

Name of Work : RWTP, RO-DMP, CPU & ZLD Plant for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India
Bidding Document: SG/B269-475-PA-T-8701/23

PRE-BID QUERIES (Bidder-1)

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
1	Tender-Doc_Part 2	288	6.1	Mandatory Spares	<p>In clause 6.1 Mandatory spares point no. 2 EHV & HV Gas Insulated Switchboard (GIS) and sub-points 2.1 thru 2.13 are not in scope of bidder.</p> <p>Thus bidder understands that spares related to the items listed in SCOPE OF SUPPLY & WORK (Electrical) Doc. No. : B269-487-16-50-SOW-8702 Rev. B to be considered.</p> <p>Kindly Confirm</p>	<p>Bidder's understanding is correct w.r.t. EHV & HV GIS related Mandatory spares.</p> <p>Bidder's referred document (B269-487-16-50-SOW-8702 Rev. B) is incorrect as same is not part of this tender and hence not applicable.</p> <p>Bidder to follow Scope of Supply & Work(electrical) Doc. No. B269-475-16-50-SOW-8701 attached with Tender. Bidder to also follow Mandatory spares list Doc. No. B269-475-16-50-SL-8701 attached with Tender.</p>

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY								
2	TENDER_DOC-P3	203	3.24.1.3	Special Requirements For LEDs Fixtures	<div>4.22.1.3 Approved makes for different LED technology/types shall be as follows:</div> <table><tr><th>LED Technology/ Type</th><th>Approved Make</th></tr><tr><td>SMD</td><td>Nichia, Osram, Lumileds (Erstwhile Philips Lumileds), CREE</td></tr><tr><td>C.O.B</td><td>Citizen, Bridgelux</td></tr><tr><td>Domestic/Decorative Luminaires</td><td>Everlight Taiwan, Edison Taiwan, Samsung Korea, Osram Germany along with makes approved for SMD</td></tr></table> <div>Bidder brings in notice that the vendors mentioned in CL.4.22.1.3 viz. Nichia, Osram, CREE, Citizen, Bridgelux, Everlight Taiwan, Edison Taiwan, Samsung Korea, Osram Germany are not included in vendor/supplier list, bidder understands that bidder opt for any vendor after combining the list of supplier mentioned in vendor/supplier list and the supplier list mentioned in Cl.4.22.13 of Job specification electrical Doc. No. : B269-487-16-50-SP-8702.</div> <div>Kindly Confirm.</div>	LED Technology/ Type	Approved Make	SMD	Nichia, Osram, Lumileds (Erstwhile Philips Lumileds), CREE	C.O.B	Citizen, Bridgelux	Domestic/Decorative Luminaires	Everlight Taiwan, Edison Taiwan, Samsung Korea, Osram Germany along with makes approved for SMD	<div>Bidder's referred document (B269-487-16-50-SOW-8702 Rev. B) is incorrect as same is not part of this tender and hence not applicable.</div> <div>Bidder to follow Job Spec. (electrical) Doc. No. B269-475-16-50-SP-8701 attached with Tender.</div> <div>Bidder to note that these Approved Makes are for LED technology/ types and same shall be read in conjunction with the Vendor List (B269-475-16-50-VL-8701) attached with Tender.</div>
LED Technology/ Type	Approved Make													
SMD	Nichia, Osram, Lumileds (Erstwhile Philips Lumileds), CREE													
C.O.B	Citizen, Bridgelux													
Domestic/Decorative Luminaires	Everlight Taiwan, Edison Taiwan, Samsung Korea, Osram Germany along with makes approved for SMD													

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
3	TENDER_DOC-P3	204	3.24.1.4	Special Requirements For LEDs Fixtures	<p>3.24.1.4 Test Report for Ambient Temperature of 55 / 85 / 105 °C at rated and maximum current shall be submitted for SMD type LED. For COB type LED, as soldering temperature is not applicable for COB technology, LM 80 test report shall be submitted.</p> <p>3.24.1.5 TM 21 life projection calculations along with LM80 for all three ambient temperature of 55 / 85 / 105°C as per applicable standard shall be submitted to substantiate that life of LED Chip shall be more than 50000 Hrs for both commercial and Industrial range and 25000 Hrs for LED Bulb, domestic and decorative Range.</p> <p>3.24.1.6 Reported life Span of LEDs used in the Luminaire shall be greater than 50,000 Hrs at the soldering point temperature of 85°C and at the luminaire driving current.</p> <p>3.24.1.7 The LEDs shall comply with Photobiological Safety norms as per IEC 62471 / EN62471 / IS: 16108 and should fall in the exempt group for indoor luminaires and in exempt or low risk group for outdoor LED luminaires.</p> <p>3.24.1.8 View angle : Typical 120°</p> <p>3.24.1.9 The colour temperature of the proposed white colour LED shall be from 5700K (i.e. 5685K±355K) to 6500K for indoor type luminaire Step 5 or Step 3 McAdam ,as per ANSI standard C78.377A, & 5700K (i.e. 5685K±355K). For outdoor type luminaires, Step 7 McAdam, as per ANSI standard C78.377A, will be accepted on account of colour consistency.</p> <p>Kindly confirm the requirement mentioned in Cl. 4.22.1.14 thru 4.22.1.10</p>	Bidder to follow the Tender documents.
4	TENDER_DOC-P3	204	3.24.1.10	Special Requirements For LEDs Fixtures	<p>It is mentioned in clause 3.24.1.10 of job specification electrical with doc. no. B269-475-16-50-SP-8701 Rev. C that The Colour Rendering Index (CRI): CRI should include all colour range from R1 to R15, shall be > 80 for Indoor luminaire and > 70 for Outdoor luminaire..</p> <p>There are very less (1 or 2) vendor fulfilling the requirement of CRI>80 thus bidder proposes to use CRI to be greater than or equal to >= 80</p> <p>Kindly Confirm the use of fixtures with CRI>=80.</p>	Bidder to follow the Tender documents.
5	TENDER_DOC-P3	203	3.24.1.1	Special Requirements For LEDs Fixtures	<p>It is mentioned in clause 3.24.1.1 of job specification electrical with doc. no. B269-475-16-50-SP-8701 Rev. C that LED efficacy shall be greater than > 140Lumen/Watt @ 350mA drive current. In respect of LEDs of higher power ratings, drive current greater than 350mA can be accepted if the LED's LM 80 / IS: 16105 test reports support the same..</p> <p>There are very less (1 or 2) vendor fulfilling the requirement of LED efficacy>140Lumen/watt thus bidder proposes to use fixtures with LED efficacy between 100-120 Lumen/watt</p> <p>Kindly confirm the use of fixtures with LED efficacy between 100-</p>	Bidder to follow the Tender documents.

