

PRE BID CLARIFICATION SCHEDULE				
Project:	4 x 270MW BHADRADRI TPS, MANUGURU			
Package:	FUEL OIL UNLOADING AND STORAGE SYSTEM			
Sr.No.	Section/Clause/ Page No.	Statement of the referred clause	Clarification/ Confirm ation required	BHEL REPLY
1	Cl.No. 4.0.0, Pg No. 15 of 348	Aux. Steam: Steam header at 11 kg/cm ² , 210 degC by BHEL at 2000mm from FO pressurizing building. At the TP BHEL shall supply 25 MT/hr of steam. Bidder shall check the adequacy of the same. In case this is not adequate, bidder to inform the maximum aux. steam requirement at this TP along with manual calculation for the same.	Please provide the wagon initial temperature and heating time to be considered for checking the adequacy of supplied steam of 25 MT/hr.	Wagon inital temperature may be considered as ambient temperature. Railways allows maximum unloading time as 9 hrs (consisting of coupling, heating & pumping), beyond which demurrage charges are imposed.
2	Cl.No. 1.3.1, Pg No. 273 of 348	One no. pressure reducing station consisting of self-regulating type control valves with safety relief valve and bypass arrangement shall be provided for reducing auxiliary steam available at 11 kg/cm² (a) to 4.0 kg/cm ² (a). Reduced steam shall be used for heating of HFO railway wagons, unloading header, HFO tanks, strainers, pumps etc. and tracing of HFO lines.	Both referred clauses are contradicting about Aux. steam parameters. Plesae clarify which one has to be considered. Incase Cl.No. 1.3.1, Pg.No. 273 of 348 to be followed, plesae provide the temperature of steam.	Aux. Steam Pressure at 11 kg/cm ² (a) @ 210 deg.C will be available.
	P&ID for Steam and Condensate for HFO heating and tracing, Pg.No. 324 of 348	Aux. Steam Pressure 16 kg/cm ² (a) @ 210 deg.C		
3	Cl.No. 1.3.2, Pg No. 273 of 348	A condensate flash tank of capacity 6.0 m ³ will also be provided in the unloading area for collecting condensate from railway wagons heating before discharging the same to oil water separator near tank farm area.	As the distance between unloading area and tank farm area is about 500m(approx), gravity flow of condensate from flash tank(in unloading area) to oil water seperator (in tank farm area) is not possible. Hence we suggest to have condensate transfer pumps for transferring condensate from flash tank to oil water separator in tank farm area. Please check and confirm.	Bidder query noted. Bidder to provide two (2) nos flash tank , One (1) no of 6 m ³ near HFO unloading area and one (1) of 2 m ³ near tank farm area. 6m ³ & 2m ³ flash tank shall receive condensate from HFO unloading area and Tank farm area respectively.
4	Cl.No. 1.3.4, Pg No. 273 of 348	Condensate generated from floor coil heater of HFO Storage tanks shall be fed to flash tank placed near tank farm area.	From this clause we understood that separate flash tank is provided by others in tank farm area. Whereas in "P&ID for Steam and Condensate for HFO heating and tracing" common flash tank indicated. Considering the distance between unloading area and tank farm area, we suggest to have seperate flash tanks. Please check and confirm.	Refer reply at S.N. 03 above.

