

**OIL INDIA LIMITED**  
**(A Government of India Enterprise)**  
**P.O. Duliajan – 786602, Assam, India**  
**Website: [www.oil-india.com](http://www.oil-india.com)**

**Corrigendum No. 1 to IFB No. CPG8895P19**

**Engineering, Fabrication and supply of Modular Packages Contract (MPC) for OCS at Nadua and GGS at East Khagorijan in Dibrugarh District, Assam**

1. This Corrigendum is issued to notify the following:

a) In view of fresh queries received from bidders in matter corresponding to technical SOW, the final OIL/Consultant's responses to the queries are generated. All the bidders are requested to refer to **Annexure- I** attached herewith.

b) OIL/Consultant's responses to clarifications on compliance of some Tender clauses (regarding Commercial aspects) sought by bidders are attached as **Annexure- II** herewith.

c) Revised SOP is attached herewith as **Annexure- III**.

d) Deluge system piping and instrumentation diagram is attached herewith as **Annexure –IV**.

e) Copy of order issued by DGMS regarding equipment standards is attached as **Annexure- V**.

f) Revised P&ID for Oil/Gas Metering System is attached as **Annexure- VI**.

g) Revised P&ID for Crude Charge Pumps is attached as **Annexure- VII**.

2. All other terms and conditions of the tender remain unaltered.

3. All the prospective bidders are requested to regularly visit OIL's website: [www.oil-india.com](http://www.oil-india.com) and e-procurement portal <https://etender.srm.oilindia.in/irj/portal> for further announcements/latest information related to this tender.

4. Bidder to submit this Corrigendum No. 01 along with **Annexure – I to VII** duly signed & stamped in all pages as token of acceptance and shall upload this document in the un-priced folder of the e- bid.

**PRE-BID QUERY RESPONSE SHEET**

SL NO	RFQ SECTION	REF. CLAUSE	EXISTING CLAUSE	TECHNICAL QUERY	OIL/ CONSULTANT'S RESPONSE
1	Laydown area and preservation of the equipments	-	-	Bidder understands that, storage and preservation of the equipments of all the MPC-2 scope of supply by others. OIL to confirm.	MPC Contractor shall supply equipment with suitable packing for storing for a maximum of 6 months time. Bidder shall provide Storage & procedure preservation methodology.
2	TOR	18.0 Transportation	MPC contractor to undertake route survey, arrange and provide all loading/unloading facilities, Transportation of entire skid to Contractor's premises including all roll on, roll off facilities, crane(s), labour etc.	MPC-2 contractors Scope of Works is limited to Delivery of process packages at site. Unloading of material at site shall be in the scope of others.	Unloading of materials by others.
3	Section-III, P&ID Battery Limit Conditions	-	Package Tie In boundaries for Piping, Tubing, E&I Cabling and Earthing.	Bidder understands that all the Piping, Tubing, E&I Cabling and Earthing will be terminated at skid edge. Any interconnections will be further connected by others. Consultant to confirm. "Same applicable for NADUA also"	Interconnections of Piping, Tubing, E&I Cabling and Earthing within the module shall be in Bidder's scope of work
4	Section-III, P&ID 17039-EK-P-DW-0214-04	-	No Scope Split	Bidder understands that piping between the Propane bottles to flare pilot connection by others. Similarly Propoane bottles supply by others OIL to confirm. "Same Applicable for Nadua also"	Natural Gas will be used instead of Propane bottles in Ignition skid. Same shall be supplied with necessary Piping and side ignition. Skid is not in contractor's scope.

5	IFB No. CPG8895P19 - TOR (VOLUME-1 Part-3 SECTION-I)	5.0 (g) & (h)	MPC Battery limit - UPS & Lighting power tie-in	As each process package will be provided with lighting, we foresee dedicated feeder for lighting in these packages. However, UPS requirement will be confirmed post award.	Normal and Emergency Lighting power feeder will be provided at battery limit.
6	17039-ND-P- DB-1001 (PROCESS DESIGN BASIS)	3	Site conditions and available utilities - Electrical ambient temperature	Electrical design ambient temperature will be considered as 45 deg C. Please confirm.	Confirmed
7	17039-ND-P- DB-1001 (PROCESS DESIGN BASIS)	3	Site conditions and available utilities - Available power	Per SCC, it's understood that lighting supply will be 240VAC Ph-Ph, please confirm as this is not mentioned in available power. AC UPS Power supply shall be 240VAC 1PH 50Hz and DC UPS shall be 110V DC. Please confirm.	Lighting supply will be 240 V Ph-Ph. AC UPS power supply is 240 VAC 1 ph 50 Hz. DC UPS 110 VDC
8	17039 -CM-E- DB-9001 (ELECTRICAL DESIGN BASIS)	10.11.2	Type of lighting - Normal, Emergency and Critical	It is clarified that only Normal and Emergency lighting will be considered in Process package. Critical lighting shall be in the scope of others. Please confirm.	Critical lighting is also in the scope of Bidder
9	17039 -CM-E- DB-9001 (ELECTRICAL DESIGN BASIS)	10.11.10	Battery emergency lighting units	Battery backedup emergency lights are not considered.	Battery backup (with back up time of 90 minutes) emergency lights for escape route is to be considered by the bidder
10	17039 -CM-E- DB-9001 (ELECTRICAL DESIGN BASIS)	10.16	Electrical Heat Tracing	As individual process packages where in electrical heat tracing is required, it is clarified that package will be provided with a dedicated Trace Heating JB fed by Main heat tracing panel supplied and provided by others. Only distribution from Trace Heating JB via self regulating type cables will be considered with RTD sensors.	Bidder shall provide the heat tracer, RTD and a junction box for the battery limit heat tracing system, Client will provide the power supply upto the heat tracing JB from heat tracing power panel.

				Consultant/OIL to confirm.	
11	17039-EK-E-DS-XXXX (Typical datasheet for Pump Motor)	2.1	Approved Vendor list	Please provide the vendor list for motors.	There is no approved vendor list for this project. However Bidder shall select prospective motor vendors who has proven track record of supplied motors for similar application in oil and gas industry and shall meet the equipment evaluation criteria for this project.
12	17039-EK-E-DS-XXXX (Datasheet for Local Control Station)	8, 23	System voltage, Type of protection	Please confirm does the LCS for motor shall be of Ex-d or Ex-I type. Also please confirm the control supply rating for the contacts of Push button station i.e. 30V or 110V DC or 240V AC?	LCS shall be Ex-I type in hazardous areas. Control supply rating for the contacts of push button stations shall be 30 V in hazardous areas. For safe areas control supply will be 110V AC.
13	17039-EK-E-DS-XXXX (Datasheet for Local Control Station)	6	START, STOP, E-STOP and LOCAL-OFF-REMOTE	Here E-stop is added however the description of LCS with in Electrical Design Basis calls for only Start, Stop, L/R and Ammeter. Please confirm the actual requirement.	Bidder Shall follow sec 10.1.27 of electrical design basis
14	17039-EK-E-DS-XXXX (TYPICAL DATA SHEET FOR CABLES)	3	Approved Vendor list	Typical data sheet refers the approved vendor list for cables, Please provide the vendor list for cables.	There is no approved vendor list for this project. However Bidder shall select prospective cable vendors who has proven track record of supplied cables for similar application in oil and gas industries

15	17039-EK-E-DS-XXXX (TYPICAL DATA SHEET FOR CABLES)	-	Conductor material	We understand both lighting and earthing cables will be of copper conductor. Please confirm.	Confirmed
16	IFB No: SDG7383P18	4.0-f	MPC contractor's scope of supply for electrical cable tray shall be terminated at package tie-in. Power cables for motors and incomers for distribution boards inside package shall be sized and directly terminated by others	Contractor's scope of work is limited only to supply of pump motors, local control station (per P&ID) and electrical heaters if any. Power distribution (MCC) with required power & control cables with glands shall be made available by others.	Bidder's understanding is correct. For electric heaters, heater control panels shall also be supplied by the bidder
17	IFB No: SDG7383P18	4.0-h	Providing lighting power supply to the designated connection point of the lighting DB as specified by the MPC contractor will be provided by others.	Process Packages supplied by Contractor will be provided with lighting for the packages, which are cabled up to skid edge Lighting Junction Box. Power supply to the skid edge lighting junction box to be provided by others.	Bidder's understanding is correct
18	IFB No: SDG7383P18	8.0 - Electrical - 11	Earthing layout	Process Package will be provided with 2 nos. of earth stud diagonally opposite on the skid. Further interconnection to the main grid shall be provided by others. All equipment's and conducting materials with in the package will be bonded to the structural steel base of the skid.	Bidder's understanding is correct
19	Section-I part-3;17039-EK-I-GD-8002 /Rev-C	6.1 HAZARDOUS AREA REQUIREMENT	ATEX, FM Certified Intrinsically Safe (IS) equipment as per IEC standard shall be used.	Bidder propose to use IEC, Ex 'd' certificate for all the field instruments. OIL to confirm.	Bidder shall follow tender requirement

20	Section-I part-3 / 7039-EK-I-GD-8002 /Rev-C	6.3 PRESSURE AND DIFFERENTIAL PRESSURE TRANSMITTER	All the pressure instruments shall be designed and manufactured for intrinsic safety and suitable for operation in hazardous area.		
21	Section-I part-3 / 7039-EK-I-GD-8002 /Rev-C	6.2 PRESSURE GAUGE	2 Valve manifold shall be supplied along with pressure instrument and material of construction of manifold shall be same as element material.	Bidder to propose that to use gauge and needle valve instead of 2 valve manifold. OIL to confirm.	Bidder shall follow tender requirement
22	Section-I part-3 / 7039-EK-I-GD-8002 /Rev-C	6.4 TEMPERATURE GAUGES	Thermowell immersion length shall be as follows:	Thermowell immersion length shall be selected based on wake frequency calculation and 50% of immersion on the pipe. OIL to confirm..	Confirmed
23	Section-I part-3 / 7039-EK-I-GD-8002 /Rev-C	6.7 MAGNETROSTR ICTIVE LEVEL TRANSMITTER	Level Transmitters shall be provided with integral digital indicator or LCD having user configurable engineering unit indicating total level in ,mm' and ,%'.	Bidder will follow the units as mm and %.	Agreed
24	Section-I part-3 / 7039-EK-I-GD-8002 /Rev-C	6.11 ELECTROMAGNETIC FLOWMETER	These transmitters shall be 2 wire type having 4 - 20 mA analog signal with superimposed digital signal with HART communication protocol for SIL & Non SIL rated transmitters.	Bidder informs that, transmitters will be 2 wire or 4 wire type based on vendor inputs and detail engineering.	Agreed
25	Section-I part-3 / 7039-EK-I-GD-8002 /Rev-C	6.14 DIFFERENTIAL PRESSURE TYPE FLOW TRANSMITTER	The Differential Pressure transmitter shall be designed and manufactured for intrinsically safe and suitable for operation in hazardous area and will be certified by	Considering the hydrocarbon services of process skid application, Bidder understand that CMRI certification is not applicable for this servies, Bidder propose to use IEC, Ex 'd'	Bidder shall follow tender requirement

			CMRI (Central Mining Research Institute) / ERTL).	certificate for all the field instruments.	
26	Section-I part-3 / 7039-EK-I-GD-8002 /Rev-C	6.19.17 POSITIONERS	Positioners shall be smart type.	Noted. Standard smart positioners are considered with no feedback output.	Agreed
27	VOLUME-1 Part-3 /SECTION-I /TERMS OF REFERENCE & TECHNICAL SPECIFICATIONS	5.0 MPC BATTERY LIMIT:	g) Providing UPS power supply for Instrumentation & Control, Control Panel at one tie-in-point specified by the MPC contractor will be provided by others.	Bidder shall consider UPS JB's where more than three Instrument consumers required UPS power supply. For single instruments, Bidder shall consider necessary terminal blocks for power supply and client required to terminate UPS supply.	Not Acceptable. Bidder shall follow tender requirement
28	VOLUME-1 Part-3 /SECTION-I /TERMS OF REFERENCE & TECHNICAL SPECIFICATIONS	8.0 MINIMUM DELIVERABLES : INSTRUMENTATION	Loop Diagram & Logic Diagram	As per MPC-2 scope of work, control system is not part of bidder's scope hence Loop Diagram & Logic Diagram needs not to be generated. As part of skid scopes bidder will provide CE chart, Control narrative and Junction box wiring diagram.	Bidder shall note that Loop Diagram is by Control System Vendor. MPC-2 Cable Block Diagram and JB Wiring Diagram shall be provided as input to Control System Vendor. Logic Diagram is by MPC-2 bidder
29	Document review Cycle	NA		Consultant to provide the document review cycle for the engineering documents.	OIL / Consultant will try to keep the document review cycle as minimum as possible. Bidder to note that the review cycle depends on the quality of the document.

30	Section-II Part-II-Overall PFD		HP header operating pressure-28-90 Kg/cm2 LP header Operating pressure - 5-27 kg/cm2	Based on the referred document, Bidder presumes that if HP wells pressure is 27 kg/cm2 will be routed to LP header. Hence consultant HMB to be revised for the case case 3 and 4 with HP wells pressure as 28 kg/cm2 instead of 10 kg/cm2	Successful bidder to develop LP cases for less than 28 kg/cm2 incoming well fluid pressure. However given HMBT for 5-10 kg/cm2 for LP Wells govern the size of equipment, valves, etc. Refer HMBT &PID provided for design cases.
	Section -I, Process design Basis		Well arrival pressures:HP wells:10-90 kg/cm2LP wells:5-10 kg/cm2		
	Section -I, Heat and mass balance		Simulation considered LP well maximum pressure 27 kg/cm2.		
31	IFB no. CPG8895P19		Medium velocity spray nozzles are required for process skids	Bidder request OIL to provide the deluge system piping and instrumentation diagram for scope of supply consideration.	P&ID will be provided. Refer <b>Annexure-IV</b>
32	Section-III, Part-5Overall plot plan : EK,Doc. No. Doc.No.17039-ND-L-DW-4001 Rev-D & Overall Plot Plan :ND,Doc.No.17039-EK-L-DW-4001 Rev-D		Plot shall be followed safety distances based on OISD-118	Bidder's scope of works is limited to package boundaries. MPC-2 contractor being a package supplier, Consultant to confirm that maintaining OISD norms for the overall plot plan does not apply to the MPC-2 contractor. Please confirm	Plot plan attached in the Tender follows OISD requirements, Contractor to comply the same.
33	Section-III, Part-5Overall plot plan: EK,Doc. No. Doc.No.17039-ND-L-DW-4001 Rev-D & Overall Plot Plan :ND,Doc.No.170		<b>Overall plot plan: following Package:</b> 1.Separation system 2.Crude Stabilization Train-A/B 3.Hot Oil System 4.Trunk Line KOD 5.HP, LP Manifold system 6.Gas Metering Skid 7.NAG System	Based on our preliminary engineering works and dimensioning the process packages, we notice that the package boundaries provided for the critical process packages needs to be increased. Consultant/OIL needs to review this requirement and provide a confirmation.	Module/Package boundary shown in Layout is tentative. Module sizes shall vary slightly during module design.



	39-EK-L-DW-4001 Rev-D				
	17039-EK-E-DS-XXXX	3.7	Winding RTD requirement	As a standard engineering practise winding RTD will be provided for high voltage motors only. Motors in MPC-2 scope of works being lower voltage rated, winding RTD may not be required. Consultant/OIL to confirm.	Winding RTD is not required for LT motors
	IFB No. CPG8895P19 - SCC (VOLUME I - PART-III SECTION - 2)	4.1.6 (k)	Single Line Diagram	As Bidder's scope is only limited to Process Package supply, hence SLD will not be provided for each package, instead electrical load will be provided with complete load details.	Electrical load list shall be provided by the bidder. Wherever any distribution is used by the bidder (lighting/UPS etc), single line drawing for that shall be submitted by the bidder
34	IFB No. CPG8895P19 - SCC (VOLUME I - PART-III SECTION - 2)	4.1.8	DGMS approval	We understand only DGMS certifications is applicable for all the electrical items with in the process packages included in the MPC-2 scope of supply. OIL to confirm.	OMR2017 notified w.e.f 18/08/2017 DGMS approval is not mandatory. Refer the following: a) Ensure that the electrical/instrumentation appliance, equipment, machinery or other material that are used or may be used in zone "1" or zone "2" hazardous area of the project is of a type and specification conforming to an Indian standard or an international standard adopted by the Bureau of Indian Standards through harmonisation, specified by the Chief Inspector of Mines by a general order notified in the Official Gazette.