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
					120 Lumen/watt .	
6	TENDER_DOC-P6	51	NA	SCOPE DIVISION BLOCK DIAGRAM FOR ECS SYSTEM RWTP & RODM/ZLD/CPU PACKAGE	<p>It is mentioned under notes point no. 1 that All ECS system equipment such as ECS RTU, ECS interface panel shall be free issue to contractor. Installation of all these equipment's are in contractor scope.</p> <p>Bidder understands that ECS Transducer Panel, ECS IRP Panel & ECS marshaling panel are out of scope of bidder and will be free issue item to bidder, further only installation of these panel are in bidder scope.</p> <p>Kindly Confirm</p>	<p>Bidder to follow Tender documents. For ECS related work please go through Scope of Supply & Work (Electrical) Doc. No. B269-475-16-50-SOW-8701, Job Spec.(Electrical) Doc. No. B269-475-16-50-SP-8701, Datasheet B269-999-16-50-DS-0685, Block Diagram SAS Doc. No. B269-999-16-50-3003, Block Diagram ECS Doc. No. B269-999-16-50-3002, etc. attached with Tender. Bidder to also refer reply at Sl. No. 7, 8 below.</p>
7	TENDER_DOC-P6	51	NA	SCOPE DIVISION BLOCK DIAGRAM FOR ECS SYSTEM RWTP & RODM/ZLD/CPU PACKAGE	<p>Bidder understands that bidder's scope of supply and installation of ECS cable is limited up-to ECS Transducer Panel, ECS IRP Panel & ECS marshaling panel, further cabling from these panels to ECS RTU panel is not in scope of bidder, thus bidder will exclude scope of supply and installation of ECS cable from ECS Transducer Panel, ECS IRP Panel & ECS marshaling panel to ECS RTU panel.</p> <p>Kindly Confirm.</p>	<p>Bidder's understanding is correct. Bidder to also refer reply at Sl. No. 6 above and Sl. No. 8 below.</p>

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
8	TENDER_DOC-P6	51	NA	SCOPE DIVISION BLOCK DIAGRAM FOR ECS SYSTEM RWTP & RODM/ZLD/CPU PACKAGE	<ol style="list-style-type: none"> 1. Bidder understands that only FO Cabling and TCP/IP Modbus serial link up-to ECS RTU panel is in scope of bidder further to this hardwired ECS cables form ECS Transducer Panel, ECS IRP Panel & ECS marshaling panel to ECS RTU panel is out of scope of bidder. Kindly Confirm. 2. Bidder understands that cable for redundant connection from ECS RTU panel to DCS is in bidder scope. Kindly Confirm. 3. Bidder understands that dual redundant ECS data highway FO cable is out of scope of bidder. Kindly Confirm. 	<ol style="list-style-type: none"> 1. Bidder's understanding is partly correct. Bidder to note that as per Tender, all Hardwired cabling from Bidder's supplied equipments upto ECS Interface panels (Transducer Panel, IRP Panel, Marshalling Panel), all FO cabling and Serial link upto ECS-RTU panel from Bidder's supplied equipments, are in scope of Bidder. 2. Bidder's understanding is correct. 3. Bidder's understanding is correct. <p>Bidder to also refer reply at Sl. No. 6, 7 above. Bidder to follow Tender documents.</p>
9	TENDER_DOC-P6	52	NA	Scope Block Diagram RWTP	Bidder understands from the note 1 that OFC cable from owner switchboard to 6.6 KV contractor switchboard & 6.6/0.433 KV distribution transformer shall be done by owner and only	Bidder's understanding is

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
					termination at contractor's equipment is in scope of bidder. Kindly Confirm.	correct. Bidder to follow Tender documents.
10	TENDER_DOC-P6	53	NA	Scope Block Diagram RODM/ZLD/CPU	Bidder understands from the note 1 that OFC cable from owner switchboard to 6.6 KV contractor power transformer and 6.6 KV switchboard shall be done by owner and only termination at contractor's equipment is in scope of bidder. Kindly Confirm.	Bidder's understanding is correct. Bidder to follow Tender documents.
11	TENDER_DOC-P8	678	NA	Specification for MV & HV Bus Duct	The specification for MV & HV bus duct mention the technical requirement for Air Insulated Bus Duct and Sandwich type bus duct, further tender document part 5 page 193 & 194 is enclosed with Air insulated bus duct data sheet and Sandwiched bus duct respectively, thus bidder understands that bidder can use any of these bus duct and there is no specific requirement/compulsion to use sandwich type bus duct. Kindly Confirm.	Bidder to note that Sandwich type busduct is not required as per Tender Documents. Kindly refer Cl. No. of Job Spec.(Job Spec.(Electrical) Doc. No. B269-475-16-50-SP-8701 attached with tender.
12	TENDER_DOC-P8	383	5.3.3	Specification for high voltage switchboard	<p>5.3.2 Bus bars shall be of high conductivity electrolytic aluminium or copper supported on insulators made of non-hygrosopic, non-inflammable material with tracking index equal to or more than that defined in Indian standards. Self supporting busbars can also be accepted provided the same is type tested design.</p> <p>From the above clause bidder understands that bidder is free to use aluminium bus bar in HV Switchboard and there is no specific requirement/compulsion to use copper bus bar.</p>	Bidder to follow Tender documents. Aluminium/ Copper, both are acceptable as per valid type test certificates meeting all the requirements of Tender.
13	TENDER_DOC-P8	431	5.3.3	Specification for Medium Voltage Switchboard	<p>5.27 Bus Bar</p> <p>5.27.1 Bus bars shall be of high conductivity electrolytic aluminium or copper supported on insulators made of non-hygrosopic, non-inflammable material with tracking index equal to or more than that defined in Indian standards.</p> <p>From the above clause bidder understands that bidder is free to</p>	Bidder to follow Tender documents. Aluminium/ Copper, both are acceptable

