



BHARAT HEAVY ELECTRICALS LIMITED
PROJECT ENGINEERING MANAGEMENT, NOIDA

Date-9-Jul-19

CORRIGENDUM- 04

PROJECT	:	1X660 MW BHUSAWAL TPS UNIT-6
PACKAGE	:	CONDENSATE POLISHING UNIT
ENQUIRY NO	:	E-6232/2019 Dated. 14.06.2019
SUBJECT	:	TECHNICAL AMENDMENT

Type of Corrigendum			
Technical Corrigendum -	☒	Commercial Corrigendum -	☐

Please note the following:

- 1. Amendment-1 (of 3 Pages) to TECHNICAL SPECIFICATION FOR CONDENSATE POLISHING UNIT -1x660 MW BHUSAWAL TPS UNIT -6 attached with this corrigendum shall be treated as part of NIT.**

All the other terms and conditions of the tender enquiry shall remain unchanged. All the bidders are requested to quote accordingly.

Yours faithfully,

For and on behalf of BHEL

Sharad Chandra
Dy. Manager



**AMENDMENT TO TECHNICAL SPECIFICATION FOR
CONDENSATE POLISING UNIT 1X660 MW BHUSAWAL
THERMAL POWERSTATION UNIT -6**

SPECIFICATION NO.: PE-TS-415-155-A001

AMENDMENT NO # 1

REV. NO. 00

DATE: 08/07/2019

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The following modifications with respect to **TECHNICAL SPECIFICATION FOR CONDENSATE POLISING UNIT** BHEL's Technical specification no **PE-TS-415-155-A001** shall apply. Bidder to note that existing clauses/details as appearing in the specification stands deleted / replaced and clauses/details as mentioned in "Modified to or Read as" column shall be applicable and complied by the bidder as listed below in **SCHEDULE A**.

SCHEDULE- A

MODIFIED CLAUSES/PAGE NUMBERS:

SI no.	Section	Sub-Section/ Description	Clause no	Page no	Existing clause/details	Modified to or Read as
1.	II	Sub-Section- II-A	3.0, Serial No. 3.1	497 of 712	3.1 Pipes –ASTM A 106 GR. B	3.1 Pipes –ASTM A 106 GR. C
2.	II	Sub-Section- II-A	3.0, Serial No. 3.4	497 of 712	3.4 Valves For Size ≥ 50 NB,ASTM A 216 GR.WCB #150 ,SORF Gate/Globe/check For Size ≤ 40 NB, ASTM A 105,SW	3.4 Valves For Size ≥ 50 NB,CF8M/SS-316 #300 (minimum) ,SORF Gate/Globe/check For Size ≤ 40 NB, ASTM A 105,SW
3.	I	Sub-Section- I-A	4.0,A), Sr. No. 27	14 of 712	All butterfly valves MOC used in service vessel area in condensate inlet line shall be (Body: ASTM A 216 Gr. WCB & Disc:CF8M/SS316) and condensate outlet line will be (Body & Disc both: CF8M/SS316).	All butterfly valves MOC used in service vessel area in condensate inlet line shall be (Body: CF8M/SS316 & Disc:CF8M/SS316) and condensate outlet line will be (Body & Disc both: CF8M/SS316).
4.	I	Sub-Section- I-A	5.05.17, Sr. No. 8	44 of 712	MOC of butterfly valve at inlet of service vessel Body- CS, Disc- SS and outlet of service vessel Body – SS, disc- SS.	MOC of butterfly valve at inlet of service vessel Body- CF8M/SS316, Disc- CF8M/SS316 and outlet of service vessel Body – CF8M/SS316, disc- CF8M/SS316.
5.	I	Sub-Section-IA, Data sheet-A ,CPU	6.0, iii)	319 of 712	Butterfly valves shall be of flanged type of low leakage rate confirming to AWWA-C-504 class 300 (min.) or EN593/ BS:5155 PN 10 (min.) All the butterfly valves shall be provided with Hand wheel or lever as per the requirements. For larger sizes i.e. 150 NB and above. Valve provided with motorized or pneumatic actuator shall be provided with a hand wheel for manual operation. All the valves shall be equipped with adjustable	Butterfly valves (Minimum #300 class) of CPU service vessel area shall be as per specification provided for "Power cycle piping, valves and specialties" under sub section –IIA.MOC of these butterfly valves & control valve (Butterfly type) shall be of stainless steel construction, SS-316 (for Body, disc and shaft). Seat/seat rings shall be of Teflon/titanium back up rings. Seal shall also be of Teflon only. Further Butterfly valves provided in service