					<p>b) Provided that where no such standard exists, the Chief Inspector of Mines on merit, by a general order notified in the Official Gazette may accept an international standard.</p> <p>c) Provided also that such appliance, equipment, machinery or other material shall not be used in zone “1” and zone “2” hazardous area of the mine unless the same has been tested and passed the test as per the applicable standard and the supplier/vendor has kept a record of the type, details of specification, reference of the particular standard, test criteria as per the standards and status of testing, place of testing, copies of test reports and any other relevant details. All relevant qualifying documents shall be submitted to OIL vetted by Consultant.</p> <p>Refer <b>Annexure – V.</b></p>
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35	IFB No. CPG8895P19 - SCC (VOLUME I - PART-III SECTION - 2)	4.1.8 (a)	Earth leakage protection devices	It Is clarified that ELCB or any ground protection device will not be part of Process Package electrical equipments as these shall be considered by others in the upstream electrical distribution side.	ELCB shall be considered only for circuits which will be distributed by the bidder
36	IFB No. CPG8895P19 - SCC (VOLUME I - PART-III SECTION - 2)	4.1.8 (b)	Resistance Grounding system and isolation transformer	It is clarified that isolation transformer will not be part of Process Package electrical equipments as these shall be considered by others in the upstream electrical distribution side.	Bidder's understanding is correct
37	IFB No. CPG8895P19 - SCC (VOLUME I - PART-III SECTION - 2)	4.1.8 (c)	240V b/w phases for lighting and 415V/240V lighting transformer	1) It's understood that voltage level for lighting is 240V phase-phase, which will be provided by client at the skid edge lighting distribution board. Skid Lighting distribution board will have MCB's at the incoming and outgoing circuit for circuit isolation. Please confirm. 2) All required lighting transformer to derive 240V phase-phase is not in Bidder's scope and the same shall be considered by others.	Three phase 240 V power input will be provided by others to bidder at skid edge. Further distribution in the skid by the bidder
38	IFB No. CPG8895P19 - SCC (VOLUME I - PART-III SECTION - 2)	4.1.8 (d)	Remote Push Button Station for starting of motors shall be intrinsically safe	Please confirm does the LCS for motor shall be of Ex-de or Ex-I type. Also please confirm the control supply rating for the contacts of Push button station i.e. 30V or 110V or 230V	Remote Push Button Station for starting of motors shall be intrinsically safe Ex-I type, Control and Indication supply Voltage Refer Electrical design basis clause 7.26.

39	IFB No. CPG8895P19 - SCC (VOLUME I - PART-III SECTION - 2)	4.2	Area classification	Based on provided HAC layout, we understand all electrical equipment's to be certified for Zone-2, IIA/IIB, T3 for the process packages with Flame proof enclosure (Ex-d). Please confirm.	Confirmed.
40	IFB No. CPG8895P19 - TOR (VOLUME-1 Part-3 SECTION-I)	4.3 (9)	Power and control cabling, cable trays and tray supports within the module	Bidder's scope of work is limited only to supply of pump motors, local control station (per P&ID), Power Unit and electrical heaters if any + cable tray and supports within the process package. Power distribution (MCC) with required power & control cables with glands shall be made available by others. Also cable trays and supports outside the process package shall be by others.	Bidder understanding is correct. For electric heaters heater control panels shall be supplied by the bidder. The Power and control cable and cable trays outside the package is not in bidder scope
41	IFB No. CPG8895P19 - TOR (VOLUME-1 Part-3 SECTION-I)	4.3 (9)	Lighting & small power sockets and distribution boards	It is clarified that only lighting and it's DB will be considered while small power convenience & welding socket will not be part of process package supply, as these shall be considered outside process package by others. Please confirm.	Bidder understanding is correct. Bidder shall provide the Lighting & small power and required DB's for each of their skid, within the battery limit will be in bidder scope of work.
42	IFB No. CPG8895P19 - TOR (VOLUME-1 Part-3 SECTION-I)	4.3 (9)	Fire proof sealing system(As required)	It is clarified that Fire proof sealing system is not applicable for Process Packages, as these are pertaining to MCT's for E-house or Control rooms or equipments in safe area.	Agreed.

43	IFB No. CPG8895P19 - TOR (VOLUME-1 Part-3 SECTION-I)	4.3 (9)	Local AC UPS distribution & Local DC UPS distribution	It Is clarified that AC UPS DB & DC UPS DB will be provided for the process packages if there are load consumers more than one number in that package. In case, if a package has only one consumer, cables shall be directly terminated in the load instead of a separate DB. Additionally, please advise does these DB's require isolation of circuits locally through MCB?	Bidder understanding is correct. If a package has only one consumer, cables shall be directly terminated. Local DB's circuits isolation required
44	IFB No. CPG8895P19 - TOR (VOLUME-1 Part-3 SECTION-I)	5.0 (f)	MPC Battery limit - Power cables for motors and incomers for distribution boards inside package shall be sized and directly terminated by others	This statement shall include control cables for motor push button station.	It includes the control cables for motor push button station
45	IFB no.CPG8895P19		F&G detectors within the package, F&G mapping in contractor scope.	Bidder presumes that, F&G mapping study and F&G layout for overall plot plan shall be done by others. Bidder will provide the required F&G detectors within the package based on the F&G layout. Consultant/OIL to confirm.	Confirmed.
46	17039-CM-M- SP-2009	4.4	OISD-STD-125 & API 682 shall be considered for Mechanical seal selection.	OSID-STD-125 is about Inspection and maintenance of seals. This document is not relevant for design and selection of seal and seal plans. API 682 4th Edition shall be followed	OISD-STD-125 specifies the Safety Consideration for selection of Seals and Seal Systems. API 682 shall be followed for selection plan.

47	17039-CM-M-SP-2009	4.6	<p>All skids shall be designed to be self supporting. Pumps and drivers shall be provided with anti- vibration mounts, where required. The skid base shall have sufficient mass and structural rigidity to avoid natural frequencies resulting in resonance, and to ensure that only residual vibration levels occur under normal operation conditions. Base Plate Rigidity Design calculations shall be submitted for CONSULTANT review.</p>	<p>AVM is not required for on shore installations. Bidder shall supply pumps with rigid baseplate suitable for Non-grout construction. Baseplate rigidity calculations involve FEA analysis. Since these machines are low energy and involve standard 2 pole/4 pole motor such study is not required to check the separation margin from natural frequency of the bearing housing.</p>	Agreed
48	17039-CM-M-SP-2009	5.3	<p>All welding on pressure retaining parts shall receive 100% NDT. This shall be carried out after stress relieving, if any.</p> <p>b) Magnetic particle or dye penetrant methods shall be used for surface inspection. Ultrasonic or radiographic inspection methods shall be used for sub-surface inspection.</p> <p>c) Butt weld of pressure parts shall be fully Radiographed and other welds on pressure parts shall be inspected by Dye Penetrant examination. All fillet welds shall be examined by Dye Penetrant Testing.</p>	<p>Bidder shall follow API 610-Table 14 Level 2 Inspection. Socket welding will be done on casing drain and seal piping.</p>	Agreed

49	17039-CM-M-SP-2013	6.2	The pump nozzles shall be designed for 2 times the forces and moments value specified in Table 6a of API 674.	Since these pumps are on Shore installation, bidder recommends having 1X API Loads. 2X API 674 loading for the nozzles is a stringent requirement that is not required. Alternatively bidder shall perform Pipe stress analysis to ensure adequate support for the piping's.	1x API Loads agreed, provided the pump nozzle loads are qualified by the MPC Contractor.
50	17039-CM-M-SP-2013	5	Pulsation suppressor shall be designed as per ASME SEC VIII DIV 1 and in accordance with "Specification for Unfired Pressure vessel". The Bladder type dampeners shall be provided with suitable charging kit as spare.	Bidder proposes to provide the pulsation dampeners complying to ASME Sec VIII Div. 1. While compliance to 17039-CM-M-SP-2007-Unfired Pressure Vessel spec. is not requires as these are relatively small vessels less than 8" dia and all the requirements mentioned in spec shall not be applicable.	MPC Contractor shall comply with ASME Sec VIII, Div 1.
51	PACKAGE SPECIFICATION FOR STRUCTURAL WORKS Doc No : 17039-CM-S-SP-5001	5.2	Structural steel shall be of yield stress of 250 MPa conforming to Grade A of IS: 2062. Tubular steel shall conform to Yst 240 of IS: 1161.	We proposed to use higher grade of structural steel having yield stress of 350 Mpa or more. Consultant to confirm.	It is preferable to supply IS 2062 Grade A of 250 Mpa, however superior material is acceptable.
52	PACKAGE SPECIFICATION FOR STRUCTURAL WORKS Doc No : 17039-CM-S-SP-5001	5.3	Fire-proofing of steel structures, wherever required as per OISD-STD-164, shall be done for 2 hours fire rating.	Fire water ring main system is planned for the plant. Hence fire proofing of steel structures shall be avoided. Consultant to confirm.	Not acceptable. Passive fire protection to be provided as per OISD-STD-164 in addition to Active fire protection.

53	TECHNICAL SPECIFICATION FOR STRUCTURAL WORKS Doc No : 17039-CM-S-GD-5001	4.85	Cleats/plates provided in steel beam /column constructed by others to receive structures covered under this scope of work. CONTRACTOR shall take note of discrepancies if any, shall be reported to ENGINEER-IN-CHARGE and fabricate the structures covered under this contract suitably before the commencement of erection.	Noted. Anchor bolts shall be placed as per the input from bidder by civil contractor and the same input is lined up for the fabrications and steel works at the site of skid manufacture. Any wrong placement of anchor bolts to be rectified by civil contractor only. Consultant to confirm.	Noted, MPC Contractor to provide Steel template for preparing the foundation.
54	SPECIFICATION FOR SURFACE PREPARATION AND PAINTING Doc No:17039-CM-M-SP-2005			Painting and coating requirements for fire proof painted steel shall be detailed. Fire proof paint specification shall be made available.	Fire proof paint specification shall be made available later
55	MODULAR PACKAGE CONTRACT (MPC-2) Engineering, Procurement, Fabrication and Supply of Modular Process System Package For OCS, Nadua and GGS, East Khagorijan IFB No. CPG8895P19	4.3.11	Anchor bolts for complete package and Steel foundation template for anchor bolt fixation	Anchor bolts supply is in scope of civil contractor. Bidder will provide the foundation load input with support location for design of foundation.	Anchor bolts and Steel template shall be provided by MPC Contractor 60 days prior to delivery of package.
56	IFB No. CPG8895P19	Section 14.0.c	The right to witness all inspection and Non-Destructive Test from raw material certification till final	Inspection stages will be as per approved ITP. OIL to confirm.	Agreed



			stage of inspection is reserved by EPCM consultant /OIL and their TPI agency.		
57	VOLUME I - PART-III SECTION - 2, Special Conditions of Contract and IFB No. CPG8895P19	11. Inspection & test  42. INSPECTION AND TEST :	Third Party Inspection agency (i.e., SGS/ TUV/ BV/ DNV/LRIS/IRS/RITES)	Bidder requesting to add another Third Party Inspection agency - M/S. Tata Projects ltd. (TPL) & Intertec into the list of third party inspection list into the Bid. OIL to confirm.	OIL's listed/empanelled TPI service provider's list can't be modified.
58	IFB No. CPG8895P19	Section 14.0 f	EPCM/OIL will inspect the various equipment and machinery during the various stages of construction and tests at the manufacturer's works. MPC contractor shall intimate EPCM consultant / OIL, the location and date of inspection before four (4) weeks.	Bidder requesting OIL that intimation (location and date) for the inspection as before fifteen (15) days instead of 4 weeks. OIL to confirm.	OIL/Consultant will intimate about inspection well in advance.
59	[Annexure - V to special conditions of contract] quality management system MPC contractor to submit their quality management policy and quality manual with QMS certificate	Annexure- VI	[Annexure - VI to special conditions of contract] health, safety and environment (HSE) management MPC contractor to submit their HSE management policy and HSE manual with HSE certificate	Bidder is compliant with HSE Management system however not certified. Hence bidder will provide the Manual and policy, not the HSE certificate. OIL to confirm.	Agreed

60	IFB No. CPG8895P19	Section 18.0	The dimensions of any skid shall not exceed the standard ISO container size (for any mode of transportation)	Based on our discussions with logistics companies operating through these regions, we understand that the modularized package dimensions/single shipment size shall be higher than a standard ISO container and truckable using ODC containers. Consultant/OIL shall remove the limitation to the shipping dimension as it is in the scope of MPC-2 contractor's scope.	It is bidder's responsibility to deliver the modules at site within the stipulated delivery period. For ease of transportation bidder may choose ODC consignments also.
61		Heat Exchanger Approach Temperatures		As per design basis Doc No: 17039-EK-P-DB-1001, it is seen that heat exchanger approach of shell & tube and air cooler are 5 and 10°C respectively. Bidder request client to clarify reason for selecting these values because this could be considered as 5 to 10 <sup>0</sup> C for Shell & Tube and 10 to 15 <sup>0</sup> C for Air Cooled Heat Exchangers. Please clarify.	Temperature approach value given as 5 and 10 °C for shell & tube and air cooler are minimum approach values should not be below the values given in the tender.
62		Responsibility for QHSE Philosophy		Bidder is not responsible for development of the HSE philosophy. This document is to be developed by the Client/ Consultant for our reference. Bidders current offer and design considers only those specifications provided with the package requisition as well as applicable international design codes and standards. Please confirm.	Bidder shall develop HSE plan based on OIL HSE policy for their scope of work and submit the same.

63		Utility System Size and Selection		Utilities systems sizing are currently based upon capacities indicated in Doc No: 17039-EK-P-DB-1001 _Rev.C for Oil Collecting Station (OCS) at Nadua and Group Gathering Station (GGS) at East Khagorijan. Bidder has not considered any additional design margins on of these values. Client to advise if these figures already include for design margin or if this should be added. Please confirm.	Bidder shall not consider any additional margin
64		Chemical Injection System		Sizing and selection of Chemicals Injection Systems are currently based upon designed as multi compartment tanks and designed for 7 days (continuous operation) storage capacity and indicated in Doc No: 17039-EK-P-DB-1001 _Rev.C for Oil Collecting Station (OCS) at Nadua and Group Gathering Station (GGS) at East Khagorijan. Bidder has not considered any additional design margins on of these values. Client to advise if these figures already include for design margin or if this should be added. Please confirm.	Bidder shall not consider any additional margin
65		Design Margin		Bidder has not considered any additional design margin on oil-gas flow rate. Individual equipment items have additional design margins considered. Please confirm.	Bidder shall not consider any additional margin

66		Hot Oil System		Please clarify our understanding that air intake for inlet heater and Hot Oil heater shall be considered as least 8 m from grade level to avoid any ingress and 3 m away from heater wall. Vendor to provide Air intake facility from grade level as at least 8 m to avoid any ingress of hydrocarbon, rain and foreign matters. Please confirm and ensure air intake for inlet heaters and hot oil heaters suitable height from grade to avoid HC ingress.	Vendor is responsible for suitable design.
67		Hot Oil System		Fuel gas emission composition from hot oil heater is required from Vendor to ensure emissions levels within WHO standard.	Fuel gas composition is already provided by company. Vendor to ensure fuel gas emission composition from hot oil heater within CPCB norms.
68		Hot Oil System		As per PIDs Doc No. 17039-EK-P-DW-0213-04_Rev.B, whereas as fuel gas blanketing is not considered for hot oil drain tank, EK-MBD-3320. Bidder understands, there is required gas blanketing for hot oil drain tank. Please Confirm.	Vendor to provide suitable explanation on blanketing requirement for hot oil system.
69		Hot Oil System		PID does not show control valve on by-pass line from hot oil heater to expansion tank for pressure control of expansion tank. Bidder understands for the control valve could be used. Please confirm.	Follow as per tender PIDs

70		Performance Guarantee		Performance guarantee is provided based upon the current operational design data provided as part of the requisition. Any change to this data may have an impact on the performance of the system and as such any claim against performance guarantee requires Bidder right to review actual operating data in relation to performance. In addition, any performance guarantee is given based upon the assumption that the Client will follow and adhere to all necessary maintenance and operational requirements of the packages.	Performance guarantee is a contractual obligation of the MPC 2 Package contractor. Details of the Performance guarantee test run after contract award. Tender condition prevail
71	TOR- 7 of 36  Equipment List for EK (17039-EK-M-LL-20017	Section 4.1, Clause 9)  NAG Well Heaters	Nos. of NAG Well Heaters	As per this section, 7 nos. (including 1 spare) NAG well heaters are required, however, in Equipment List and P&ID, only 6 Tag numbers are shown. We understand that total 7 nos. inclusive of 1 spare to be considered as per TOR and Note 11 of Equipment List. Pls Confirm.	Bidder understanding of 7 heaters as per TOR and Note-11 of equipment list is correct. Bidder to supply 7 nos of NAG well heaters and the spare heater will be placed in warehouse.
72	TOR, Page 19 of 36	6.0 Package Engineering, e)	HAZOP, SIL Studies	Pls clarify the scope of HAZOP and SIL studies carry out. Whether these studies will be conducted by third party arranged by EPCM Consultant/OIL and BIDDER will be limited to participation and incorporation of HAZOP/SIL recommendations ORHAZOP/SIL to be arranged by BIDDER and that is also ONLY for MPC-2 scope of supply.	HAZOP/SIL to be conducted by MPC-2 contractor for the systems he is supplying.