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5	Cl.No. 1.4.1, Pg No. 273 of 348	The fuel oil drains from different equipment's (LDO & HFO U/L pumps, strainers) and piping etc. in FO unloading pump house shall be collected by gravity in a Drain Oil tank of capacity 10m3. Two (2) nos, 1W+1S, rotary positive displacement type drain oil pump of capacity 10 m3/hr shall be provided to transfer the drained oil to HFO tanks.	From the referred clause we understood that Drain oil tank placed in HFO unloading pump house and drains from HFO pumps and strainers is collected in this Drain oil tank. Whereas in " Process and Instrumentation Diagram of HFO System" HFO storage tank drains also connected to same drain oil tank. We understood that drains from HFO Storage tanks, LDO storage tanks, LDO unloading pumps and strainers shall be collected in a separate drain oil tank(in others scope) in pressurising pump house. Plesae check and clarify.	Bidder understanding is correct. One no. drain oil tank (under BHEL-try scope) is kept inside 'Fuel oil pressurizing P/H' near Tank farm area. LDO u/l pumps shall be kept inside this pressurizing FOPH. Drain from main tanks (LDO & HFO) , LDO u/l pumps etc shall be routed to this DOT inside pressuruzing FOPH.
6	Cl.No. 1.4.4, Pg No. 273 of 348	Two (2) nos. vertical centrifugal type sump pumps of cap. 10m3/hr, are also envisaged inside FO Unloading pump house to pump the oil water mixture to oil water separator located near tanks farm area.	As the distance between unloading area and tank farm area is about 500m(approx), gravity flow of condensate from flash tank(in unloading area) to oil water seperator (in tank farm area) is not suggestable. Hence we suggest to have discharge piping from sump pumps in unloading area to oilwater separator pit in tank farm area. Please check and clarify.	Discharge of sump pumps inside HFO u/l P/H shall be taken to oil water separator kept near tank farm area. Regarding condensate flash tank, refer our reply at S.N. 03 above.
	Process and Instrumentation Diagram of HFO System, Pg.No. 322 of 348	Sump pump discharge in HFO unloading pump house indicated as nearest surface drain.		
7	P&ID for Steam and Condensate for HFO heating and tracing, Pg.No. 324 of 348		One PRS is indicated in the referred P&ID. As the distance between unloading area and tank farm area is about 500m(approx), we can not get the required pressure in unloading area at the down stream of PRS. Hence we suggest to have separate PRS for unloading area and tank farm area. Please confirm.	BHEL shall provide steam at TP at 11 kg/cm2, 210 degC. Bidder to decide itself to keep one PRS or two PRS at their end to meet the functiona requirement.
8	Cl.No. 1.13 a & b, Pg No. 285 of 348	As described	Thickness of Fuel oil piping, steam and condensate piping indicated as "standard weight or Sch-40 as available". For 300NB and above sizes SCH 40 pipes having more thicknes than Schedule Standard pipe thickness. Please clarify schedule to be considered for 300NB and above sizes. Also Seamless pipes are not manufactured in India for 400NB and above sizes. Hence we request you allow us to considered API 5L ERW pipes for 400NB and above pipe sizes. 400NB and above sizes may come in HFO piping.	Specification is clear. Standard weight Sch is acceptable for 300NB & above size pipes. API 5L for pipe sizing 400NB & above are acceptable.
9	Cl.No. 1.13 d, Pg No. 285 of 348	As described	We understood this piping specification to be considered for sum pump and recovered water pumps discharge piping. Plesae confirm.	Confirmed.

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10	Cl.No. 1.14 , Pg No. 287 of 348	As described	Velosities for sump pump discharge piping, recovered water pump discharge piping and condensate piping not given. Please provide the same.	Velocity given for water shall be followed.

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11	Process and Instrumentation Diagram of HFO System, Pg.No. 322 of 348		HFO intertank transfer line from storage tanks is connected to HFO unloading pumps. As unloading pumps are far away from storage tanks required NPSH at pump suction will not be available. We request you to check and delete this intertank transfer line. However inter tank transfer can be done by pressurising pumps also.	Bidder is requested to furnish the NPSH calc.
12	Process and Instrumentation Diagram of LDO System, Pg.No. 323 of 348		Please confirm the number of pumps working for sizing inter tank transfer line in LDO system.	Two (2) nos pumps can be considered as working.
13	Process and Instrumentation Diagram of HFO & LDO System, Pg.No. 322 & 323 of 348		Please provide the sizes of HFO & LDO supply and return lines to pressurising pump house.	HFO service: a. Suction line: 200 NB b. Return line: 150 NB LDO service: a. Suction line: 100 NB b. Return line: 100 NB
14	P&ID for Steam and Condensate for HFO heating and tracing, Pg.No. 324 of 348		Two steam control valves shown for floor coil heater of each tank. In general 50% of coils connected to steam control valve and remaining coils connected to manual valves. Both valves will be used during heating and only control valve used during maintenance. Please check and confirm.	Bidder to follow the specification.
15	LCP & JUNCTION BOXES SPECIFICATION, , Page 230 of 348	2.00.00 CONTROL DESKS & PANELS: --- -----	In referred clause we have not understand the requirement of control desk. We understood that we have to provide one Local Control Panel (LCP) to terminate/connect all the instrumentation cables/ signal cable through junction box to this LCP. Interfacing with DCS from this LCP is on BHEL scope. As per the scope matrix there is no requirement of Control desks and other description given in the respective specifications; and is not clear. Please elaborate the scope and purpose of control desks.	Control desk is not in bidder's scope. Same shall be supplied along with FOCP Panels.
16	TECHNICAL SPECIFICATION FOR FUEL OIL UNLOADING & STORAGE SYSTEM ANNEXURE-II (EQUIPMENT DESIGN CRITERIA & FUEL OIL ANALYSIS) Page 288 of 348	INSULATION DESIGN PARAMETERS	Specifications for thermal insulation and aluminium cladding not given. Please provide.	Specification already given at clause 1.15, page 287 of 348.