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				mechanical stop-limiting devices to prevent over travel of the valve disc in the open and closed positions. The valve operators (Hand wheel or Gear reduction unit or Motor actuator etc.) shall be designed as per relevant International Standard. All the butterfly valves shall be provided with an indicator to show the position of the disc. Flanges shall conform to ANSI B 16.5 Cl.300 (min.) used for Service vessel area. Butterfly valves at the bypass line of service vessel shall be double flanged. Service Vessel Inlet B/F valve MOC: BFV – ASTM A 216 Gr. WCB- Body SS- (CF8M) - Disc. Service Vessel Outlet B/F valve MOC: BFV – SS-(CF8M) - Body & Disc both. Butterfly type control valve & upstream & downstream Butterfly type isolation valve– ASTM A 216 Gr. WCB – Body, SS-(CF8M) - Disc. Rinse line and rinse recirculation line B/F valve MOC: BFV – SS-(CF8M) - Body & Disc both.	vessel area other than by-pass line (type as defined elsewhere in the specification) shall be double flanged type for sizes above 300NB. For sizes 300 NB and below valve shall be double flanged or lugged wafer type. Butterfly valves (Minimum #150 class) used in condensate polishing plant regeneration area for DM water & alkali application shall be of stainless steel construction, SS-316 (for Body, disc and shaft). Seat/seat rings shall be of Teflon/titanium back up rings. Seal shall also be of Teflon only. Further these butterfly valves shall be of flanged type. All the butterfly valves shall be provided with Hand wheel or lever as per the requirements. For larger sizes i.e. 150 NB and above. Valve provided with motorized or pneumatic actuator shall be provided with a hand wheel for manual operation. All the valves shall be equipped with adjustable mechanical stop-limiting devices to prevent over travel of the valve disc in the open and closed positions. The valve operators (Hand wheel or Gear reduction unit or Motor actuator etc.) shall be designed as per relevant International Standard. All the butterfly valves shall be provided with an indicator to show the position of the disc. Flanges shall conform to ANSI B 16.5 Cl.300 (min.) used for Service vessel area. Rinse to condenser hot well line and rinse recirculation line butterfly valve MOC shall be of stainless steel construction, SS-316(for Body, disc and shaft). Seat/seat rings shall be of Teflon/titanium back up rings. Seal shall also be
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						of Teflon only.																																
6.	I	Sub-Section– I-A	5.05.17, Sr. No. 5	44 of 712	Isolation Valves handling DM water shall be Butterfly or gate or globe type and shall be SS construction. Isolation valves handling DM water can also be of diaphragm type MOC and pressure rating shall be as per DATASHEET –A of condensate polishing unit.	Isolation Valves handling DM water & Alkali shall be Butterfly or gate or globe type and shall be SS-316 construction. Isolation valves handling DM water & alkali can also be of diaphragm type, MOC and pressure rating shall be as per DATASHEET –A of condensate polishing unit.																																
7.	II	Sub-Section– II-A	4.0	519 of 712	<table><tr><td>4.0</td><td>Cast Iron body butterfly valve & Check valve</td><td>(a) For Demineralised Water</td><td rowspan="5">For sizes 50 NB and above, Rubber lining shall be provided for DM water application.</td></tr><tr><td></td><td></td><td>(b) Raw water</td></tr><tr><td></td><td></td><td>(c) Clarified Water</td></tr><tr><td></td><td></td><td>(d) Filtered Water</td></tr><tr><td></td><td></td><td>(e) Inhibited Demineralised Water for DMCW system</td></tr></table>	4.0	Cast Iron body butterfly valve & Check valve	(a) For Demineralised Water	For sizes 50 NB and above, Rubber lining shall be provided for DM water application.			(b) Raw water			(c) Clarified Water			(d) Filtered Water			(e) Inhibited Demineralised Water for DMCW system	<table><tr><td>4.0</td><td>Butterfly valve & Check valve</td><td>(a)For demineralized Water</td><td rowspan="5">Valve MOC shall be SS316 for DM water application</td></tr><tr><td></td><td></td><td>(b)Raw water</td></tr><tr><td></td><td></td><td>(c) Clarified water</td></tr><tr><td></td><td></td><td>(d)Filtered water</td></tr><tr><td></td><td></td><td>(e)Inhibited demineralized water for DMCW system</td></tr></table>	4.0	Butterfly valve & Check valve	(a)For demineralized Water	Valve MOC shall be SS316 for DM water application			(b)Raw water			(c) Clarified water			(d)Filtered water			(e)Inhibited demineralized water for DMCW system
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8.	I	Sub-Section– I-A	4.0,F, Serial No. 10	20 of 712	MCC, DCS control room & battery room shall be located in CPU regeneration area building. All regeneration vessels and chemical dosing facilities shall be located in CPU regeneration building. Further N-pit shall be located in open area near DM plant building. CPU regeneration cum resin transfer pumps shall be located inside CPU regeneration Building. Further Bidder to also provide the localized CANOPY arrangement on all pumps, blower & motors which are open to sky. CPU regeneration area equipment layout drawing has been enclosed herewith this technical specification for bidder's compliance. Successful bidder has to use the same layout during detail engineering and arrange CPU regeneration area equipment in the same layout.	MCC, DCS control room & battery room shall be located in CPU regeneration area building. All regeneration vessels and chemical dosing facilities shall be located in CPU regeneration building. Further N-pit shall be located in open area near CPU regeneration building. CPU regeneration cum resin transfer pumps shall be placed in CST & DM pump house located near the DM water storage tanks (location marked in plot plan). Further Bidder to also provide the localized CANOPY arrangement on all pumps, blower & motors which are open to sky.																																

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08/07/2019

Maneesh Kr. Gupta
Deputy Manager.
BHEL PEU MAX/WC