73	TOR, Page 25 of 36	8.0 Minimum Deliverables	Process Deliverables	BIDDER understand that native files (ACAD) of Process drawings such as PFDs, UFDs and P&IDs etc. are available and will be provided to BIDDER.	PFDs, UFDs and P&IDs will be provided to successful bidder after award of contract.
74	Section 1, Part 2	Ref.1: 17039-CM-M-SP-2008 (SPECIFICATION FOR SHELL & TUBE HEAT EXCHANGER)	Preferred Tube Size and Length	<p>BIDDER understands from Clause 4.5.1 of Ref.1 that there is no preferred tube OD and tube length requirement.</p> <p>BIDDER proposes to use 19.05 mm/25.4 mm OD tubes with tube length in multiple of 100 mm as required for design duty. Request COMPANY to confirm the proposed tube OD and tube length philosophy.</p>	Bidder is advised to use standard sizes of Pipes & Tubes.
75	Section 1, Part 2	Ref.1: 17039-CM-M-SP-2008 (SPECIFICATION FOR SHELL & TUBE HEAT EXCHANGER)	Fouling Service Criterion.	As per Clause 4.5.6 of Ref-1, 'Square tube pattern shall be required for removable bundles where the shell side fouling resistance is 0.00035 m <sup>2</sup> CNV or more'. BIDDER understands fouling resistance is to be read as 0.00035 m <sup>2</sup> /C-W and streams having fouling resistance of 0.00035 m <sup>2</sup> /C-W or more are to be considered as fouling service. Request COMPANY to confirm BIDDER understanding.	Fouling factor unit shall be m <sup>2</sup> deg. C/W

76	Section 1, Part 2	Ref.1: 17039-CM-M-SP-2008 (SPECIFICATION FOR SHELL & TUBE HEAT EXCHANGER)  Ref.2: 17039-EK-P-DB-1001 (PROCESS DESIGN BASIS)	Design Margin Criterion for Heat Exchangers	Design margin criterion stated in Clause 4.3 of Ref.1 is not clear to BIDDER. BIDDER understands the Design Margin Criterion stated in Ref.2, Clause 9.2 - Note-1 & Note-2 is to be followed. Request COMPANY to confirm BIDDER understanding.	Bidder's understanding is correct. Refer process design basis for design margin for design of heat exchangers.
77			PDS for Heat Exchangers	BIDDER could not locate heat exchanger process datasheet in BID documents. For estimation purpose, request COMPANY to provide PDS for all heat exchangers which may contain the design process parameters, thermophysical properties of hot/cold stream and THX curve (if two-phase).	Bidder to refer tender documents provided.
78	TOR, Page 19 of 36	6.0 Package Engineering,	-	As per P&ID no 17039-EK-P-DW-0202-04, MPC- 5 , FIRE FIGHTING CONTRACT is not in BIDDER' scope. BIDDER understand that entire fire fighting distribution network for the plant including hydrants , monitors , deluge valves , Landing valves, wet risers for buildings , alarm valves etc shall not be considered in BIDDER's scope.	Bidder's understanding is correct. However, bidder to consider Fire water pipe and spray nozzles, Quartzoid Bulb Detectors (QBD), Fire extinguishers, etc., inside MPC-2 package skids in their scope of supply.
79	TOR, Page 19 of 36	6.0 Package Engineering,	-	BIDDERS understand that package no 19 and 20 i.e fire water tanks and pumps as Per plot plan no 17039-EK-L-DW-4001 and 17039-ND-L-DW-4001, are not to be	Bidder's understanding on Fire water tanks and pumps scope is correct.

				considered in BIDDER's scope.	
80	TOR, Page 19 of 36	6.0 Package Engineering,	-	BIDDER believes that tie in point pressure downstream of deluge valve shall be provided and fire water spray system is to be considered only from downstream of the deluge valve in the BIDDER's scope.	Bidder shall provide deluge piping within MPC-2 skid limit only. Interconnecting piping (from downstream of deluge valve till skid boundary) shall be by others.
81	TOR, Page 19 of 36	6.0 Package Engineering,	-	All other fire fighting systems such as Fire and gas detectors, extinguishers, fire proofing requirements, hazardous area classification requirements are only restricted to the packages as part of MPC-2. No fire fighting system is to be provided outside the skids mentioned in MPC -2.	Bidder's understanding is correct.
82	TOR, Page 19 of 36	6.0 Package Engineering,	-	Fire fighting systems such as wet risers, extinguishers, smoke detectors, clean agent, sprinklers system for other periphery and buildings which are not part of MPC -2 are not to be considered in the BIDDER's scope.	Bidder's understanding is correct.
83	TOR, Page 19 of 36	6.0 Package Engineering,	-	BIDDER understands that only participaton in HAZOP; SIL AND F&G Mapping studies are to be considered in BIDDER scope. Study will be carried out by EPCM consultant. No other study is envisaged.	HAZOP/SIL to be conducted by MPC-2 contractor for the systems he is supplying.



84	Section II, Part 5	Overall Plot Plant	Piperack Elevation	Piperack elevation with piping elevations outside skid required. This will enable us to ensure appropriate skid dimension considering PSV elevation and corresponding platform configuration based on flare header elevation on main rack.	Piperack elevation is tentatively is 6 M. Flare header may be at 11 M elevation. Shall be confirmed after award.
85	Document no. 17039-EK-I-DB-8001, Page 18 of 61	7.0	INSTRUMENTATION PHILOSOPHY - DCS, SIS/ESD and FGS, Central SCADA, Surveillance System, VSAT Antenna, Intercom Telephone, Walkie-Talkie.	Please confirm below points; 1) Requirement of DCS, SIS/ESD and FGS, Central SCADA, Surveillance System, VSAT Antenna, Intercom Telephone, Walkie-Talkie stated in given document is not a part of MPC-2 Contractor scope. 2) Termination of Skid instrument to be done inside skid battery limit and termination from Skid to DCS, ESD, FGS system shall be by others.	Bidder understanding is correct.
86		ITB Doc 'Volume-1, Part-3, Section-1' Cl No.4.1 & 4.2	Generation & Electrical Substation Scope	As per Cl No.4.1 & 4.2 Substation, Control Room, Captive Power Plant, Emergency Diesel Generator is not listed as skids under MPC contract. Thus we assume that this is not in our scope of supply.	Bidder understanding is correct.
87			Cable sizing Scope	MPC contractor will provide the inputs required for cable sizing of cables (excluding cables within skid), sizing of cables & routine of the cables outside skid are not in MPC contractors scope.	Bidder understanding is correct. Routing of cable within the skid is in bidder scope of work.

88		ITB Doc 'Volume-1, Part-3, Section-1' Cl No.5(h)	Lighting Scope	As per Cl No.5(h) 'Providing Lighting power supply to the designated connection point of the lighting DB as specified by the MPC contractor will be by others.' As per this we understand that each package skid needs to be provided with Distribution boards for lighting & small power (Normal, Emergency & Power). Client to confirm bidders understanding.	Bidder understanding is correct. Bidder shall provide the Lighting DB for their each skid; client will provide the incoming power supply to their lighting DB, within the battery limit will be by bidder scope of work.
89			Earthing Scope	Bidder understand that Earth Bus bars need to be provided by bidder on each skid, earthing of each equipment inside skid to thus earth bus bar will be in bidders scope. Connection of these earthing bus Bars to main grid will be in client's scope. Client to confirm bidders understanding.	Bidder understanding is correct.
90			Documents required	Client to provide following specifications 1) LV Motor Specification. 2) Cable Specification.	Refer LV motor data sheet Refer Power cable data sheet
91		Electrical Design Basis (Doc No. 17039-CM-E-db-9001), Cl. No. 10.1.14	Variable Frequency Drive	As per Cl. No. 10.1.14 'Soft Starters & VFDs to be housed in MCC panels.' Thus we understand that VFDs required for motors on skids by MPC contractor are in other contractor's scope. Client to confirm the bidders understanding.	Bidder understanding is correct.

92		Electrical Design Basis (Doc No. 17039-CM-E-db-9001), Cl. No. 10.11.11 & 10.11.12	Lamp Type	As per CL.No. 10.11.11 'HPMV/MLL/CFL/LED lamps to be used.' Whereas as per CL.No. 10.11.12 Energy Efficient/LED lamps to be used. Selection of lamp will have impact on skid cost. Thus client to specify exact lamp type required.	Bidder to provide LED type
93		Electrical Design Basis (Doc No. 17039-CM-E-db-9001), Cl. No. 10.16.10	Hazardous area equipment	As per CL.No. 10.11.11 'For Unclassified areas: Equipment complying with the requirement for Zone 1 & 2 Standard industrial equipment to be used' Bidder Understand that for Unclassified area Industrial type Equipment (Not Suitable for any hazardous area) to be used. Client to confirm bidders understanding.	Bidder understanding is correct.  Electrical equipments which are located in hazardous area shall be flameproof type, Zone 2, Gas Group IIA /IIB, T3 with IP65.  Electrical equipments which are located in safe area shall have the degree of protection of IP55 or equivalent
94		TYPICAL DATA SHEET FOR PUMP MOTOR Cl. No. 3.7	LV Motor Winding RTD.	As per Sr. No. 3.7 Client has specified requirement of winding RTD in Data Sheet for LV Motors, But the RTD provision criteria based on motor rating is not given. Client to specify the minimum motor rating above which the RTD need to be provided.	For LV motor, winding RTD is not required

95	<p>Page no 100 of 109 of doc no 17039-EK-P-GD-1005 Rev C &amp;</p> <p>Page no 95 of 103 of doc no 17039-ND-P-GD-1005 Rev C</p>	-	API 560 design for hot oil heater	<p>Bidder proposes to use non-API fired heaters for this hot oil heater as it is skid based hot oil package to minimize the site work. The design of such heater will be as per OEM standards meeting client design basis. Client to confirm the same</p>	<p>Bidder to follow tender specification.</p>
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**OIL's RESPONSE TO ACCEPTABILITY OF NON-COMPLIANCE OF CLAUSE IN VARIOUS SECTIONS OF TENDER**

Section No	Clause No. (Page No.)	Non-Compliance	OIL/Consultant's response
ITB	Clause 30.1 (a)	<p>The bidder in the present case is a foreign entity, having a branch in India. The Branch in India shall undertake the supply. The bidder shall deliver upto site since it has presence in India and will charge GST on such sale.</p> <p>Kindly clarify the price table to be used in the case and whether the bidder can follow the incoterms as per Indian bidder</p>	<p>If Bidder is a Foreign Entity, the SOR applicable to Foreign Bidder to be followed. GST as extra will be decided at that point of time.</p> <p>Incoterms applicable for foreign bidder will be as mentioned in tender docs.</p>
BEC	Clause 2, Note 2 (page 2)	<p>Bidder request the following change:</p> <p>i) A certificate issued by a practicing Chartered/Cost Accountant (with Membership Number and Firm Registration Number), certifying the Annual turnover &amp; Net worth. <b>AND</b></p> <p>ii) Audited Balance Sheet along with Profit &amp; Loss account. In case of Foreign bidders, self-attested/digitally signed printed published accounts are also acceptable. <b>OR</b></p> <p>Reason - Bidder is a foreign Company. Kindly clarify signed printed accounts only are acceptable and CA certificate not required for a foreign bidder</p>	Bidder's understanding is correct.
General Terms & Conditions	New Clause	<p>Please add definition</p> <p>"Wilful Misconduct" means intentional disregard of good and prudent standards of performance or proper conduct under the Contract with knowledge that it is likely to result in any injury to any person or persons or loss or damage of property."</p>	Acceptable.
General Terms & Conditions	Clause 30.1 (page 19)	<p>Bidder's price is exclusive of GST (Goods &amp; Service Tax).</p> <p>As per bid guidelines, GST is excluded in the base price quoted. SLB will pay GST on sub-vendor invoices and Client will reimburse the GST to SLB within the contractual payment terms</p>	GST as applicable will be reimbursed by OIL

Section No	Clause No. (Page No.)	Non-Compliance	OIL/Consultant's response
General Terms & Conditions	Clause 31 (page 24)	Please waive requirement for advance payment Bank guarantee. Contractor cannot grant advance payment bank guarantee over same time period as the Performance Security. All bond costs to be priced into project costs.	Tender conditions prevail.
General Terms & Conditions	Clause 39 (page 25)	A Performance Security may be considered if on Contractor's standard bank guarantee terms OR issued by Contractor relationship bank with express notice of claim provisions, clear expiry date and not to exceed 5% of the total price of the contract. Bidder takes exception to PROFORMA E Template.	Tender conditions prevail. Exceptions aren't allowed.
General Terms & Conditions	Clause 43 (page 28)	Contractor also guarantees the design, workmanship and the freedom from defects of the Goods and/or Services for a period of one (1) Gregorian year from the installation or use of the Goods and/or Services by Company or eighteen (18) Gregorian months from the date of receipt of the Goods and/or Services by Company, <b>whichever occurs first.</b>	Acceptable.
General Terms & Conditions	Clause 48.18 (page 32)	Kindly add:  Bidder's price is exclusive of GST (Goods & Service Tax). – Beyond the contract period, in case OIL is not entitled for input tax credit of GST, then any increase in the rate of GST beyond the contractual delivery period shall be to Service provider's account <b>provided the delay is on account of service provider.</b>	OK
General Terms & Conditions	New Clause 48.26	Please add new clause as follows:  "In the event of denial of benefit to the contractor provided under notification no.3/2017-central tax and similar notification under state and integrated tax or notification no. 50/2017-customs or no issuance of essentiality certificate by DGH for reason not attributable to the contractor, contractor shall charge applicable customs duty on import or goods and service tax on supply as per the HSN code of the product".	New clause not required since it is the responsibility of the Company (OIL) to provide /facilitate required documents for availing Zero Customs duty and IGST@5%.
General Terms & Conditions	Clause 51.1. (page 35)	We kindly request to limit our liability to 50% of value of Purchase Order and add at the end of the clause the following:  "Company shall indemnify and keep indemnified Contractor harmless from and against any and all claims, costs, losses and liabilities in excess of the aggregate	1.0 OIL considers limiting the liability of Bidder to 50% of value of Purchase Order provided that this limitation shall

Section No	Clause No. (Page No.)	Non-Compliance	OIL/Consultant's response
		liability amount”.	<p>not be applicable to cost of repairing or replacing defective equipment by the Contractor, or to any obligation of the Contractor to indemnify the Company with respect to Intellectual Property Rights and in cases of willful misconduct and or criminal acts.</p> <p>2.0 OIL shall indemnify and keep indemnified Contractor harmless from and against any and all claims, costs, losses and liabilities in excess of the aggregate liability amount in terms of clause 1.0 above.</p>
General Terms & Conditions	Clause 60 (page38)	<p>Please amend as follows:</p> <p>The duration for supplying all the contractual package materials/items as per TOR and specification shall <b>be 11 to 13 months</b> from the date of <b>Contractor's acceptance of Company's issuance of an acceptable</b> Letter of Award (LOA). In the event of delay on the part of the Contractor to deliver package material/items, within the stipulated period of 11 to 13 months <b>after a 2 weeks grace period and excluding all delays due to customs clearance (beyond 7 working days)</b>, Liquidated Damage 0.5% of delayed item cost, per Week or part thereof subject to a cumulative maximum of 5% of total contract price will be applicable. <del>Should there be default on the part of the Contractor for more than 26 Weeks from the scheduled date to complete the delivery or to complete the installation/commissioning &amp; Training (wherever applicable) successfully,</del> Delivery schedule is subject to drawings submitted for approval to the Company or Company's appointed representative being returned within</p>	Not acceptable. Tender conditions prevail.

Section No	Clause No. (Page No.)	Non-Compliance	OIL/Consultant's response
		<p>one (1) calendar weeks and one (1) review cycles. Any document comments including third parties' received by Contractor after the review period will be considered late. Also, new comments on a subsequent revision of a document will be considered late, based on the original submittal date of the document. Late documents will result in an extension to the delivery period.</p> <p>Please add at the end of point 2 as follows:</p> <p>“It is agreed that the payment of such liquidated damages shall be considered by the Parties as a genuine pre-estimate of the loss Company may incur due to delay and that the same shall represent the sole remedy available to Company in respect of delay under this Agreement or otherwise at law”.</p> <p>Please add at the end of point 2 as follows:</p> <p>“Notwithstanding the foregoing, Company agrees to waive its rights to the application of liquidated damages for delay in the event Contractor's delay does not cause any adverse commercial impact to Company”.</p>	
General Terms & Conditions	New Clause 61.7. (page 40)	<p>Please add new clause as follows:</p> <p>“In the event of termination for Company's convenience, Contractor should be reimbursed for all costs incurred, including, but not limited to, the costs for material ordered and/or cancellation fees, de-mobilisation costs, costs for terminating labour agreements, subcontracts and other costs reasonably incurred in the expectation of completing the whole of the work”.</p>	The payment liability to OIL in this case is limited to the value of Work done /value of the executed part of the PO as per Contract.
General Terms & Conditions	New clause 61.8 (page 40)	<p>Please add new clause as follows:</p> <p>“CONTRACTOR may terminate the CONTRACT with prior written notice of at least 30 days when:</p> <p>Company fails to pay an undisputed amount to CONTRACTOR that is properly presented, due, and payable for more than 60 days; and</p> <p>CONTRACTOR has given COMPANY written notice of COMPANY's failure to timely make payment and COMPANY has not paid CONTRACTOR within 30 days after receipt of the notice”.</p>	Bidder to follow the bidding document.



