drawing/Document Name : GA of BC#3A/3B

38	Thickness shall be 3 mm (min.) for seal plate	Noted and incorporated in revised document	
39	Indicate Grade & IS Standard of MS used	Noted and incorporated in revised document	
40	SP,BP,TU These are not mentioned in drg. Please check.	Noted and incorporated in revised document	
41	External scrapper shall be included in legend	External scrapper is not indicated in shortform, hence trhe same is not included in legends.	
B	Sheet 2 of 2		
1	SACI shall be located within 5000 mm from either end of conveyor	Updated near the discharge end side. However please note that first self aligning carrying idler (SACI) near tail end cannot be located at 5m as the same will be in the material feeding zone, wherein material load and skirtboard will prevent the belt sway and thereby presence of self alining will be of no use. Hence the first SACI is located just after the feed point.	
2	Distance of transition idler from Head pulley to be checked as it appears high.	Updated the transition idler spacing considering the maximum feasible distance.	
3	TP centre line EL	Noted and incorporated in revised document	
4	Show internal scrapper near bend pulley also.	Noted and incorporated in revised document	
5	HP centre line EL	Noted and incorporated in revised document	
6	Show external scraper	Noted and incorporated in revised document	
7	Pulley diameters along with pulley designation shall be marked in drawing	Noted and incorporated in revised document	
8	Indicate distances between working points here. Mark working point 3 as shown in Elevation view	Noted and incorporated in revised document	
9	Mark all items at head pulley and tail pulley	Noted and incorporated in revised document	
10	Please mark the drive items, and indicate center line of the items	Noted and incorporated in revised document	
11	Provide grouting	Please note that grouting will be applicable where in foundation bolts are located at a later date after pedestal concreting with pockets or where uneven surfaces are there. At places where insert plates are provided, grouting is not required as the insert plate will be located while concreting ensuring even surface.	

COMPLIANCE REPORT

Project : 1 x 800 MW(Unit-12) Kothagudem Thermal Power Station

Owner : Telangana State Power Generation Corporation Limited

Owner's Consultant : Development Consultants Private Limited

EPC Contractor : BHEL Industrial System Group

Package : Coal Handling System

Drawing&Document No/Rev No : **IS-1-GA-690-101-M009(Rev-1)**

Drawing/Document Name : GA of BC#3A/3B

12	Furnish angles of chute	Noted and incorporated in revised document	
13	Provide stringer & short support calculation	Short support and stringer sizing is part of fabrication detail. The same shall be suitably sized. Presently MC100 and MC125 is considered based on BHEL's experience from earlier reference projects	
14	Please indicate the counter weight handling arrangement	1.5T manual hoist is provided for handling of counter weight. Please refer the transfer tower GA drawing.	
15	Indicate cut out dimensions at takeup travel area	Noted and incorporated in revised document	
16	Sand pit overall dimension and wall to be indicated	Noted and incorporated in revised document	
17	Indicate dimensions of safety mesh at takeup	Noted and incorporated in revised document	
18	Update note, 3 & 4	Noted and incorporated in revised document	
19	Indicate dimension of ventilation duct.	Noted and incorporated in revised document	