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
					use aluminium bus bar in MV Switchboard and there is no specific requirement/compulsion to use copper bus bar.	as per valid type test certificates meeting all the requirements of Tender.

Name of Work : RWTP, RO-DMP, CPU & ZLD Plant for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India
Bidding Document: SG/B269-475-PA-T-8701/23

PRE-BID QUERIES (Bidder-2)

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
1	SCOPE OF WORK & SUPPLY (UG CIVIL-STRUCTURAL & ARCHITECTURAL) & Engineering Design Basis	Page 949 of 7166 & Page 1079 of 7166	1.0 & B 4.2.1	PART B: STRUCTURAL & General /design Methods	<p>ii) All Liquid retaining structure shall be design for uncracked section. &</p> <p>5.0 All liquid retaining / storage RCC structures shall be leak-proof and designed as un-cracked section (or with limited crack width in limit state design) as per IS:3370. However, the parts of such structures not coming in direct contact with liquid shall be designed according to IS:456 except ribs of beams of suspended floor slabs, counter forts of walls (located on the side remote from the liquid) and roof which shall be designed as un-cracked section. No increase in permissible stresses in concrete and reinforcement shall be made under wind or seismic conditions for such structures.</p> <p>There is a discrepancy on above two. Please confirm, Bidder can consider 0.2mm crackwidth as per IS:3370</p>	Design concept as mentioned in the EDB may be followed. However, for crack width or any other criteria, bidder to comply with the codal provisions.
2	SCOPE OF WORK & SUPPLY (UG CIVIL-STRUCTURAL & ARCHITECTURAL)	Page 946 of 7166	3.6.2	3.0 SCOPE OF SUPPLY & WORK	<p>3.6.2 b. Dismantling of existing works if required. Query : Please provide drawing/ details of existing works.</p> <p>c. Protection of existing works/ facilities as required. Query : Please provide drawing/ details of existing works.</p> <p>d. Rectification of damaged works etc. Query : Please provide drawing/ details of existing works.</p> <p>e. Disposal of debris, storage of retained items etc. Query : Please provide details for the same. And also provide lead and location for disposal of surplus soil.</p>	<p>3.6.2 b. Graded site shall be handed over to the contractor (Refer Note No.3 of Scope Drawing No. B269-475-81-41-14561 & B269-475-81-41-14562)</p> <p>d. Bidder to follow the Bid Requirements</p> <p>e. No major existing structures are envisaged. This clause is for minor/ incidental existing structures which may</p>

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
						may be encountered.
3	SCOPE OF WORK & SUPPLY (UG CIVIL-STRUCTURAL & ARCHITECTURAL)	Page 946 of 7166 & Page 947 of 7166		PART- (ARCHITECTURAL) & PART STRUCTURAL A B:	<p>3.7.2 Approvals from following Authorities are envisaged.</p> <p>a) Local Panchayat, Municipal, Development Authorities as applicable.</p> <p>b) Factory Inspector, Department of Industrial safety & Health.</p> <p>c) Department of Fire & Emergency Services.</p> <p>d) Regional, City or Town Planning Authority if applicable.</p> <p>e) Airport Authority if applicable.</p> <p>f) Any other Authority having jurisdiction. & xxiv) Obtaining statutory approval from local authorities such as Municipal Corporation, Development authorities, Inspector of Factories and any other concerned authorities for starting the work, before starting the work at site. xxv) Contractor to provide necessary assistance in documentation for statutory approvals taken by client.</p> <p>QUERY: From above two there is discrepancy of Approval of statutory authorities. As per bidder 's understanding All above and other approvals requirements shall be provided by Owner Kindly Confirm.</p>	<p><u>For Building/ Architectural Part of SOW</u></p> <p>As per Clause 3.7 all clauses "EPC CONTRACTOR shall prepare drawings & documents ,necessary changes, perform all liaising & co-ordination activities with required parties, Authorities etc. as required for obtaining approvals from Statutory Authorities".</p> <p>All the above have to be done by bidder on behalf of Owner.</p>