Section No	Clause No. (Page No.)	Non-Compliance	OIL/Consultant's response
General Terms & Conditions	New Clause 61.9.	<p>Please add new clause as follows:</p> <p>While performing the Work for the Company, Contractor may utilize expertise, know-how and other intellectual capital (including intellectual property) and develop additional expertise, know-how and other intellectual capital (including intellectual property) which are Contractor's exclusive property and which Contractor may freely utilize in providing services for its other customers. Except where expressly and specifically indicated in writing, and in exchange for appropriate agreed payment, Contractor does not develop any intellectual property for ownership by Company, Contractor retains sole ownership of any such intellectual capital (including intellectual property) created by Contractor during the course of providing the Services.</p> <p>Contractor shall indemnify and hold the Company harmless from any third party claims arising on account of intellectual property infringement with respect to its services or products except where such infringement is caused due to:</p> <p>(a) Specific modification or design of Contractor equipment or Services to meet Company's specifications,</p> <p>(b) Combination of Contractor's equipment or Services in combination of other equipment and/ or services not recommended by Contractor,</p> <p>(c) Out of unauthorized additions or modifications of Contractor's equipment or services by Company, or</p> <p>(d) Company's use of Contractor's equipment or Services that does not correspond to Contractor's published standards or specifications; in which case, the Company shall indemnify and hold the Contractor harmless</p>	Acceptable.
General Terms & Conditions	New Clause 61.10.	<p>Except as otherwise expressly provided, neither Company nor its servants, agents, nominees, Contractors, or sub-contractors shall have any liability or responsibility whatsoever to whomsoever for loss of or damage to the equipment and/or loss of or damage to the property of the Contractor and/or their Contractors or sub contractors, irrespective of how such loss or damage is caused and even if caused by the negligence of Company and/or its servants, agent, nominees, assignees, contractors and sub-contractors. The Contractor shall protect, defend, indemnify and hold harmless Company from and against such loss or damage and any suit, claim</p>	Refer our earlier response on limiting of liability. (Clause 51.1. page 35)

Section No	Clause No. (Page No.)	Non-Compliance	OIL/Consultant's response
		<p>or expense resulting there from.</p> <p>Neither Company nor its servants, agents, nominees, assignees, Contractors, subcontractors shall have any liability or responsibility whatsoever for injury to, illness, or death of any employee of the Contractor and/or of its contractors or subcontractor irrespective of how such injury, illness or death is caused and even if caused by the negligence of Company and/or its servants, agents nominees, assignees, Contractors and sub-contractors. Contractor shall protect, defend, indemnify and hold harmless Company from and against such liabilities and any suit, claim or expense resulting therefrom.</p> <p>The Contractor hereby agrees to waive its right to recourse and further agrees to cause their underwriters to waive their right of subrogation against Company and/or its underwrites, servants, agents, nominees, assignees, Contractors and subcontractors for loss or damage to the equipment of the Contractor and/or its subcontractors when such loss or damage or liabilities arises out of or in connection with the performance of the contract limited to the Contractor's liabilities agreed to under this Contract.</p> <p>The Contractor hereby further agrees to waive its right of recourse and agrees to cause its underwriters to waive their right of subrogation against Company and/or its underwriters, servants, agents, nominees, assignees, Contractors and subcontractors for injury to, illness or death of any employee of the Contractor and of its contractors, sub-contractors and/or their employees when such injury, illness or death arises out of or in connection with the performance of the contract limited to the Contractor's liabilities agreed to under this Contract.</p> <p>Except as otherwise expressly provided, neither Contractor nor its servants, agents, nominees, Contractors or sub-contractors shall have any liability or responsibility whatsoever to whomsoever for loss of or damage to the equipment and/or loss or damage to the property of the Company and/or their Contractors or sub-contractors, irrespective of how such loss or damage is caused and even if caused by the negligence of Contractor and/or its servants, agents, nominees, assignees, Contractors and sub-contractors. The Company shall protect, defend, indemnify and hold harmless Contractor from and against such loss or damage and any suit, claim</p>	

Section No	Clause No. (Page No.)	Non-Compliance	OIL/Consultant's response
		<p>or expense resulting there from.</p> <p>Neither Contractor nor its servants, agents, nominees, assignees, Contractors, subcontractors shall have any liability or responsibility whatsoever to whomsoever or injury or illness, or death of any employee of the Company and/or of its contractors or sub-contractors irrespective of how such injury, illness or death is caused and even if caused by the negligence of Contractor and/or its servants, agents, nominees, assignees, contractors and sub-contractors. Company shall protect, defend indemnify and hold harmless Contractor from and against such liabilities and any suit, claim or expense resulting there from.</p> <p>The Company agrees to waive its right of recourse and further agrees to cause its underwriters to waive their right of subrogation against Contractor and /or its underwriters, servants, agents, nominees, assignees, Contractors and sub contractors for loss or damage to the equipment of Company and/or its contractors or sub-contractors when such loss or damage or liabilities arises out of or in connection with the performance of the contract.</p> <p>The Company hereby further agrees to waive its right of recourse and agrees to cause it underwriters to waive their right of subrogation against Contractor and/or its underwriters, servants, agents, nominees, assignees, Contractors and subcontractors for injury to, illness or death of any employee of the Company and of its Contractors, sub-contractors and/or their employees when such injury, illness or death arises out of or in connection with the performance of the Contract.</p>	
Special Terms & Conditions	Clause 6.0	<p>Please add at the end as follows:</p> <p>“Pricing provided reflects all costs incurred to bring goods and or components of goods into the country of supply at the time of quotation submission. Contractor reserves the right to amend pricing should there be a change to duties and associated costs that directly affects the goods and / or components required to be imported to fulfil Contractor's contractual obligations in the intervening period between quotation and delivery”.</p>	Accepted, subjected to the production of documentary proof to the satisfaction of the COMPANY to the extent which directly is attributable to such introduction of new legislation or change or amendment as

Section No	Clause No. (Page No.)	Non-Compliance	OIL/Consultant's response
			<p>mentioned above and adjudication by the competent authority &amp; the courts wherever levy of such taxes/ duties are disputed by COMPANY.</p> <p>Any increase/decrease in the net amount of such duties, taxes (i.e. the amount of taxes/duties payable minus eligible credit of taxes/duties paid on input services/ input) after the date of submission of price bid or revised price bid, if any, but within the contractual completion date as stipulated in the CONTRACT will be to the account of COMPANY.</p> <p>COMPANY shall not bear any liability in respect of:</p> <p>(i) Personal taxes on the personnel deployed by CONTRACTOR, his sub-contractor/sub-sub contractors and Agents etc.</p> <p>(ii) Corporate taxes and Fringe benefit tax in respect of contractor and all of their subcontractors, agents</p>

Section No	Clause No. (Page No.)	Non-Compliance	OIL/Consultant's response
			<p>etc.</p> <p>Other taxes &amp; duties including Customs Duty, Excise Duty and Service Tax in addition to new taxes etc. in respect of sub-contractors, vendors, agents etc of the CONTRACTOR.</p>
Special Terms & Conditions	Clause 9.0 (page 4)	<p>Please amend the following:</p> <p>...and the Contractor shall carry out the related work in accordance with such altered specifications, orders, instructions, plans, drawings and /or designs as the case may be, on the <del>same</del> terms and conditions <b>as will be agreed between Company and Contractor</b>"</p> <p>Please add new point c:</p> <p>Notwithstanding anything else to the contrary If any change increases or decreases the cost or time required for Contractor's performance, then as soon as practicable, the Parties shall agree to an equitable adjustment to the agreed price and performance schedule as applicable. In no event may Contractor delay initial Work or the Work proposed by the Company initiated change while the parties settle issues of price or performance schedule, unless the value of all disputed change orders equals or exceed 5% of the original Purchase Order value, in which case Contractor shall be entitled to cease its performance until all unresolved change orders have been resolved. Notwithstanding anything else to the contrary Contractor shall not, without Company's prior written authorization, alter, substitute, or add to the Goods.</p>	<p>If any alteration, amendment or modification of the Specifications (applicable only after issue of written confirmation by OIL to contractor), in the opinion of the Contractor and/or Consultant, result in an increase, reduction or change in the Works that are covered in the Price Schedule, which would render the Contract Price unreasonable, OIL and the Contractor shall negotiate a suitable increase or, as the case may be, reduction in the Contract Price.</p> <p>If OIL and the Contractor fail to agree on a revised Contract Price, OIL shall, as an interim measure, decide on an appropriate</p>

Section No	Clause No. (Page No.)	Non-Compliance	OIL/Consultant's response
			<p>adjustment to the Contract Price and pending a final decision on the quantum of increase or, as the case may be, reduction in the Contract Price, the Contractor shall be bound to execute the Works on the basis of the revised Contract Price determined by the OIL.</p> <p>For the avoidance of doubt, it hereby clarified that if the rate(s) of any additional, altered or substituted item of Work are specified in the Price Schedule, the Contractor shall be bound to carry on the additional, altered or substituted items of Work at the same rate(s) as are specified in the Price Schedule.</p>
Special Terms & Conditions	Clause 11.0 (page 5)	Any work not conforming to execution drawings, specifications or codes shall be rejected forthwith and the Contractor shall carry out the rectifications at his own cost <b>provided however that the Contractor maximum amount of any expense for which the Contractor shall be liable under this clause shall be limited to a maximum of an additional 10% that would have been invoiced by Contractor for that portion of the GOODS/work".</b>	Tender conditions prevail.
Special Terms & Conditions	Clause 21.0 (page 8-9)	<p>1) Please replace point c) with the following:</p> <p>If Company employs a third party to finish the work, Contractor will be liable for any documented, reasonable (as compared to Contractor's prices for the same work as set</p>	Clause 21.0 of SCC stands deleted.

Section No	Clause No. (Page No.)	Non-Compliance	OIL/Consultant's response
		<p>forth in this agreement), direct costs incurred by Company, provided, however, Contractor's maximum liability to Company under above point a &amp; b of clause 21.0 for such costs shall not exceed the cost that would have been payable to Contractor for completion of the work.</p> <p>The remedies set forth herein constitute Company's sole and exclusive remedies, and all other rights and remedies under law are excluded.</p> <p>2) Please change last paragraph of clause 21.0 as follows:</p> <p>Before determining the Contract as per above clauses, <del>provided in the judgement of the Company</del>, the default or defaults committed by the Contractor <del>is/are curable and shall be cured by the Contractor if an opportunity given to him, then the Company may issue notice in writing calling the Contractor to cure the default</del> within the time specified in the written Notice from the Company.</p>	
Special Terms & Conditions	Clause 23.0 (page 9)	Already addressed in Clause 43 of General Terms & Conditions above	Clause 23.0 of SCC stands deleted.
Special Terms & Conditions	Clause 24.0 (page 9)	Please delete in its entirety	Clause 24.0 of SCC stands deleted.
Special Terms & Conditions	Clause 26 (Pg 11)	<p>Please add new clause as follows:</p> <p>"In the event of denial of benefit to the contractor provided under notification no.3/2017-central tax and similar notification under state and integrated tax or notification no. 50/2017-customs or no issuance of essentiality certificate by DGH for reason not attributable to the contractor, contractor shall charge applicable customs duty on import or goods and service tax on supply as per the HSN code of the product".</p>	New clause isn't required as such liability is borne by OIL.
ANNEXURE II to Special Conditions of	Clause 8 (page 15)	Title of process packages shall transferred by Contractor to Company at earlier of Payment, FAT or Delivery	Title of goods will be transferred by contractor after obtaining acceptance certificate from Company which will

Section No	Clause No. (Page No.)	Non-Compliance	OIL/Consultant's response
Contract			be issued after successful commissioning & PGTR.
Schedule of rates / prices (SOR/P)	Page 16	The bidder in the present case is a foreign entity, having a branch in India. The Branch in India shall undertake the supply. <b>Kindly clarify under which table should the bidder quote. Also, the bidder shall deliver upto site since it has presence in India and will charge GST on sale.</b>	If Bidder is a Foreign Entity, the SOR applicable to Foreign Bidder to be follow. GST as extra will be decided at that point of time.
Schedule of payments	Clauses 1-6 (page 14)	Please replace the Schedule of Payments with <ol style="list-style-type: none"> <li>1. 10% of Package Material Price (SOR/P Item No. 1) by LC against submission of documents and drawings defined below: P&amp;IDs, Skid piping GA drawings with tie-in points, VDRL, Project Schedule</li> <li>2. 20% of Package Material Price (SOR/P Item No. 1) by LC against PO placement of major items (Compressor, crude oil pumps, Flare system, Hot oil system) identification of raw materials at Contractor's works</li> <li>3. 20% of Package Matl price (SOR / P Item 1) by LC against receipt of shell and head plates for Separators, Treaters at fabrication shop</li> <li>4. 20% of Package Matl price (SOR / P Item 1) by LC against hydrotest of Separators, Treaters at fabrication shop</li> <li>5. 15% by LC upon receipt of pumps, heat exchangers at fabrication shop for assembly works</li> <li>6. 10% of Package Material Price (SOR/P Item No. 1) by LC against submission of delivery documents</li> <li>7. 5% of Package Material Price (SOR/P Item No. 1) by LC on submission of Final/As built Drawings/Documents/Data/Manual</li> </ol>	Payment terms stands modified as attached as <b>Annexure-III.</b>
Schedule of payments	Clauses 1-6 (page 14)	1. OIL to consider the following payment milestone with neutral cashflow in order to avoid finance fee: <ol style="list-style-type: none"> <li>a. 10% upon submission of PFD, HMB, P&amp;ID, project schedule and 10% performance bank guarantee</li> <li>b. 10% upon ordering of pressure vessels, pumps and hot oil heaters</li> <li>c. 10% upon receipt of primary structural steel in fabrication yard</li> <li>d. 20% upon hydrotest of the pressure vessels</li> <li>e. 20% upon receipt of majority of valves in fabrication yard (6" and above)</li> <li>f. 20% upon readiness of shipment</li> </ol>	Payment terms stands modified as attached as <b>Annexure-III.</b>



Section No	Clause No. (Page No.)	Non-Compliance	OIL/Consultant's response
		g. 10% upon submission of final documentation	
		Need confirmation of the time frame for technical document approval by OIL, post order and if there would be any hold on manufacturing till approvals received from OIL. Further any possible delays from OIL side on document approvals will those days be added to the delivery date without LD.	OIL/Consultant will try to keep the document review cycle as minimum as possible. Bidder to note that the review cycle depends on the quality of the document.
		Can the bidder expect to paid the mile stone payment 5 (after commissioning & PGTR) against issuance of a BG for the same period as per tender required for the PGST.	Will be decided on merit of case and in-principle approval will be accorded at a later stage.
		In case of a Foreign Bidder who would be interested to get all equipment's manufactured in India, would the EC have the name of the their Sub Contractor, by this it would be possible for the Fabricator to avail Duty benefits on Behalf of the Foreign Bidders. The point has relevance not only to any kind of duty exemptions but also is important considering the Delivery Schedule. Can foreign bidder manufacture all the equipment require for this project and import to India. Also can OIL INDIA to provide the required documentary for concession on import duty	For NIL Customs Duty: 1. OIL has to be the Consignee and the Bill of Entry (BoE) also has to be in the name of OIL. OIL will provide necessary support to obtain the NOC and the EC from DGH and other Govt. Agencies. 2. The goods has to be cleared from the Customs by paying 5% IGST and to be transported straight to the works site of the Client (OIL) without diversion, otherwise the full GST @18% is leviable. 3. Invoice has to be raised

Section No	Clause No. (Page No.)	Non-Compliance	OIL/Consultant's response
			<p>with the value as stated in the BoE.</p> <p>MPC contractor diverting the imported equipment from the Port of Destination to their work site for value addition (instead of transporting to OIL's site) shall pay 18% GST on the imported equipment and it will be on the MPC Contractor's Account. Further to note that the Indigenous equipment/unit which is part of the Modular Package Unit can be billed separately with HSN Code to avail 5% CGST (2.5% each of IGST and SGST). For that OIL will provide EC (earlier PAC) for all those items individually. OIL will provide EC (PAC) for all equipment under Interstate Sales, provided the required formalities are fulfilled by the MPC Contractor failing which the additional GST beyond 5% will be to MPC Contractor's Account.</p>

Section No	Clause No. (Page No.)	Non-Compliance	OIL/Consultant's response
		Kindly be extended from existing 10 months @ Site to a bare minimum of 10 months Ex works + 6 weeks To site = 11 Months 2 weeks. The 6 weeks would be required as transit period if equipment built over seas Middle east or Far east would be 2 to 3 weeks & Further 2 weeks considered for road transport.	Tender condition prevails.

**SCHEDULE OF PAYMENTS****A. DOMESTIC BIDDERS****FOR SUPPLY OF PACKAGES**

1. 10% of Package Material Price (SOR/P Item No. 1) against approval of documents and drawings identified in Contract at least in Code-2 and against submission of Advance Bank Guarantee (ABG) of equivalent amount.
2. 15% of Package Material Price (SOR/P Item No. 1) against placement of purchase order (accepted PO) for specified Major Equipment and Raw material (to be identified during kick off meeting, if not specified in bidding documents) and against submission of Advance Bank Guarantee (ABG) of equivalent amount.
3. 10% of Package Material Price (SOR/P Item No. 1) against identification of specified Major Equipment and Raw materials at Contractor's works (as already identified above in Sl No.2) and against submission of Advance Bank Guarantee of equivalent amount. Identification of all such items will be based on TPI engaged by EPCM on behalf of OIL.
4. 40% of Package Material Price (SOR/P Item No. 1) against submission of despatch documents (along with copy of LR/GR and IRN) together with full taxes, duties and transportation charges.
5. 2% of Package Material Price (SOR/P Item No. 1) on receipt of Final/As built Drawings/Documents/Data/Manual in requisite number of copies/sets/CDs as per VDR specified in bidding documents (to be identified during kick off meeting, if not specified in bidding documents)
6. 20% of Package Material Price (SOR/P Item No. 1) on successful completion of Commissioning and PGTR of the project works (by others)
7. Payment for item No. 2 in SOR/P shall be limited to quoted price against submission of relevant documents.

