

	AMENDMENT ON TECHNICAL SPECIFICATION FOR PRE TREATMENT PLANT		SPECIFICATION NO.: PE-TS-410-158-A001
			AMENDMENT NO # 2
	1X800 MW TSGENCO KOTHAGUEDEM TPS STAGE –VII, PALONCHA		REV. NO. 00
			DATE: 21/07/2015
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The following modifications with respect to Technical Specification for **PRE TREATMENT PLANT**, BHEL's Technical specification no PE-TS-410-158-A001 shall apply. Bidder to note that existing clauses/page numbers as appearing in the specification stands deleted and clauses/page numbers as mentioned in "Modified to" column shall be applicable and complied by the bidder.

MODIFIED CLAUSES/PAGE NUMBERS.

Sl no.	Vol. No.	Section	Clause no	Page no	Existing	Modified to
1.	IIB	C1	--	66 of 869	ANNEXURE-V PAINTING SPECIFICATION	In addition to the requirements of Painting as indicated in the Technical specification, Bidder shall also provide one final coat additionally of same DFT as specified in tender specification at site after completion of erection of each equipment / item.
2.	IIB	C1	--	104 of 869	P&ID FOR PRE TREATMENT PLANT	In addition to the requirements as indicated in the P&ID FOR PRE TREATMENT PLANT attached in the Technical Specification, following additional requirements need to be provided by the bidder: 1. Bidder to provide one number tap off of 80 NB along with butterfly type isolation valve, fittings, flanges etc. The location of this tap off shall be at inlet line of Pre-treatment plant just before the flow control station. Other details of piping, valves, fittings, flanges etc. shall be as indicated in the Technical Specification. 2. Bidder to provide one number additional Flow transmitter along with isolation valve, instruments fittings, flanges etc. The location of this Flow transmitter shall be at the common outlet channel to clarified water storage tank. Other details of this Flow transmitter shall be as indicated in the Technical Specification. The feedback from this flow transmitter shall also be provided in the PLC for monitoring and operation purposes. 3. Bidder to provide one number additional turbidity analyser along with isolation valve, instruments fittings, flanges etc. The location of this turbidity analyser shall be at the common outlet channel to clarified water storage tank. Other details of this turbidity analyser shall be as indicated in the Technical Specification. The feedback from this turbidity analyser shall also be provided in the PLC for monitoring and operation purposes.



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4.	IIB	D1	6.04.00	133 of 869	The remote operation of all pumps, blowers and agitators shall also be done through the PLC. Further to above, all drive motors shall have the facility of local Start/Stop. Local starting shall be possible through local / remote selector switch to be located in MCC. Tripping of drive motors shall be permissible by local lockable stop irrespective of local / remote selector switch position.	The remote operation of all pumps, blowers and agitators shall also be done through the PLC. Further to above, all drive motors shall have the facility of local Start/Stop. Local starting shall be possible through local / remote selector switch to be located in MCC. Tripping of drive motors shall be permissible by local lockable stop irrespective of local / remote selector switch position. Tripping of drive from LPBS (Emergency stop) shall be free from any interlock/ switch selection. All the drives shall be started and stopped from PLC. The following pumps & agitators shall be started and stopped from PLC. - Alum dosing pumps. - Lime transfer pumps. - Lime dosing pumps. - Polyelectrolyte dosing pumps for Clarifiers. - Polyelectrolyte dosing pumps for Centrifuges. - Sludge transfer pumps. - Sludge pit blowers. - Thickener supernatant transfer pumps. - Centrifuge feed pumps. - Thickener Sludge pit blowers. - All agitators. In addition to above Local Start/Stop facility from individual pump shall be provided. The following shall be monitored from PLC. - Scrapers on the clarifier. - Agitators of Alum dosing tanks, Lime slurry tanks, Lime dosing Tanks & PE dosing tanks for clarifiers and PE dosing tanks for centrifuges. A soft mimic in the OWS with the status of drives including ON, OFF, TRIP indication of respective motors/pumps and control valve Shall be provided on the PLC. All the dosing pumps shall be capable of being adjusted manually to any output with in the stated range.
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						All pumps shall trip at level low in respective tanks or Sumps. Standby pump will start in case of pressure low at running pump discharge. Alarms pertaining to Clarified water Storage tank- High (H) and Low (L) shall be indicated in PLC. Flow at inlet of aerator shall be controlled through motor operated valve w.r.t. clarified water storage tank. Motor operated sluice gate shall be controlled w.r.t . the water level in Clarified Water Storage Tank i.e, in case one compartment of clarified water storage tank is full then the inlet valve of this compartment will be closed and the inlet valve of other compartment will be open.
5.	IIB	D1	6.05.00	136 of 869	The operation of the Chlorination System for River Water Pre-Treatment shall be semi-automatic and envisaged through the RWPT PLC.	The operation of the Chlorination System for River Water Pre-Treatment shall be semi-automatic and envisaged through the Raw water Pre-treatment plant PLC and shall be in bidder's scope. The minimum number of I/Os required for the Chlorination System is 60 numbers. Bidder to consider this in the Pre-Treatment plant and design the Pre-Treatment plant accordingly.
6.	IIB	D3	--	497 OF 869	PLC SPECIFICATION	In addition to the PLC specification attached in technical specification, the additional PLC specification attached as Annexure –A.
7.	IIB	D3	--	506 OF 869	PLC Configuration Diagram	Revised PLC Configuration Diagram attached as Annexure –B.
8.	IIB	D4	--	611 of 869	GENERAL TECHNICAL REQUIREMENTS CIVIL	In addition to the GENERAL TECHNICAL REQUIREMENTS CIVIL attached in technical specification, the GEOTECHNICAL INVESTIGATION REPORT has also been attached herewith.