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
4	SCOPE OF WORK & SUPPLY (UG CIVIL-STRUCTURAL & ARCHITECTURAL)	Page 953 of 7166	iv)	ROADS & APPROACHES	<p>All internal roads, approach road from main road around scope B/L including all construction approaches, footpath, culverts, and temporary approach roads to facilitate crane movement or any other vehicle movement for access and for construction facilitation shall be in PACKAGE CONTRACTOR's scope. Query : Kindly provide details of above requirement. i.e. "main road around scope B/L".</p> <p>Any culverts (pipe culvert / RCC Box culvert) required for temporary approach roads on existing storm water drain to facilitate crane/ vehicle movement during construction/ erection of equipment shall be provided by PACKAGE CONTRACTOR. In case approach road is not constructed in time by others, then the temporary approaches shall be made by PACKAGE CONTRACTOR to facilitate construction work at site. Query: Kindly Provide detail for the same. Also provide distance from ETP Battery limit to existing permanent road for temporary road making purpose.</p>	<p>Refer Scope drawing number : B269-475-81-41-14561 & B269-475-81-41-14562 FOR Approach road, Main Road around Battery limit and scope limit.</p> <p>Refer Scope drawing number : B269-475-81-41-14561 & B269-475-81-41-14562. FOR Distance from main to ETP Battery limit.</p>
5	SCOPE OF WORK & SUPPLY (UG CIVIL-STRUCTURAL & ARCHITECTURAL)	Page 953 of 7166	vi)	vi) STORM WATER DRAINAGE SYSTEM	Query: Kindly confirm distance from outside battery limit to connection line for storm water drain	Refer Scope drawing number : B269-475-81-41-14561 & B269-475-81-41-14562 Drain outside battery limit shall be considered along main road around

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
						scope Battery limit.
6	SCOPE OF WORK & SUPPLY (UG CIVIL-STRUCTURAL & ARCHITECTURAL)	Page 949 of 7166	iii)	PART STRUCTURAL B:	Providing protective coating system on concrete surface below & above ground as per EDB B269-999-81-41-EDB-1001 and Job specification B269-000-02-42- PCS-0001. Query : Kindly provide detail for the same.	Bidder query is not clear, as the requirements are already available in the job specification B269-000-02-42- PCS-0001 attached with bid document.
7	SCOPE OF WORK & SUPPLY (UG CIVIL-STRUCTURAL & ARCHITECTURAL)	Page 952 of 7166	ii)	PART-C (U/G CIVIL)	BIDDER shall visit the site and verify the quantum and existing levels shown in battery limit scope drawing on his own and assess quantum of site grading required and no claim for any variation shall be admissible. Query : Due to Covid -19 situation and protocols , it is not possible to visit site. so ,Kindly provide existing ground levels for the same or provide Contour plan..	FGL of RWTP/RODM area is specified in scope drawing no B269-475-81-41-14561 & B269-475-81-41-14562 & Part-C of Scope of work Document no B269-475-81-41-SOW-8701. Bidder to follow the same.
8	SCOPE OF WORK & SUPPLY (UG CIVIL-STRUCTURAL & ARCHITECTURAL)	Page 957 of 7166	xviii)	MISCELLANEOUS	The below ground RCC shall be provided with recommended protection against subsurface salty water / chlorides etc. Query : Please provide drawing/ detail specification of work.	Bidder to follow bid requirement.
9	SCOPE OF WORK & SUPPLY (UG CIVIL-STRUCTURAL & ARCHITECTURAL)	Page 958 of 7166	xviii)	MISCELLANEOUS	The plot for construction area/ fabrication yard/ field office/ construction stores has to be developed by the CONTRACTOR at its own cost. All the infrastructure facilities which includes approaches, drainage system, pavements etc. shall be developed & provided by the CONTRACTOR at its own cost. Query : As per	Follow bidding document

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
	L)				bidder 's understanding, Owner shall provide space for fabrication work, Storage of construction material and other structural, piping materials etc., Please confirm area and distance from working area to storage area.	
10	GENERAL CIVIL			Work Permit	QUERY: As it is working refinery Please confirm work permit requirements.	Bidder to follow bidding document. However bidder to visit site for better clarity
11	GENERAL CIVIL			Working Hours	1.0 What will be allowable normal working hours? 2.0 Working for late hours beyond normal will be permitted or not.	For working Hrs statutory guidelines shall be followed.
12	GENERAL CIVIL			FENCING AND BOUNDARY WALL:	As per Scope Fencing and boundary wall are not in contractor's scope. Kindly confirm	Boundary wall is not is bidder's scope. Fencing shall be provided within RWTP/RODM battery limit as specified in bid document.

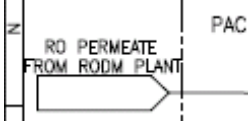
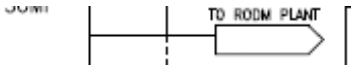
Name of Work :RWTP, RO-DMP, CPU & ZLD Plant for Panipat Refinery Expansion Project (P25)of M/s Indian Oil Corporation Limited (IOCL), India
Bidding Document:SG/B269-475-PA-T-8701/23

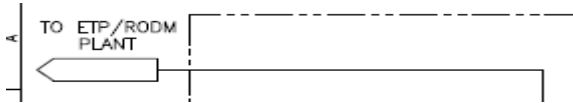
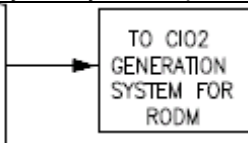
PRE-BID QUERIES (Bidder-3)

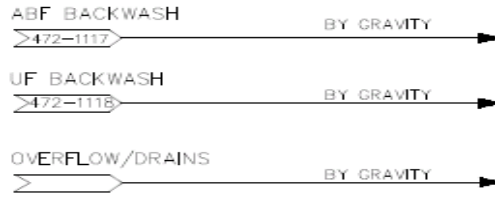
SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
1	Part 2	761 of 7166	SOW	Document Missing	<p>We have not found below listed document</p> <ul style="list-style-type: none"> - O&M specifications No. B269-472/475/476-17-44-SS-1002. - Process Datasheet No.B269-472-02-42-DS-1901 - Process Datasheet No.B269-472-02-42-DS-1602 - Process Datasheet No.B269-999-81-41-DS-44801 - Equipment Layout for RWTP B269-472-17-44-1040 - Basic engineering design basis RWTP : B269-02-42-PDB-472 	<ol style="list-style-type: none"> 1. Please Refer Page 867 of 7166 2. Process data sheet number mentioned in (Section 3) to be considered as (B269-472-02-42-DS-1601). This pds belongs to CW make up pump. 3. Please refer page number 1569 of 6432 4. Please refer pg 2344 of 7166 5. Please refer page 2431 of 7166 6. The reference to this document B269-02-42-PDB-472 stands