**Note:1** If the payment is not claimed as per item No.1, 2 & 3 above on account of non submission of ABG, the payment can be claimed for item no 1, 2, 3 & 4 together against despatch documents.

**Note:2** All Advance Bank Guarantee submitted against Sl No. 1, 2 and 3 shall be till receipt of Package Materials at site plus 3 months claim period

**FOR ASSOCIATED SERVICES/WORKS**

1. Supplier's Services/Works: Supervision of Erection, Testing & Commissioning/ assistance during erection, Testing & Commissioning: 2% of Package Material Price (SOR/P Item No. 1) will be paid after PGTR.
2. Training: 1% of Package Material Price (SOR/P Item No. 1) on successful completion of Training as per bidding documents, duly certified by Consultant/Owner

## **B. FOREIGN BIDDERS**

### **FOR SUPPLY OF PACKAGES**

1. 10% of Package Material Price (SOR/P Item No. 1) against approval of drawings, wherever required (identified in PO/ PR) at least in Code-2 against submission of advance Bank Guarantee of equivalent amount through Wire Transfer.
2. 15% of Package Material Price (SOR/P Item No. 1) against placement of sub-order for specified Major Equipment and Raw material (to be identified during kick off meeting, if not specified in bidding documents) and against submission of advance Bank Guarantee of equivalent amount through Wire Transfer.
3. 10% of Package Material Price (SOR/P Item No. 1) against identification of specified Major Equipment and Raw materials at Contractor's works (as already identified against above Sl No.2) and against submission of Advance Bank Guarantee of equivalent amount through Wire Transfer.
4. 40% of Package Material Price (SOR/P Item No. 1) against on-board Bill Of Lading and other shipping and negotiation documents through irrevocable Letter of Credit (L/C)
5. 2% of Package Material Price (SOR/P Item No. 1) on receipt of Final/As built Drawings/Documents/Data/Manual in requisite number of copies/sets/CDs as per VDR specified in bidding documents Through Wire Transfer
6. 20% of Package Material Price (SOR/P Item No. 1) on successful completion of Commissioning and PGTR of the project works (by others)
7. Payment for item No. 2, 3 and 4 in SOR/P shall be limited to quoted price against submission of relevant documents, through Wire Transfer.

**Note:1** In case Customs clearance and further transportation of material upto Project site is in the supplier's scope, 40% against shipping documents shall be split in 5% + 35% and 5% shall be paid after receipt of material at Project site through Wire Transfer.

**Note:2** If the payment is not claimed as per item no.1, 2 & 3 above on account of non submission of ABG, the payment can be claimed for item no 1, 2, 3 & 4 together against despatch documents through Wire Transfer for item no 1, 2 & 3 and through L/C for item no 4.

**Note:3** All Advance Bank Guarantee submitted against Sl No. 1, 2 and 3 shall be till receipt of Package Materials at site plus 3 months claim period

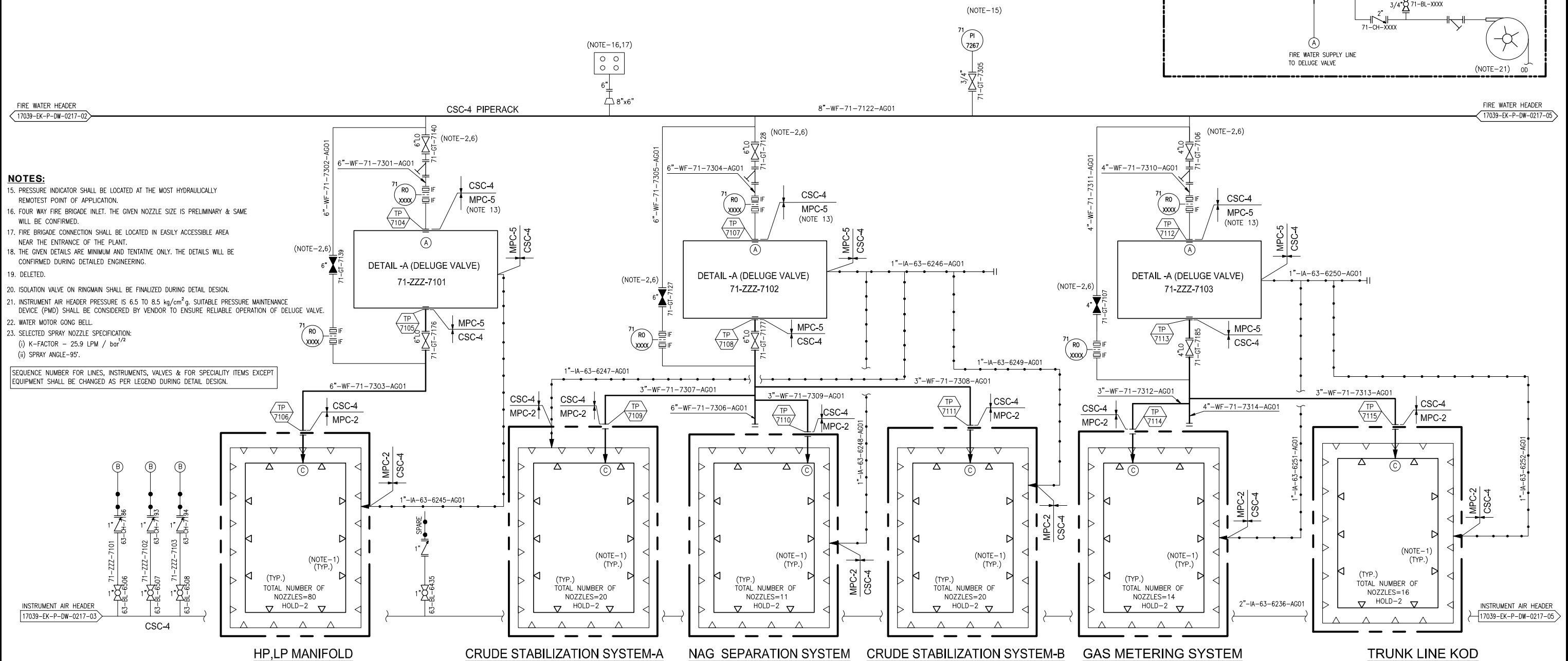
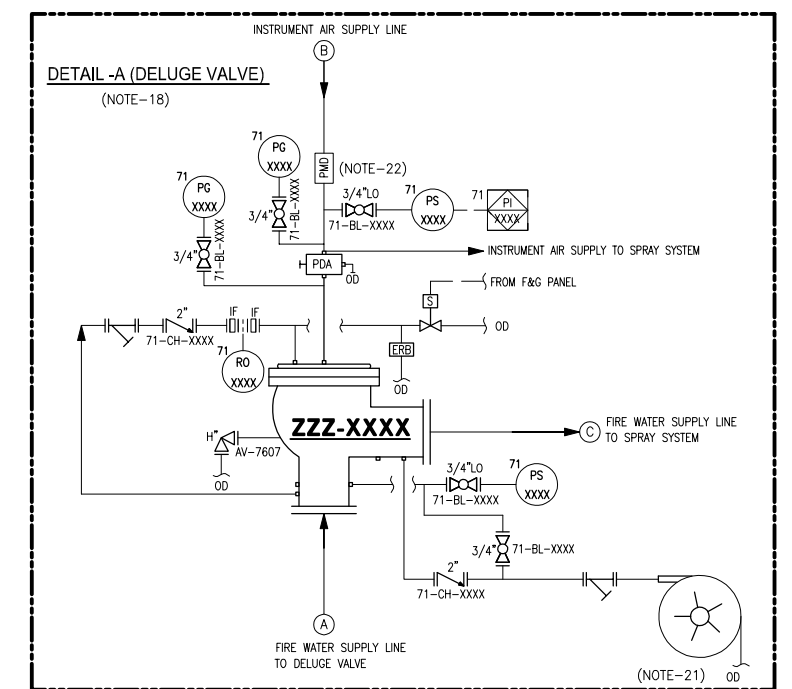
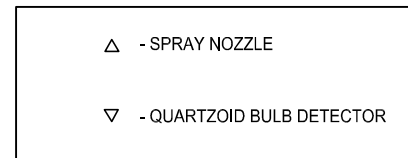
### **FOR ASSOCIATED SERVICES/WORKS**

1. Supplier's Services/Works: Supervision of Erection, Testing & Commissioning/ assistance during erection, Testing & Commissioning: 2% of Package Material Price (SOR/P Item No. 1) will be paid after PGTR. Payment through Wire Transfer
2. Training: 1% of Package Material Price (SOR/P Item No. 1) on successful completion of Training as per bidding documents, duly certified by Consultant/Owner. Payment through Wire Transfer

**GENERAL NOTES:**

- (i) 1<sup>ST</sup> Milestone payment shall be released only after receipt of Performance Bank Guarantee (PBG)
- (ii) Prorata payments shall be applicable on dispatch of equipment. In case of equipment, prorata shall not be on part of equipment.
- (iii) In case of Indigenous SUPPLIER's, wherever taxes/duties are separately indicated, the order value shall be exclusive of taxes/duties. 100% payment of taxes/duties shall be paid along with the payment released against dispatch documents on receipt of GST tax invoice.
- (iv) Payment to Indigenous SUPPLIER's shall be released through Electronic Clearing System (ECS) and to foreign SUPPLIERS, payments other than against shipping documents, i.e., for Site Work and Supervision/Training etc. shall be through Wire Transfer.
- (v) Irrevocable Letter of Credit shall be acceptable from foreign Suppliers in place of Advance Bank Guarantee as well as Performance Bank Guarantee.
- (vi) Irrevocable Letter of Credit (L/C) for payment to Foreign SUPPLIERS shall be established in favour of the supplier in a bank in his country, for an appropriate amount (in line with Payment Terms). L/C shall be opened within 60 days of receipt of acknowledgement of LOA and receipt of PBG (wherever applicable). In case confirmed L/C is insisted by supplier, L/C confirmation charges shall be to supplier's account. In case L/C extension is required due to delay in delivery for reasons not attributable to Owner, L/C extension charges shall be to Seller's account.
- (vii) All payments (other than through L/C) shall be released within 30 days of receipt of invoice and all requisite documents, complete in all respects.
- (viii) All bank charges of respective bankers shall be to respective account.
- (ix) Supplier shall submit Billing Schedule, wherever applicable, within three weeks of award for OIL/Consultant approval. Suppliers requiring multiple despatches will restrict the number of despatches to maximum three, unless agreed otherwise by Project Manager.
- (x) In case site is not available up to 6 (Six) months (wherever site work is applicable), after receipt of all supplies at site, the payment against the same shall be released on submission of additional Bank Guarantee of equivalent amount. The validity of the BG will be till the successful completion of Commissioning and PGTR of the project works (by others)

## Annexure- IV to Corrigendum No.1



- NOTES:**

1. THE FIRE WATER SPRAY NOZZLE SHALL BE ABLE TO WITHSTAND FIRE WATER HEADER PRESSURE.
2. THESE VALVES SHOULD BE LOCATED IN EASILY ACCESSIBLE AREA SUCH THAT IT IS PROTECTED FROM FIRE IN THE AREA COVERED BY THE ASSOCIATED DELUGE SYSTEM.
3. DELETED.
4. FIRE WATER RINGMAINS SHALL BE SIZED FOR 120% OF THE DESIGN WATER FLOW RATE.
5. MANUAL FIRE SHUT DOWN (FSD) STATIONS TO BE LOCATED AT ALL STRATEGIC LOCATIONS SIMILAR TO MANUAL ESD STATIONS.
6. VALVE SIZES LARGER THAN 6" SHALL BE EQUIPPED WITH GEAR MECHANISM TO FACILITATE OPENING.
7. FLUSHING CONNECTIONS SHOULD BE PROVIDED ON THE END OF CROSS MAINS AND FEED MAINS.
8. DELETED.

9. DELETED.
  10. DELETED.
  11. PIPING SHALL BE PROVIDED WITH LOW POINT DRAIN, THESE ARE NOT SHOWN ON P&ID.
  12. DELETED.
  13. THE DELUGE VALVE & ASSOCIATED INSTRUMENTS WILL BE SUPPLIED BY MPC-5 AND THE INTERCONNECTING PIPING WILL BE SUPPLIED, INSTALLED BY CSC-4.
  14. DELETED.
- HOLD:**
1. NUMBER OF FIRE HYDRANTS AND FIRE WATER MONITORS TO BE CONFIRMED.
  2. NUMBER OF NOZZLE.
  3. NUMBER OF DELUGE VALVE AND LOCATION OF DELUGE VALVE.

C	31 AUG 18	RESSUED FOR BID	RA	SRS/TKV	MSB/MS
B	23 FEB 18	ISSUED FOR BID	MG	PSN/TKV	MSB/MS
A	14 DEC 17	ISSUED FOR REVIEW	MG	PSN/TKV	MSB/MS
REV	DATE	DESCRIPTION	BY	CHK.	APPR.

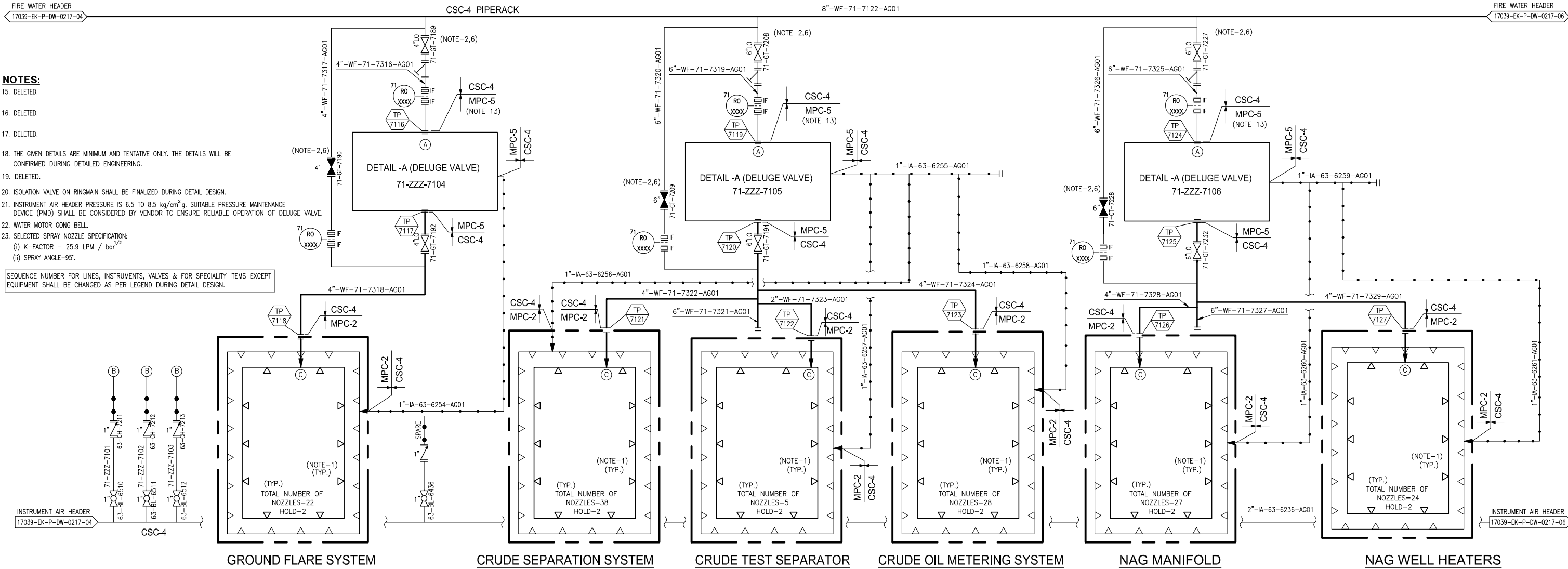
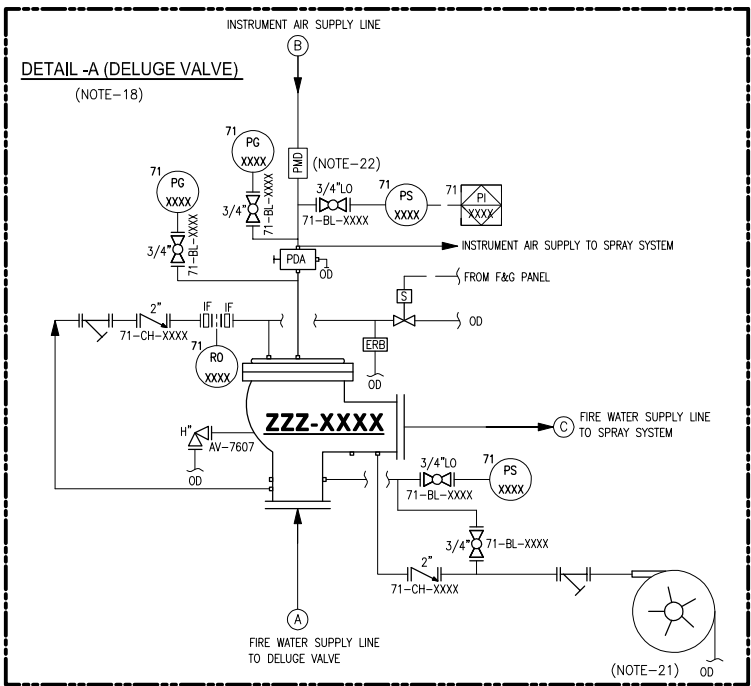
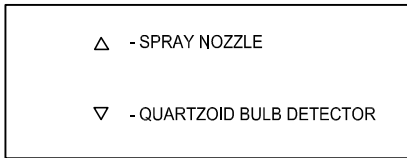
COMPANY:



EPCM CONSULTANT:



PROJECT : CREATION OF SURFACE PRODUCTION FACILITIES (OCS & GGS) AT NADUA & EAST KHAGORIJAN				
THIS DRAWING AND ALL DESIGN DETAILS AND DATA SHOWN HEREON, IS THE SOLE PROPERTY OF OIL INDIA LTD AND SHALL NOT BE REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER, EXCEPT BY WRITTEN PERMISSION OF OIL INDIA LTD.				
TITLE : PIPING AND INSTRUMENTATION DIAGRAM FIRE WATER DISTRIBUTION SYSTEM				
PROJECT NO.: KIP-17039			PROJECT SITE: EAST KHAGORIJAN	
DRAWING NO.: 17039-EK-P-DW-0217-04		REV: C	SHEET : 1 OF 1	SCALE : NTS



NOTES:

1. THE FIRE WATER SPRAY NOZZLE SHALL BE ABLE TO WITHSTAND FIRE WATER HEADER PRESSURE.
2. THESE VALVES SHOULD BE LOCATED IN EASILY ACCESSIBLE AREA SUCH THAT IT IS PROTECTED FROM FIRE IN THE AREA COVERED BY THE ASSOCIATED DELUGE SYSTEM.
3. DELETED.
4. FIRE WATER RINGMANS SHALL BE SIZED FOR 120% OF THE DESIGN WATER FLOW RATE.
5. MANUAL FIRE SHUT DOWN (FSD) STATIONS TO BE LOCATED AT ALL STRATEGIC LOCATIONS SIMILAR TO MANUAL ESD STATIONS.
6. VALVE SIZES LARGER THAN 6" SHALL BE EQUIPPED WITH GEAR MECHANISM TO FACILITATE OPENING.
7. FLEEDING CONNECTIONS SHOULD BE PROVIDED ON THE END OF CROSS MAINS AND FEED MAINS.
8. DELETED.