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY			
						deleted.			
2	Part 2	773 of 7166	SOW	Vendor list	<p>The ClO₂ Generator System shall be of Approved make as per the EIL Approved Supplier List provided in the Tender Document</p> <p>Vendor list for ClO2 generation system is not found in EIL approved supplier list.</p> <p>Kindly provide the vendor list of ClO2 generation system.</p>	Please refer updated Vendor list attached with amendment.			
3	Part 2	972 of 7166	PDB	Pumping Facility	<ul style="list-style-type: none">Pumping facility along with piping from existing reservoir facility to new RWTP <p>As per process design basis of RWTP, Pumping facility along with piping from existing reservoir facility to new RWTP is in bidder scope.</p> <p>But as per P&ID and PFD of RWTP, pressurized raw water inlet line available at battery limit of RWTP system.</p> <p>Kindly clarify the scope of Raw water inlet to RWTP.</p>	RWTP contractor's scope shall start from RWTP battery limit. Pressurized Raw water line shall be available to RWTP contractor at battery limit.			
4	Part 2	973 of 7166	PDB	Design Parameter	<table><tr><td>Turbidity (after 5 min settling)</td><td>NTU</td><td>20-40 (500 during Monsoon)</td></tr></table> <p>Kindly clarify that design turbidity of inlet raw water to RWTP system is 40 ppm or 500 ppm.</p>	Turbidity (after 5 min settling)	NTU	20-40 (500 during Monsoon)	Design turbidity of inlet raw water to RWTP shall be 500 ppm
Turbidity (after 5 min settling)	NTU	20-40 (500 during Monsoon)							
5	Part 2	973 of 7166	PDB	Design Parameter	<p>As per Process design basis of RWTP system, all the inlet water quality of RWTP system are provided in specific range.</p> <p>We understood that higher value shall be considered for design of RWTP system .</p> <p>Kindly confirm our understanding.</p>	Bidder understanding is correct			

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY														
6	Part 2	975 of 7166	PDB	Design Parameter	1)As per process design basis and P&ID, Clarified water from HRSCC shall be routed to Clarifier and raw water reservoir. But as per PFD, there is no provision for routing clarified water from HRSCC to raw water reservoir.	There shall be a provision for routing the clarified water from HRSCC to raw water reservoir as per the P&ID.														
7	Part 2	768 of 7166	SOW	Treated Backwash water	<table><tr><td>Treated Backwash Water to Reservoir</td><td>Press</td><td>Kg/cm2g</td><td>3.0</td><td>3.5</td><td>4.0</td><td>10.5</td></tr><tr><td></td><td>Temp</td><td>°C</td><td></td><td>Amb</td><td></td><td>65</td></tr></table> We understood that treated backwash water means clarified water from HRSCC. Kindly confirm our understanding.	Treated Backwash Water to Reservoir	Press	Kg/cm2g	3.0	3.5	4.0	10.5		Temp	°C		Amb		65	Bidder understanding is correct
Treated Backwash Water to Reservoir	Press	Kg/cm2g	3.0	3.5	4.0	10.5														
	Temp	°C		Amb		65														
8	Part 2	976 of 7166	PDB	Hold design capacity	<p>Table-3: RWTP Configuration</p> <table><tr><th>Unit</th><th>No. of Units (HOLD)</th><th>Design Capacity per Unit / Chain (HOLD)</th></tr></table> Why “ hold “ mark on design capacity and no. of unit. Kindly provide the final design capacity and no. of unit of RWTP system.	Unit	No. of Units (HOLD)	Design Capacity per Unit / Chain (HOLD)	The configuration provided is final. The HOLD Shall be removed in Amendment.											
Unit	No. of Units (HOLD)	Design Capacity per Unit / Chain (HOLD)																		
9	Part 5	2437 of 7166	P&ID	Compressed air system	<p>19. AFTER THE COMMISSIONING OF COMPRESSED AIR SYSTEM, INSTRUMENT AIR & PLANT AIR IN RWTP & RO-DMP SHALL BE TAKEN FROM COMPRESSED AIR SYSTEM. ALL NECESSARY PIPING CONNECTIONS FOR THE SAME SHALL BE IN THE CONTRACTORS SCOPE.</p> We understood that after commissioning of compressed air system, instrument air and plant air shall be available at plant battery limit of RWTP & RO-DMP and from battery limit to further distribution in plant is in contractor scope. Kindly confirm our understanding.	Bidder understanding is correct														
10	Part 5	2445 of 7166	P&ID	Document missing	Below listed P&IDs are missing in tender document. - Treated water reservoir : B269-79-41-472-1111 - Drinking water sump : B269-999-81-41-34222	1. Treated water reservoir P&ID shall be B269-02-42-472-1111														

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
						2. Already attached with Technical Part of the Bid available in page number 1818 of 6432.
11	Part 2	768 of 7166	SOW	Battery Limit condition	Kindly provide battery limit condition for caustic inlet line available at battery limit of RWTP.	Pressure shall be minimum 2kg/cm2 g. The same shall be updated in amendment.
12	Part 5	2433 of 7166	PFD	RO permeate line to RWTP	 <p>As per PFD, RO permeate line from RODM plant available at battery limit and routed to treated water reservoir line.</p> <p>But as per P&ID, there is no line available at battery limit.</p> <p>Kindly clarify the requirement of RO permeate routed to treated water reservoir .</p> <p>If RO permeate line available at battery limit then kindly provide the battery limit condition.</p>	No RO permeate is routed to Treated Raw Water reservoir.
13	Part 5	2433 of 7166	PFD	Treated Water from RWTP	 <p>As per PFD, Treated water from reservoir shall be routed to RODM plant but as per P&ID there is no provision for routing treated water line to the RODM plant at battery limit.</p> <p>Kindly clarify the requirement and provide battery limit condition.</p>	<p>Treated Raw Water shall be routed to RODMP Plant by Cooling Water Make-up Pumps. Refer P&ID B269-02-42-472-1111.</p> <p>Battery limit condition</p>

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
						of Treated Raw water to RODMP is provided in tender
14	Part 5	2434 of 7166	PFD	HCL to ETP/RODM plant	 <p>As per PFD, HCL from HCL unloading pump routed to battery limit for transfer HCL to ETP/RO-DM plant.</p> <p>Kindly clarify the requirement and provide battery limit condition.</p>	HCL supplied only to ETP. Battery limit conditions of HCL routed to ETP shall be provided in amendment.
15	Part 5	2434 of 7166	PFD	HCL to RODM	 <p>As per PFD, HCL transfer to RODM for ClO2 generation. But in P&ID, there is no line provided for transferring HCL to RODM for ClO2 generation system.</p> <p>Kindly clarify the requirement and provide battery limit condition.</p>	No HCL transfer from RWTP to RODMP
16	Part 2	1933 of 7166	PDS	Vendor list	<p>6 CONTRACTOR TO SUBMIT CATALOGUES OF PLATE/ TUBE SETTLER MODULES OF THE PROPOSED MODEL CLEARLY INDICATING ITS VERTICAL HEIGHT, DESIGN APPLICATION RATE, EQUIVALENT SETTLING AREA, TUBE LENGTH, ETC., FROM APPROVED VENDOR.</p> <p>Vendor list for Lamella plate / Tube settler is not found in EIL approved supplier list.</p> <p>Kindly provide the vendor list of Lamella plate / Tube settler .</p>	The supplier PTR shall be submitted for approval during detail engineering
17	Part 5	2442 of 7166	P&ID	Requirement of Level Indicator	<p>LEVEL INDICATION REQUIRED (YES / NO) YES</p> <p>We understood that local level indication shall be taken from level transmitter only.</p>	Bidder understanding is correct.

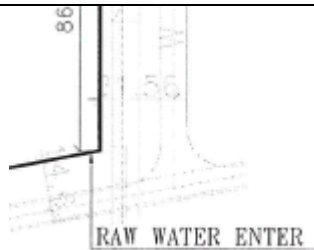
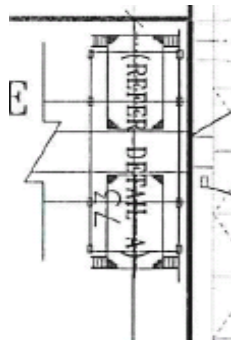
SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
					Kindly confirm our understanding.	
18	Part 5	2442 of 7166	P&ID	Type of Pump	As per P&ID, type of UF feed pump is Centrifugal horizontal but as per Process datasheet, type of pump is centrifugal vertical. Kindly confirm the type of UF feed pump.	The UF Feed Pumps shall be centrifugal horizontal. Same shall be updated in amendment.
19	Part 4	1934 of 7166	PDS	Type of Sump	<div> <div>4</div> <div>UF FEED PUMPS SHALL BE MOUNTED ON TOP ON THE SUMP. CONTRACTOR TO CONSIDER RCC SLAB ON THE SUMP ACCORDINGLY</div> </div> As per process datasheet, UF feed pump shall be mounted on top of the sump that means UF feed sump is underground. Kindly confirm the same.	UF Feed Pump shall be located next to the UF Feed Sump. The Sump shall not be underground.
20	Part 5	2443 of 7166	P&ID	Auto Backwash filter	If backwash system of auto backwash filter is timer based or based on differential pressure across the filter then why manual valve provided instead of auto valve at inlet/outlet of auto backwash filter.	Please follow tender.
21	Part 5	2443 of 7166	P&ID	UF Backwash pump	If VFD is provided for UF backwash pumps then no requirement for flow control valve at common discharge header of UF backwash pumps. Kindly confirm the same.	Bidder understanding is correct
22	Part 5	2445 of 7166	P&ID	UF backwash waste	 Shall we combined all waste water line and provide single inlet line to backwash waste collection system? Kindly confirm.	Please follow tender
23	Part 4	1941 of 7166	PDS	Free Board	Kindly note that 0.5m FB is not suitable for the backwash holding sump.	Free board of 0.5 m is minimum requirement.

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
					Minimum requirement of free board for backwash holding sump is 2.0 m Kindly check and confirm.	Bidder shall increase the same if required during detailed engineering.
24	Part 4	1949 of 7166	PDS	Free Board	Kindly note that 0.5m FB is not suitable for the sludgesump. Kindly check and confirm.	Free board of 0.5 m is minimum requirement. Bidder shall increase the same if required during detailed engineering.
25	Part 4	1949 of 7166	PDS	Dewatering pump	We understood that contractor has to loose supply dewatering pump for pump house of centrifuge feed pump. Kindly confirm our understanding.	Dewatering pump shall be installed in Pump house.
26	Part 4	1953 of 7166	PDS	MOC of Dosing tank	<div> <div>B269-472-17-44-DS-1020</div> <div>2W</div> <div>472-T-103 A/B</div> <div>Fe₂(SO₄)₃/PAC Dosing Tank</div> <div>Effective Capacity: 12 m³ each 3.3m dia, 1.4m L.D. + 0.2 m DVD + 0.3 m FB each</div> <div>SS</div> </div> <p>As per Equipment list, MOC of Fe₂(SO₄)₃/PAC Dosing Tank is SS and as per process datasheet, MOC of Fe₂(SO₄)₃/PAC Dosing Tank is RCC.</p> <p>Kindly confirm the MOC and dimension of Fe₂(SO₄)₃/PAC Dosing Tank.</p>	MOC and dimensions shall be as per Equipment list. Shall be updated in amendment.
27	Part 4	1953 of 7166	PDS	Flow control valve	<p>4 THE PUMP DISCHARGE SHALL BE PROVIDED WITH A RECIRCULATION LINE WITH RO FOR PRESSURE AND FLOW CONTROL AS PER THE DOSING REQUIREMENTS.</p> <p>We understood that for flow and pressure control, recirculation line with globe valve and RO provided. Hence there is no need of flow control valve in recirculation as well as in discharge line.</p> <p>Kindly confirm our understanding.</p>	Bidder understanding is correct
28	Part 4	1962 of 7166	PDS	Type of Pump	As per process datasheet, type of pump for polyelectrolyte dosing pump is positive displacement diaphragm but as per P&ID, type of pump for polyelectrolyte dosing pump is	The PE dosing pump shall be horizontal centrifugal. Same