9. DELETED.

10. DELETED.

11. PIPING SHALL BE PROVIDED WITH LOW POINT DRAIN,THESE ARE NOT SHOWN ON P&ID.

12. DELETED.

13. THE DELUGE VALVE & ASSOCIATED INSTRUMENTS WILL BE SUPPLIED BY MPC-5 AND THE INTERCONNECTING PIPING WILL BE SUPPLIED, INSTALLED BY CSC-4.

14. DELETED.

HOLD:

1. NUMBER OF FIRE HYDRANTS AND FIRE WATER MONITORS TO BE CONFIRMED.
2. NUMBER OF NOZZLE.
3. NUMBER OF DELUGE VALVE AND LOCATION OF DELUGE VALVE.

COMPANY:



EPCM CONSULTANT :



PROJECT :

CREATION OF SURFACE PRODUCTION FACILITIES (OCS & GGS) AT NADUA & EAST KHAGORIJAN

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TITLE :

PIPING AND INSTRUMENTATION DIAGRAM  
FIRE WATER DISTRIBUTION SYSTEM

PROJECT NO.: KIP-17039

PROJECT SITE:

EAST KHAGORIJAN

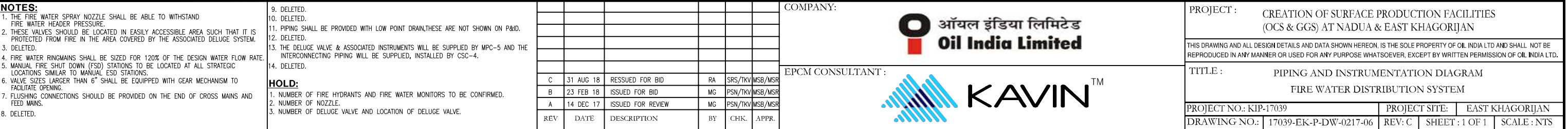
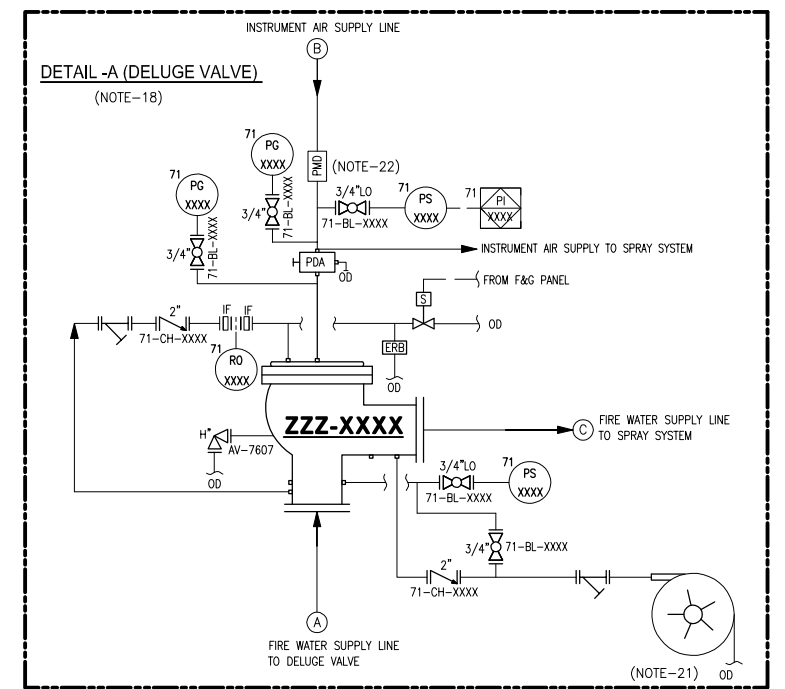
DRAWING NO.: 17039-EK-P-DW-0217-05

REV: C

SHEET: 1 OF 1

SCALE : NTS





# Annexure- V to Corrigendum No.1

रजिस्ट्री सं० डी० एल०-33004/99

REGD. NO. D. L.-33004/99



# भारत का राजपत्र The Gazette of India

असाधारण

EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (i)

PART II—Section 3—Sub-section (i)

प्राधिकार से प्रकाशित

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श्रम एवं रोजगार मंत्रालय

(खान सुरक्षा महानिदेशालय)

अधिसूचना

नई दिल्ली, 18 अक्तूबर, 2017

**सा.का.नि. 1359(अ).—** तेल खान विनियम, 2017 के विनियम 107 के उप-विनियम (2) के अधीन प्रदत्त शक्तियों का प्रयोग करते हुए, मैं प्रशान्त कुमार सरकार, मुख्य खान निरीक्षक जो खान सुरक्षा महानिदेशक के रूप में भी पदनामित हूँ, एतद्वारा तेल खानों के जोन-1 या जोन-2 जोखिममय क्षेत्रों में उपयोग किये जाने वाले विद्युत साधित्र, उपस्कर, मशीनरी या अन्य सामग्रियों के लिए निम्नलिखित मानकों को सामान्य आदेश के द्वारा अधिसूचित करता हूँ।

क्र. सं.	भारतीय मानक शीर्षक	भारतीय मानक	आईईसी मानक	समतुल्य मानक
1	वायुमंडल में विस्फोटक गैस के लिए विद्युत उपकरण – सामान्य आवश्यकता	आईएस/आईईसी 60079-0:2011 आईएस/आईईसी 60079-0:2007	आईईसी 60079-0:2011	ईएन 60079-0:2011
2	वायुमंडल में विस्फोटक गैस के लिए विद्युत उपकरण –ऊष्मारोधी आवरण “डी”	आईएस/आईईसी 60079-1:2007	आईईसी 60079-1:2007	ईएन 60079-1:2007
3	वायुमंडल में विस्फोटक गैस के लिए विद्युत उपकरण –दबावनुकूलित आवरण “पी”	आईएस/आईईसी 60079-2:2007	आईईसी 60079-2:2007	ईएन 60079-2:2007
4	वायुमंडल में विस्फोटक गैस के लिए विद्युत उपकरण – पाउडर भरने “क्यू”	आईएस/आईईसी 60079-5:2007	आईईसी 60079-5:2007	ईएन 60079-5:2007

क्र. सं.	भारतीय मानक शीर्षक	भारतीय मानक	आईईसी मानक	समतुल्य मानक
5	वायुमंडल में विस्फोटक गैस के लिए विद्युत उपकरण –तेल विसर्जन “ओ”	आईएस/आईईसी 60079-6:2007	आईईसी 60079-6:2007	ईएन 60079-6:2007
6	वायुमंडल में विस्फोटक गैस के लिए विद्युत उपकरण –सुरक्षा में वृद्धि “ई”	आईएस/आईईसी 60079-7:2006	आईईसी 60079-7:2006	ईएन 60079-7:2007
7	वायुमंडल में विस्फोटक गैस के लिए विद्युत उपकरण – आंतरिक सुरक्षा “आई”	आईएस/आईईसी 60079-11:2006	आईईसी 60079-11:2011	ईएन 60079-11:2012
8	वायुमंडल में विस्फोटक गैस के लिए विद्युत उपकरण –सुरक्षा के प्रकार “एन”	आईएस/आईईसी 60079-15:2010	आईईसी 60079-15:2010	ईएन 60079-15:2010
9	वायुमंडल में विस्फोटक गैस के लिए विद्युत उपकरण –संपुटीकरण “एम”	आईएस/आईईसी 60079-18:2009	आईईसी 60079-18:2009	ईएन 60079-18:2009
10	वायुमंडल में विस्फोटक गैस के लिए विद्युत उपकरण – आंतरिक रूप से सुरक्षित विद्युत प्रणालियाँ	आईएस/आईईसी 60079-25:2010	आईईसी 60079-25:2010	ईएन 60079-25:2010
11	विस्फोटक वायुमंडल – उपकरण संरक्षण स्तर (ईपीएल) के साथ उपकरण	आईएस/आईईसी 60079-26:2006	आईईसी 60079-26:2006	ईएन 60079-26:2006
12	विस्फोटक वायुमंडल – फील्ड बस आंतरिक रूप से सुरक्षित अवधारण (एफआईसीओ)	आईएस/आईईसी 60079-27:2008	आईईसी 60079-27:2008	ईएन 60079-27:2008
13	विस्फोटक वायुमंडल – ऑप्टिकल विकिरण का उपयोग करने वाले उपकरण और ट्रांसमिशन पणाली का संरक्षण	आईएस/आईईसी 60079-28:2006	आईईसी 60079-28:2006	ईएन 60079-28:2006
14	विस्फोटक वायुमंडल – गैस डिटेक्टर-ज्वलनशील गैसों को पता लगाने के लिए खुले रास्तों में प्रदर्शन की आवश्यकता	आईएस/आईईसी 60079-29/ Sec4: 2009	आईईसी 60079-29/Sec4:2009	ईएन 60079-29-4:2007
15	विस्फोटक वायुमंडल – गैस डिटेक्टर-ज्वलनशील गैसों के लिए डिटेक्टरों के प्रदर्शन की आवश्यकता	आईएस/आईईसी 60079-29/ Sec1: 2007	आईईसी 60079-29/Sec1:2007	ईएन 60079-29-1:2007
16	विस्फोटक वायुमंडल – गैस डिटेक्टर-ज्वलनशील गैसों और ऑक्सीजन के लिए डिटेक्टरों के रखरखाव एवं उपयोग का चयन करें	आईएस/आईईसी 60079-29/ Sec2: 2007	आईईसी 60079-29/Sec2:2007	ईएन 60079-29-2:2007
17	विस्फोटक वायुमंडल – विद्युत प्रतिरोध ट्रेस ताप- सामान्य एवं परीक्षण की आवश्यकताएं	आईएस/आईईसी 60079-30/Sec-1: 2007	आईईसी 60079-30/Sec-1:2007	ईएन 60079-30-1:2007
18	विद्युत प्रतिरोध ट्रेस ताप – डिजाइन प्रस्थापना और रखरखाव के लिए प्रयुक्त निर्देशन गाइड	आईएस/आईईसी 60079-30/Sec-2: 2007	आईईसी 60079-30/Sec-2:2007	ईएन 60079-30-2:2010

मानकों का नवीनतम संस्करण तालिका में दिए गए मानकों को प्रतिस्थापित करेगा। उपरोक्त प्रासंगिक मानकों के अनुरूप परीक्षण रिपोर्ट भारत सरकार के प्रयोगशाला या एनएवीएल मान्यता प्राप्त प्रयोगशाला या आईईसीईएक्स मान्यता प्राप्त प्रयोगशाला या एटीईएक्स अधिसूचित निकाय से होगी जो निर्माता की सुविधाओं का हिस्सा नहीं है।

खानों के जोखिममय क्षेत्रों में जोन-1 एवं जोन-2 में प्रयुक्त विद्युत उपकरण, केन्द्रीय विद्युत प्राधिकरण विनियम, 2010 (सुरक्षा और विद्युत आपूर्ति से संबंधित उपाय), (समय-समय पर यथा संशोधित) के प्रावधानों का अनुपालन करेगा।

[फा. सं. एस-29020/60/राजपत्र/2017/वि.मु.]

प्रशान्त कुमार सरकार, मुख्य खान निरीक्षक

## MINISTRY OF LABOUR AND EMPLOYMENT

(Directorate General of Mines Safety)

### NOTIFICATION

New Delhi, the 18th October, 2017

**G.S.R. 1359(E).---** In exercise of the powers conferred on me under Sub-Regulation (2) of 107 of the Oil Mines Regulations, 2017, I, Prasanta Kumar Sarkar, Chief Inspector of Mines also designated as the Director General of Mines Safety notify the following standards by general order for electrical appliance, equipment, machinery or other material that are used or may be used in zone “1” or zone “2” hazardous areas of oil mines.

Sl. No.	TITLE OF INDIAN STANDARDS	INDIAN STANDARDS	IEC STANDARDS	EQUIVALENT STANDARDS
1	Electrical apparatus for explosive gas atmospheres- General requirements	IS/IEC 60079-0: 2011 IS/IEC 60079-0: 2007	IEC 60079-0: 2011	EN 60079-0: 2011
2	Electrical apparatus for explosive gas atmospheres- flameproof enclosure “d”	IS/IEC 60079-1: 2007	IEC 60079-1: 2007	EN 60079-1: 2007
3	Electrical apparatus for explosive gas atmospheres-Pressurized enclosure “p”	IS/IEC 60079-2: 2007	IEC 60079-2: 2007	EN 60079-2: 2007
4	Electrical apparatus for explosive gas atmospheres-Powder filling “q”	IS/IEC 60079-5: 2007	IEC 60079-5: 2007	EN 60079-5: 2007
5	Electrical apparatus for explosive gas atmospheres-Oil immersion “O”	IS/IEC 60079-6: 2007	IEC 60079-6: 2007	EN 60079-6: 2007
6	Electrical apparatus for explosive gas atmospheres-Increased safety “e”	IS/IEC 60079-7: 2006	IEC 60079-7: 2006	EN 60079-7: 2007
7	Electrical apparatus for explosive gas atmospheres-Intrinsic safety “i”	IS/IEC 60079-11: 2006	IEC 60079-11: 2011	EN60079-11: 2012
8	Electrical apparatus for explosive gas atmospheres-type of protection “n”	IS/IEC 60079-15: 2010	IEC 60079-15:2 010	EN 60079-15: 2010
9	Electrical apparatus for explosive gas atmospheres-Encapsulation “m”	IS/IEC 60079-18: 2009	IEC 60079-18: 2009	EN 60079-18: 2009
10	Electrical apparatus for explosive gas atmospheres-Intrinsically safe electrical systems	IS/IEC 60079-25: 2010	IEC 60079-25: 2010	EN 60079-25: 2010
11	Explosive atmospheres-Equipment with equipment protection level (EPL) Ga	IS/IEC 60079-26: 2006	IEC 60079-26: 2006	EN 60079-26 : 2006
12	Explosive atmospheres-Field bus intrinsically safe concept (FISCO)	IS/IEC 60079-27: 2008	IEC 60079-27: 2008	EN 60079-27: 2008

Sl. No.	TITLE OF INDIAN STANDARDS	INDIAN STANDARDS	IEC STANDARDS	EQUIVALENT STANDARDS
13	Explosive atmospheres-Protection of equipment and transmission system using optical radiation	IS/IEC 60079-28: 2006	IEC 60079-28: 2006	EN 60079-28: 2006
14	Explosive atmospheres-Gas detectors-Performance requirements of open path detectors for flammable gases	IS/IEC 60079-29/ Sec4: 2009	IEC 60079-29 / Sec4:2009	EN-60079-29-4: 2007
15	Explosive atmospheres-Gas detectors-Performance requirements of detectors for flammable gases	IS/IEC 60079-29/ Sec1: 2007	IEC 60079-29/Sec1:2007	EN-60079-29-1: 2007
16	Explosive atmospheres-Gas detectors-Selection use and maintenance of detectors for flammable gases and oxygen	IS/IEC 60079-29/ Sec2: 2007	IEC 60079-29 / Sec2:2007	EN-60079-29-2: 2007
17	Explosive atmospheres-Electrical resistance Trace Heating- General and testing requirements	IS/IEC 60079-30 /Sec-1: 2007	IEC 60079-30 /Sec-1:2007	EN-60079-30-1: 2007
18	Electrical resistance Trace Heating-Application guide for design installation and maintenance	IS/IEC 60079-30 /Sec-2: 2007	IEC 60079-30 /Sec-2:2007	EN-60079-30-2: 2010

The latest version of standards shall prevail over the standards given in the table. Test reports conforming to the above relevant standards shall be from an Indian Government Laboratory or NABL accredited laboratory or IECEx accredited laboratory or ATEX notified body, which is not a part of manufacturer's facilities.