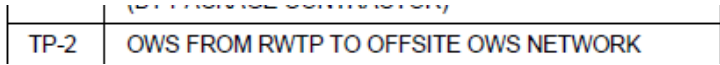
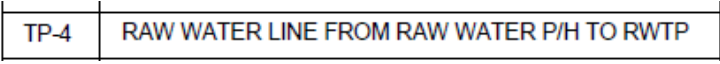
SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
					horizontal centrifugal. Kindly confirm the type of polyelectrolyte dosing pump.	shall be updated in amendment.
29	Part 4	1967 of 7166	PDS	Agitator requirement	As per PDS and P&ID agitator is required for HCL(CEB-I) , NaOH (CEB-II) &NaOCL (CEB-III) dosing system. But there is no requirement provide in equipment and also datasheet of agitator is missing. Kindly confirm the requirement of agitator.	No agitator is required for CEB-I/II/III Tanks. Same shall be updated in amendment.
30	Part 4	1980 of 7166	PDS	Lining requirement	Kindly clarify the requirement of acid/alkali proof lining inside the centrate sump.	Please follow tender
31	Part 4	1981 of 7166	PDS	Type of Sump	As per process datasheet, centrate transfer pump shall be mounted on top of the sump that means centrate transfer sump is underground. Kindly confirm the same.	Bidder understanding is correct.
32	Part 5	2461 of 7166	P&ID	Type of Pump	As per P&ID, type of centrate transfer pumpis Centrifugal horizontal but as per Process datasheet, type of pump is centrifugal vertical. Kindly confirm the type of centrate transfer pump.	Centrate transfer pump is horizontal vertical.Same shall be updated in amendment.
33	Part 4	1891 of 7166	Equipment list	Document missing	Below listed Datasheet are missing in tender document. <ul style="list-style-type: none"> - Service Water Transfer Pumps: B269-472-02-42-DS-1602 - CW makeup/DM water feed pumps : B269-472-02-42-DS-1601 - Drinking water transfer pumps : B269-999-81-41-DS-44801 - Drinking Water Storage Sump : B269-999-81-41-34222 	<ol style="list-style-type: none"> 1. PDS available in page number 1571 of 6432. 2. PDS available in page number 1569 of 6432. 3. Already attached with Technical Part of the Bid.available in page number

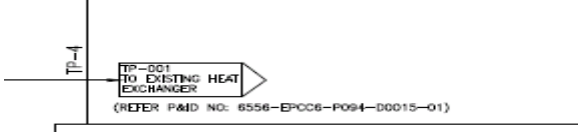
SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
						1611 of 6432. 4. Already attached with Technical Part of the Bid available in page number 1818 of 6432.
34	Part 5	2431 of 7166	Indicative layout	Relocation of Unit	Is it acceptable to relocate equipments/units as per our standard practice from indicative layout? Kindly confirm.	The location of Substation and control room in RWTP and Control Building in RODMP/ZLD/CPU is fixed. OISD norms to be followed for equipment layout and distance from OSBL units to be maintained as per OISD.
35	Part 5	2431 of 7166	Indicative layout	Combined RCC unit	Shall we combined RCC tanks/equipment with common wall if require?	Please follow tender
36	Part 5	2431 of 7166	Indicative layout	Process drain network MOC	Process drain network MOC is not given in SOW. Please furnish the same.	Process drain network MOC shall be A9A with 3LPE coating. Drain network for ZLD shall be confirmed based on the quality during detail engineering. Same shall be covered in amendment.
37	Part 5	2431 of 7166	Indicative layout	Changes in Tanks	We understand that all the Storage Tank MOC, size and type can be changed as per the space provided in layout.	Please follow tender

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
					Please confirm our understanding.	
38	General	-	-	Requirement of Level Indicator	We understood that level indicator is not require in underground sump.	Loop powered level indicators from LT shall be provided for all sumps and tanks.
40	Part 6	2565 of 7166	Scope drawing	Battery limit	<p>As per piping B/L drawing, there is two nos of battery limit tie point. One is in north side and other one is in east side. But we don't know that which pipes shall be routed on North side battery limit and which pipes shall be routed on east side battery limit.</p> <p>Kindly provide battery limit list with battery limit location.</p> <p>If location of pipe will be change from one battery limit tie point to other battery limit tie point then there will be cost implication during engineering stage.</p> <p>Hence we highly recommended to provide battery limit pipe list with location.</p>	<p>THE BATTERY LIMIT INDICATED ON THE NORTH SIDE IS THE INTERFACE WITH RWTP . THE LINES PERTAINING TO THE SAME CAN BE IDENTIFIED FROM P&ID .</p> <p>THE COORDINATION FOR THE SAME ,SHALL BE DONE WITH THE RWTP PACKAGE CONTRACTOR (POST AWARD OF THE PACKAGE)THROUGH THE INTERLOCUTION OF THE PMC</p>