The use of electrical apparatus either in Zone-“1” or Zone-“2” hazardous area of the mines shall comply with the provisions of the Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010 (as amended from time to time).

[F. No. S-29020/60/Gazette/2017/EHQ]

PRASANTA KUMAR SARKAR, Chief Inspector of Mines

### अधिसूचना

नई दिल्ली, 18 अक्टूबर, 2017

**सा.का.नि. 1360(अ).**—तेल खान अधिनियम, 2017 के विनियम 118 के उप-विनियम (1) के अधीन प्रदत्त शक्तियों का प्रयोग करते हुए, मैं प्रशान्त कुमार सरकार, मुख्य खान निरीक्षक जो खान सुरक्षा महानिदेशक के रूप में भी पदनामित हूँ, एतद्द्वारा तेल खानों के जोखिममय क्षेत्रों में प्रयुक्त किये जाने वाले वैद्युत प्रकाश साधित्र के लिए निम्नलिखित मानकों को सामान्य आदेश के द्वारा अधिसूचित करता हूँ।

क्र. सं.	भारतीय मानक शीर्षक	भारतीय मानक	आईईसी मानक	समतुल्य मानक
1	वायुमंडल में विस्फोटक गैस के लिए विद्युत उपकरण – सामान्य आवश्यकता	आईएस/आईईसी 60079-0:2011 आईएस/आईईसी 60079-0:2007	आईईसी 60079-0:2011	ईएन 60079-0: 2011
2	वायुमंडल में विस्फोटक गैस के लिए विद्युत उपकरण –ऊष्मारोधी आवरण “डी”	आईएस/आईईसी 60079-1:2007	आईईसी 60079-1:2007	ईएन 60079-1: 2007

क्र. सं.	भारतीय मानक शीर्षक	भारतीय मानक	आईईसी मानक	समतुल्य मानक
3	वायुमंडल में विस्फोटक गैस के लिए विद्युत उपकरण—सुरक्षा में वृद्धि “ई”	आईएस/आईईसी 60079-7:2006	आईईसी 60079-7:2006	ईएन 60079-2:2007

मानकों का नवीनतम संस्करण तालिका में दिए गए मानकों को प्रतिस्थापित करेगा। उपरोक्त प्रासंगिक मानकों के अनुरूप परीक्षण रिपोर्ट भारत सरकार के प्रयोगशाला या एनएबीएल मान्यता प्राप्त प्रयोगशाला या आईईसीईएक्स मान्यता प्राप्त प्रयोगशाला या एटीईएक्स अधिसूचित निकाय से होगी जो निर्माता की सुविधाओं का हिस्सा नहीं है।

खानों के जोखिममय क्षेत्रों में जोन-1 एवं जोन-2 में प्रयुक्त विद्युत प्रकाश उपकरण, केन्द्रीय विद्युत प्राधिकरण विनियम, 2010 (सुरक्षा और विद्युत आपूर्ति से संबंधित उपाय ) ( समय-समय पर यथा संशोधित) के प्रावधानों का अनुपालन करेगा।

[फा. सं. एस-29020/60/राजपत्र/2017/वि.मु.]

प्रशान्त कुमार सरकार, मुख्य खान निरीक्षक

### NOTIFICATION

New Delhi, the 18th October, 2017

**G.S.R. 1360(E).**—In exercise of the powers conferred on me under Sub-Regulation (1) of 118 of the Oil Mines Regulations, 2017, I, Prasanta Kumar Sarkar, Chief Inspector of Mines also designated as the Director General of Mines Safety hereby notify the following standards by general order for Electrical lighting apparatus for use in hazardous area of oil mines.

Sl. No.	TITLE OF INDIAN STANDARDS	INDIAN STANDARDS	IEC STANDARDS	EQUIVALENT STANDARDS
1	Electrical apparatus for explosive gas atmospheres- General requirements	IS/IEC 60079-0:2011 IS/IEC 60079-0:2007	IEC 60079-0: 2011	EN 60079-0:2011
2	Electrical apparatus for explosive gas atmospheres- flameproof enclosure “d”	IS/IEC 60079-1:2007	IEC 60079-1: 2007	EN 60079-1:2007
3	Electrical apparatus for explosive gas atmospheres-Increased safety “e”	IS/IEC 60079-7:2006	IEC 60079-7: 2006	EN 60079-7:2007

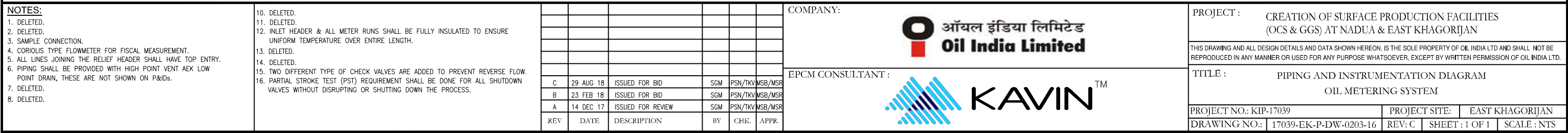
The latest version of standards shall prevail over the standards given in the table. Test reports conforming to the above relevant standards shall be from an Indian Government Laboratory or NABL accredited laboratory or IECEx accredited laboratory or ATEX notified body, which is not a part of manufacturer's facilities.

The use of electrical lighting apparatus either in Zone-“1” or Zone-“2” hazardous area of the mines shall comply with the provisions of the Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010 (as amended from time to time).

[F. No. S-29020/60/Gazette/2017/EHQ]

PRASANTA KUMAR SARKAR, Chief Inspector of Mines

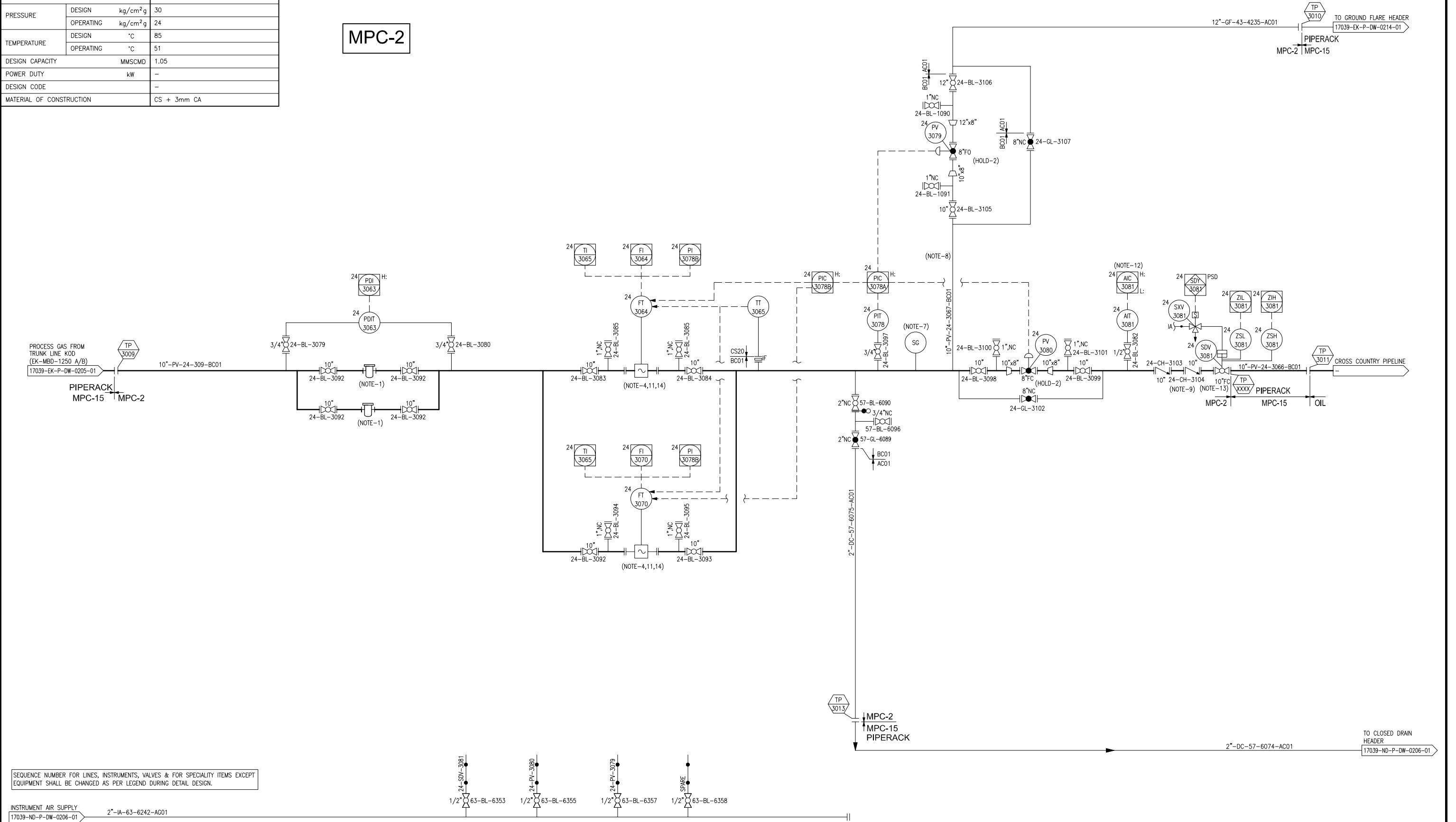
<div>GROUND FLARE HEADER</div> <div>17039-EK-P-DW-0203-08</div>	<div>10"-GF-43-4170-AC01</div>	<div>(NOTE-5)</div>	<div>GROUND FLARE HEADER</div> <div>17039-EK-P-DW-0203-17</div>
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TAG NUMBER		EK-ZZZ-1260 A/B	
DESCRIPTION		GAS METERING SYSTEM (2x100%)	
TYPE		-	
SERVICE		HC GAS	
PRESSURE	DESIGN	kg/cm <sup>2</sup> g	30
	OPERATING	kg/cm <sup>2</sup> g	24
TEMPERATURE	DESIGN	°C	85
	OPERATING	°C	51
DESIGN CAPACITY		MMSCMD	1.05
POWER DUTY		kW	-
DESIGN CODE		-	
MATERIAL OF CONSTRUCTION		CS + 3mm CA	

MPC-2

EK-ZZZ-1260 A/B



**NOTES:**

- BASKET TYPE STRAINER.
- DELETED.
- DELETED.
- ULTRASONIC TYPE FLOW METER FOR FISCAL MEASUREMENT.
- DELETED.
- PIPING SHALL BE PROVIDED WITH HIGH POINT VENT AND LOW POINT DRAIN, THESE ARE NOT SHOWN ON P&IDs.
- SAMPLE CONNECTION.
- TO BE USED FOR DISPOSAL OF OFF-SPEC GAS DURING START UP AND ALSO USED DURING NORMAL OPERATION TO PREVENT OVER PRESSURE.
- TWO DISSIMILAR TYPE OF CHECK VALVES ARE ADDED TO PREVENT REVERSE FLOW. 24-CH-3103 IS WAFER TYPE AND 24-CH-3104 IS SWING TYPE.

10. DELETED.

11. PIPING SHALL BE PROVIDED WITH STRAIGHT LENGTH OF 20D UPSTREAM AND 10D DOWNSTREAM OF 24-FI-3064/3070.

12. ONLINE DEW POINT ANALYZER TRANSMITTER.

13. PARTIAL STROKE TEST (PST) REQUIREMENT

14. FLOW COMPUTATION SHALL BE CONFIGURED IN DCS.

**HOLD:**

- DELETED.
- CONTROL VALVE AND ITS ASSOCIATED BY-PASS VALVE SIZE.

REV	DATE	DESCRIPTION	BY	CHK.	APPR.
C	29 AUG 18	ISSUED FOR BID	SGM	PSN/TKV	MSB/MSR
B	12 FEB 18	ISSUED FOR BID	MG	PSN/TKV	MSB/MSR
A	12 DEC 17	ISSUED FOR REVIEW	MG	PSN/TKV	MSB/MSR

COMPANY:

**Oil India Limited**

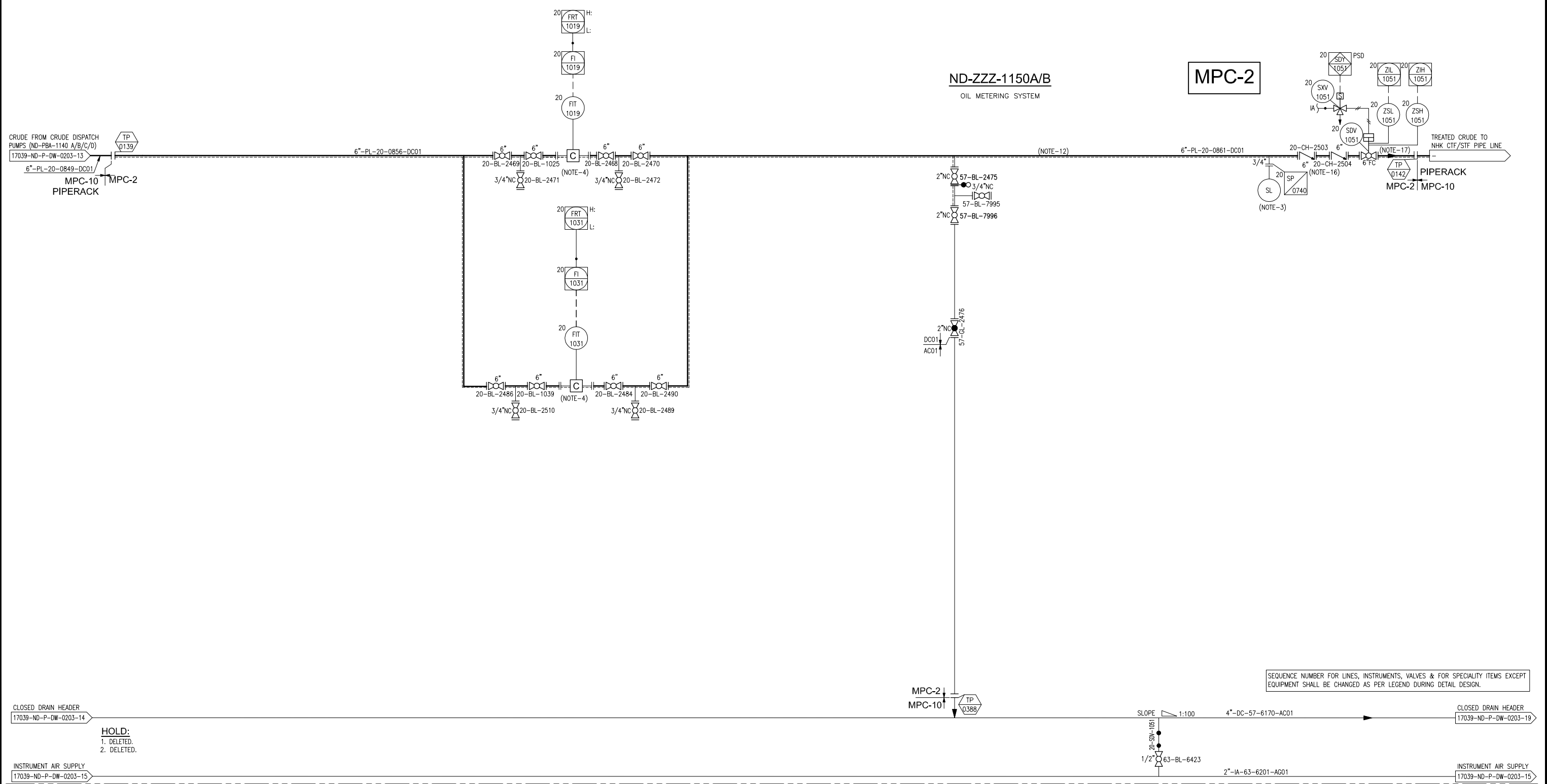
EPCM CONSULTANT :

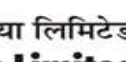

**KAVIN™**

PROJECT : CREATION OF SURFACE PRODUCTION FACILITIES (OCS & GGS) AT NADUA & EAST KHAGORIJAN			
THIS DRAWING AND ALL DESIGN DETAILS AND DATA SHOWN HEREON, IS THE SOLE PROPERTY OF OIL INDIA LTD AND SHALL NOT BE REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER, EXCEPT BY WRITTEN PERMISSION OF OIL INDIA LTD.			
TITLE : PIPING AND INSTRUMENTATION DIAGRAM GAS METERING SYSTEM			
PROJECT NO.: KIP-17039	PROJECT SITE:	EAST KHAGORIJAN	
DRAWING NO.: 17039-EK-P-DW-0205-02	REV: C	SHEET: 1 OF 1	SCALE : NTS



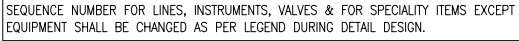
TAG NUMBER			ND-ZZZ-1150 A/B
DESCRIPTION			OIL METERING SYSTEM (2x100%)
TYPE			—
SERVICE			CRUDE OIL
PRESSURE	DESIGN	kg/cm <sup>2</sup> g	100
	OPERATING	kg/cm <sup>2</sup> g	85
TEMPERATURE	DESIGN	°C	90
	OPERATING	°C	57
DESIGN CAPACITY			KLPD
POWER DUTY			—
DESIGN CODE			—
MATERIAL OF CONSTRUCTION			CS+3mm CA



NOTES: 1. DELETED. 2. DELETED. 3. SAMPLE CONNECTION. 4. CORIOLIS TYPE FLOWMETER FOR FISCAL MEASUREMENT. 5. ALL LINES JOINING THE RELIEF HEADER SHALL HAVE TOP ENTRY. 6. PIPING SHALL BE PROVIDED WITH HIGH POINT VENT AND LOW POINT DRAIN, THESE ARE NOT SHOWN ON P&IDs. 7. DELETED. 8. DELETED. 9. DELETED.	10. DELETED.									COMPANY: <div></div> <b>ऑयल इंडिया लिमिटेड</b> <b>Oil India Limited</b>	PROJECT : CREATION OF SURFACE PRODUCTION FACILITIES (OCS & GGS) AT NADUA & EAST KHAGORIJAN  THIS DRAWING AND ALL DESIGN DETAILS AND DATA SHOWN HEREON, IS THE SOLE PROPERTY OF OIL INDIA LTD AND SHALL NOT BE REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER, EXCEPT BY WRITTEN PERMISSION OF OIL INDIA LTD.		
	11. DELETED.												
	12. INLET HEADER & ALL METER RUNS SHALL BE FULLY INSULATED TO ENSURE UNIFORM TEMPERATURE OVER ENTIRE LENGTH.												
	13. DELETED.												
	14. DELETED.												
	15. DELETED.												
	16. TWO DIFFERENT TYPE OF CHECK VALVES ARE ADDED TO PREVENT REVERSE FLOW.												
	17. PARTIAL STROKE TEST (PST) REQUIREMENT SHALL BE DONE FOR ALL SHUTDOWN VALVES WITHOUT DISRUPTING OR SHUTTING DOWN THE PROCESS.												
									EPCM CONSULTANT : <div></div> <b>KAVIN</b> <sup>TM</sup>	TITLE : PIPING AND INSTRUMENTATION DIAGRAM OIL METERING SYSTEM			
C	29 AUG 18	ISSUED FOR BID	SAT	PSN/TKV/MSB/MSR									
B	21 FEB 18	ISSUED FOR BID	SAT	PSN/TKV/MSB/MSR									
A	11 DEC 17	ISSUED FOR REVIEW	SAT	PSN/TKV/MSB/MSR									
REV	DATE	DESCRIPTION	BY	CHK.	APPR.								
										PROJECT NO.: KIP-17039	PROJECT SITE:	NADUA	
										DRAWING NO.: 17039-ND-P-DW-0203-16	REV: C	SHEET : 1 OF 1	SCALE : NTS

MPC-2

MPC-2



INSTRUMENT AIR SUPPLY 2"-IA-63-6242-AG01  
17039-ND-P-DW-0206-01

10. DELETED.
11. PIPING SHALL BE PROVIDED WITH STRAIGHT LENGTH OF 20D UPSTREAM AND 10D DOWNSTREAM OF 24-FT-3064/3070.
12. DEW POINT ANALYZER TRANSMITTER.
13. PARTIAL STROKE TEST (PST) REQUIREMENT
14. FLOW COMPUTATION SHALL BE CONFIGURED IN DCS.

HOLD:

1. DELETED.
2. CONTROL VALVE AND ITS BY-PASS VALVE SIZE.

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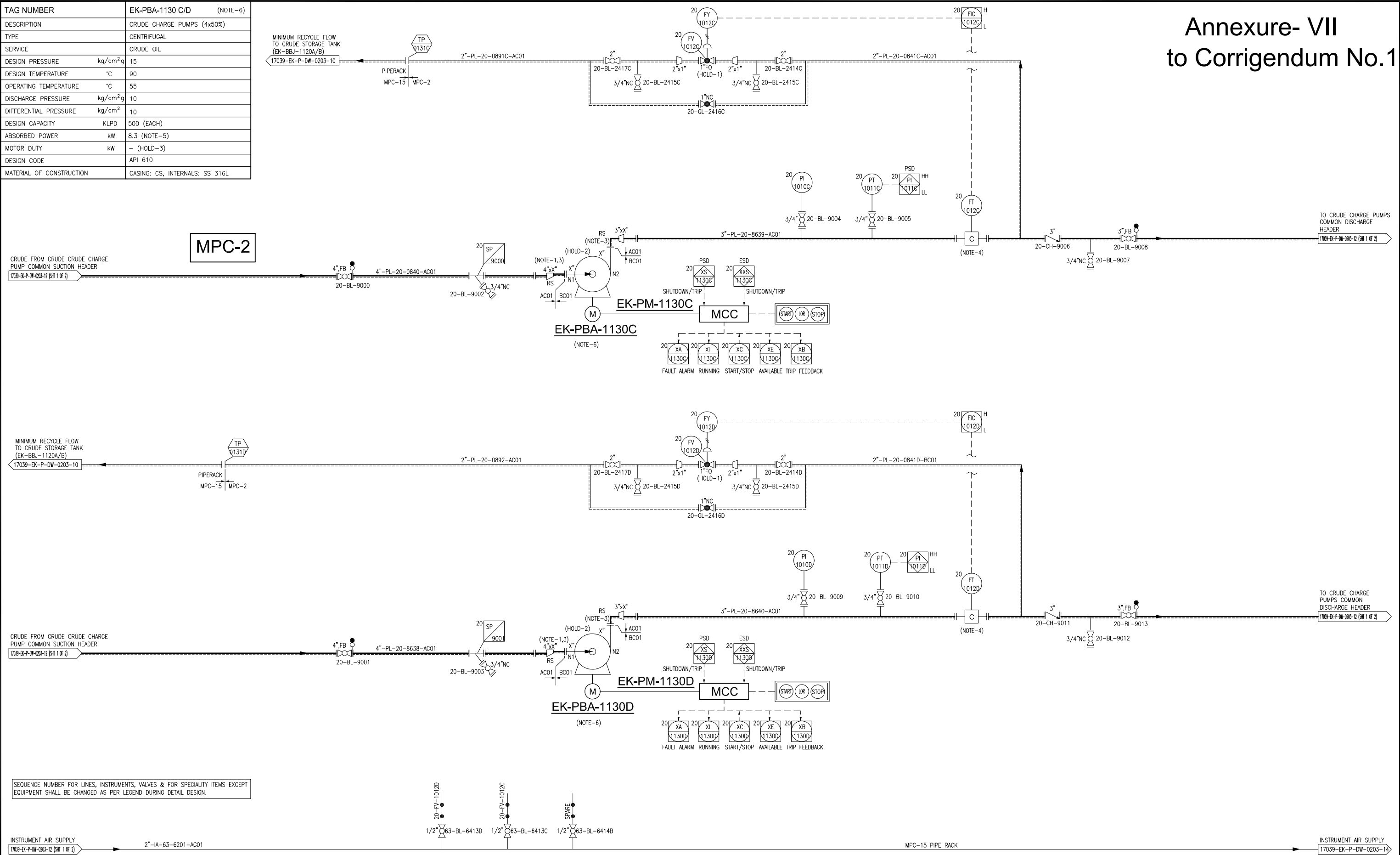
EPCM CONSULTANT :

 **KAVIN**<sup>TM</sup>

PROJECT :				CREATION OF SURFACE PRODUCTION FACILITIES (OCS & GGS) AT NADUA & EAST KHAGORIJAN			
THIS DRAWING AND ALL DESIGN DETAILS AND DATA SHOWN HEREON, IS THE SOLE PROPERTY OF OIL INDIA LTD AND SHALL NOT BE REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER, EXCEPT BY WRITTEN PERMISSION OF OIL INDIA LTD.							
TITLE :				PIPING AND INSTRUMENTATION DIAGRAM GAS METERING SYSTEM (ND-ZZZ-1260 A/B)			
PROJECT NO.: KIP-17039				PROJECT SITE:		NADUA	
DRAWING NO.: 17039-ND-P-DW-0205-02				REV: C	SHEET : 1 OF 1	SCALE : NTS	

Annexure- VII  
to Corrigendum No.1

TAG NUMBER	EK-PBA-1130 C/D	(NOTE-6)
DESCRIPTION	CRUDE CHARGE PUMPS (4x50%)	
TYPE	CENTRIFUGAL	
SERVICE	CRUDE OIL	
DESIGN PRESSURE	kg/cm <sup>2</sup> g	15
DESIGN TEMPERATURE	°C	90
OPERATING TEMPERATURE	°C	55
DISCHARGE PRESSURE	kg/cm <sup>2</sup> g	10
DIFFERENTIAL PRESSURE	kg/cm <sup>2</sup>	10
DESIGN CAPACITY	KLPD	500 (EACH)
ABSORBED POWER	kW	8.3 (NOTE-5)
MOTOR DUTY	kW	— (HOLD-3)
DESIGN CODE	API 610	
MATERIAL OF CONSTRUCTION	CASING: CS, INTERNALS: SS 316L	



- NOTES:**
- ECCENTRIC REDUCER WITH FLAT TOP.
  - DELETED.
  - REMOVABLE SPOOL PIECE FOR MAINTENANCE PURPOSE.
  - CORIOLIS TYPE FLOW TRANSMITTER.
  - PUMP DUTY INCLUDES 10% MARGIN WITH 75% ADIABATIC EFFICIENCY.
  - CRUDE CHARGE PUMPS ARE PROVIDED TO MEET NPSH REQUIREMENT OF CRUDE DISPATCH PUMPS (EK-PBA-1140 A/B/C/D).

- HOLD:**
- CONTROL VALVE SIZE AND ITS ASSOCIATED PIPING AND BY-PASS VALVE SIZE MENTIONED ARE PRELIMINARY AND WILL BE CONFIRMED LATER.
  - PUMP SUCTION AND DISCHARGE NOZZLE SIZE.
  - MOTOR DUTY TO BE CONFIRMED.

REV	DATE	DESCRIPTION	DRAWN	CHK.	APPR.
B	17 FEB 18	ISSUED FOR BID	SJB	PSN/TKV/MSB/MSR	
A	14 DEC 17	ISSUED FOR REVIEW	DAM	PSN/TKV/MSB/MSR	

COMPANY:

**Oil India Limited**

EPCM CONSULTANT:

**KAVIN™**

PROJECT : CREATION OF SURFACE PRODUCTION FACILITIES (OCS & GGS) AT NADUA & EAST KHAGORIJAN

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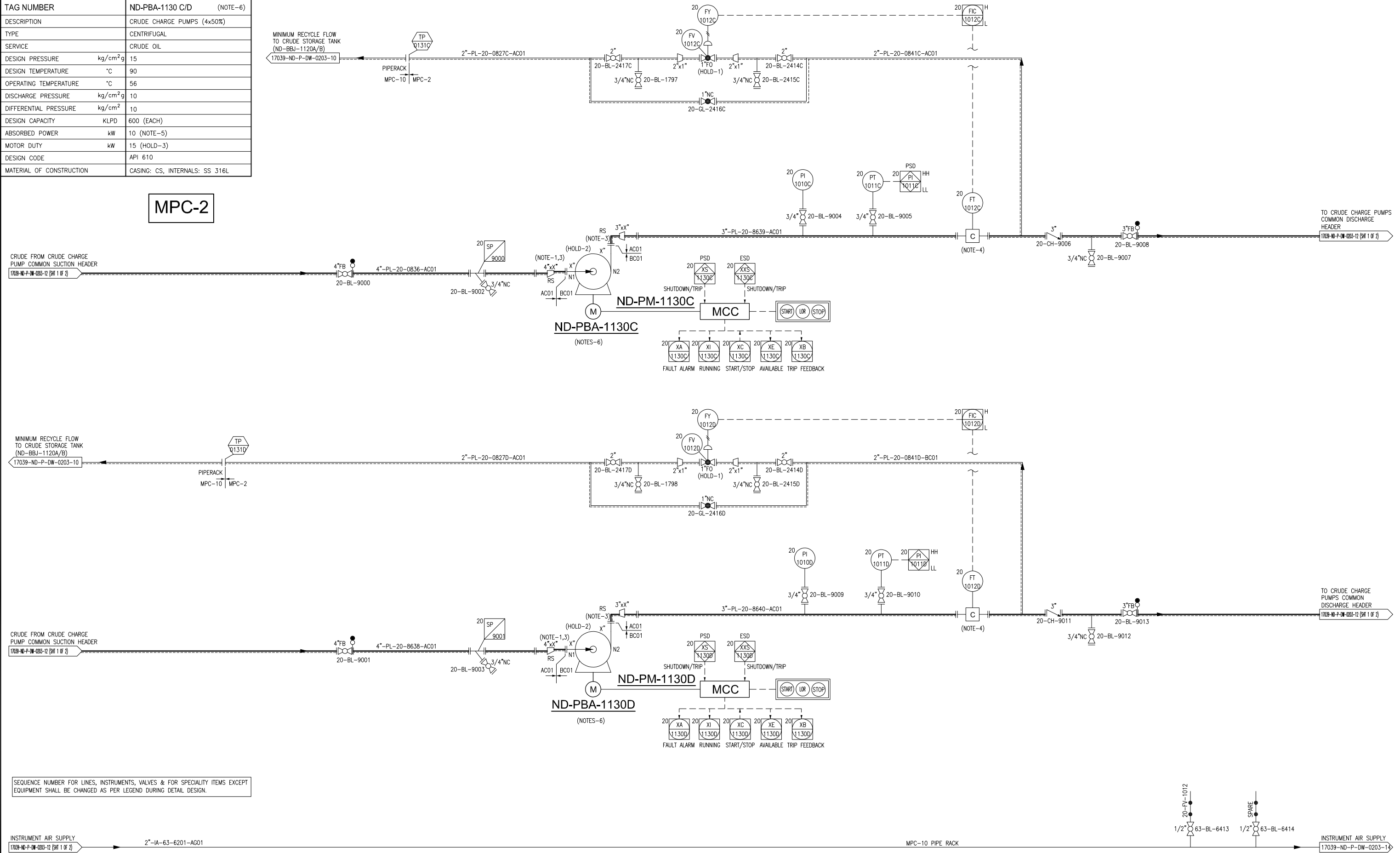
TITLE : PIPING AND INSTRUMENTATION DIAGRAM CRUDE CHARGE PUMPS (EK-PBA-1130C/D)

PROJECT NO.: KIP-17039 PROJECT SITE: EAST KHAGORIJAN

DRAWING NO.: 17039-EK-P-DW-0203-12 REV: B SHEET : 2 OF 2 SCALE : NTS

TAG NUMBER	ND-PBA-1130 C/D	(NOTE-6)
DESCRIPTION	CRUDE CHARGE PUMPS (4x50%)	
TYPE	CENTRIFUGAL	
SERVICE	CRUDE OIL	
DESIGN PRESSURE	kg/cm <sup>2</sup> g	15
DESIGN TEMPERATURE	°C	90
OPERATING TEMPERATURE	°C	56
DISCHARGE PRESSURE	kg/cm <sup>2</sup> g	10
DIFFERENTIAL PRESSURE	kg/cm <sup>2</sup>	10
DESIGN CAPACITY	KLPD	600 (EACH)
ABSORBED POWER	kW	10 (NOTE-5)
MOTOR DUTY	kW	15 (HOLD-3)
DESIGN CODE	API 610	
MATERIAL OF CONSTRUCTION	CASING: CS, INTERNALS: SS 316L	

MPC-2



- NOTES:**
1. ECCENTRIC REDUCER WITH FLAT TOP.
  2. DELETED.
  3. REMOVABLE SPOOL PIECE FOR MAINTENANCE PURPOSE.
  4. CORIOLIS TYPE FLOW TRANSMITTER.
  5. PUMP DUTY INCLUDES 10% MARGIN WITH 75% ADIABATIC EFFICIENCY.
  6. CRUDE CHARGE PUMPS ARE PROVIDED TO MEET NPSH REQUIREMENT OF CRUDE DISPATCH PUMPS (ND-PBA-1140 A/B/C/D).

- HOLD:**
1. CONTROL VALVE SIZE AND ITS ASSOCIATED PIPING AND BY-PASS VALVE SIZE MENTIONED ARE PRELIMINARY AND WILL BE CONFIRMED LATER.
  2. PUMP SUCTION AND DISCHARGE NOZZLE SIZE.
  3. MOTOR DUTY TO BE CONFIRMED.

B	17 FEB 18	ISSUED FOR BID	SAT	PSN/TKV/MSB/MSR		
A	11 DEC 17	ISSUED FOR REVIEW	SAT	PSN/TKV/MSB/MSR		
REV	DATE	DESCRIPTION	BY	CHK.	APPR.	

COMPANY:

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TITLE :				PIPING AND INSTRUMENTATION DIAGRAM CRUDE CHARGE PUMPS (ND-PBA-1130C/D)					
PROJECT NO.:				KIP-17039		PROJECT SITE:		NADUA	
DRAWING NO.:		17039-ND-P-DW-0203-12		REV: B		SHEET : 2 OF 2		SCALE : NTS	