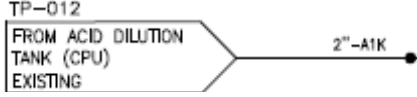
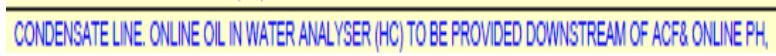
SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
41	Part 6	2565 of 7166	Scope drawing	Raw water inlet	 <p>We understood that 30 “ raw water inlet line to lamella clarifier is provided at south side of plant.</p> <p>Kindly confirm our understanding.</p>	Raw water inlet line shall be provided at RWTP Battery Limit as shown in scope drawing B269-475-81-41-14561
42	Part 6	2565 of 7166	Scope drawing	Battery limit diagram	 <p>As per scope drawing of piping battery limit, pipe sleeper with platform arrangement is provide at battery limit location. But as per indicative layout there is treated water reservoir shall be provided at this location.</p> <p>Kindly confirm drawing should be follow.</p>	THE FINAL EQUIPMENT LAYOUT OF THE RWTP HAS TO BE DEVELOPED BY THE SUCESSFUL BIDDER ,POST AWARD OF CONTRACT .THE SAME SHALL BE DEVELOPED BY ACCOMODATING ALL THE FACILITIES WITHIN ISBL ,LIKE TREATED WATER RESERVOIR WITH THE AREA AVAILABLE AFTER PROVING THE BATTERY LIMIT ARRANGEMENT AT THE LICATION INDICATED IN THE SCOPE DRAWING

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
43	Part 6	2565 of 7166	Scope drawing	Cross section of pipe rack at battery limit	Kindly provide cross section of pipe rack/sleeper at battery limit with height of pipe rack.	<p>THE TENTATIVE CORDINATES OF THE OSBL PIPE RACK INTERFACE WITH RWTP & RO-DM-ZLD-CPU PACKAGE LIMIT IS INDICATED IN B269-487-16-43-SK-8701.</p> <p>THE TENTATIVE PORTAL CROSSECTION WIDTH CAN BE 6M /8M .NO OF PORTALS IN THE CROSSECTION SHALL BE FINALISED DURING DETAILED ENGINEERING</p> <p>THE TENTATIVE ELEVATIONS ARE 106.250 & 108.750</p>
44	Part 6	2565 of 7166	Scope drawing	Pipe rack/Pipe sleeper requirement	We understood that Pipe rack and pipe sleeper both are suitable for piping routing inside plant area.	BEYOND THE BATTERY LIMIT ARRANGEMENT, WITHIN ISBL ,SLEEPER ARRANGEMENT IS NOT PREFERRED AND PIPE RACK ARRANGEMENT IS INDICATED AS THE SLEEPER ARRANGEMENT

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
						RESTRICTS THE MOBILITY WITHIN THE UNIT
45	Part 6	2565 of 7166	Scope drawing	Minimum width Road for vehicular movement	Kindly specify the requirement of minimum width of road for vehicular movement.	FOR MOBILE EQUIPMENT WITHIN THE UNIT ISBL A MINIMUM OF 4M WIDE SPACE IS REQUIRED
46	Part 6	2565 of 7166	Scope drawing of piping B/L	Design condition at battery limit	Kindly clarify that design conditioned of battery limit lines to be considered at grade level or at pipe rack?	Design conditions of battery limit piping shall be at grade level.
47	Part 6	2565 of 7166	Scope drawing	OWS from RWTP	 <p>There is no OWS waste from RWTP so that kindly clarify the requirement of tie in point (TP-2).</p>	OWS Tie-in point is represent for connection of OWS generated from Unit to offsite. Generation of OWS (If any equipment) from RWTP shall be finalised during detail engineering
48	Part 6	2565 of 7166	Scope drawing	Raw water inlet	 <p>1) Line number of raw water line from Raw water P/H to RWTP is 30"-WR-999-3104-A93A. Kindly confirm.</p> <p>2) Kindly provide the height of raw water inlet from raw water P/H to RWTP.</p>	(1) Bidder's understanding is correct (2) Height of raw water inlet from raw water P/H to RWTP shall be finalised during detail engineering.
49	Part 4	1973 of 7166	PDS	Shed requirement	We understood that shed is required only for NaClO2 unloading pump not any other pumps.	Please follow tender

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
					Kindly confirm our understanding.	
50	Part 6	2554 of 7166	Scope drawing	Substation building for RWTP	<p>There is two nos of GA drawing for substation and control room building for RWTP.</p> <p>1) B269-000-81-41-02507 2) B269-000-81-41-02433</p> <p>Kindly confirm which drawing shall be considered for costing.</p>	<p>Dwg nos B269-000-81-41-02506,to 02508 are Substation & Control Rm –RWTP</p> <p>Dwg nos B269-000-81-41-02431,to 02434 are Substation & Control Rm –RODM As per Latest Tender input.</p>
51	Part 5	2327 of 7166	PDS	Guaranteed value	<p>Total Dissolved Solids (TDS), ppb 25 (max) Excluding NH3</p> <p>As per process datasheet, guaranteed TDS value at CPU(PNCP) outlet is 25 (max) excluding NH3.</p> <p>But as per scope of work, guaranteed TDS value at CPU(PNCP) outlet is 0.1 ppm (max) excluding NH3.</p>	<p>TDS value shall be 25 ppb and not a guarantee parameters. Same shall be updated in amendment.</p>
52	Part 6	2536 of 7166	P&ID	Scope Clarity	 <p>1)As per P&ID, there is by pass line for suspect condensate line from NCU and by pass line of suspect condensate shall be connect to existing heat exchanger. So, kindly clarify the scope of piping from area of new CPU plant to existing heat exchanger.</p> <p>2) If bypass line of suspect condensate upto heat exchanger is in contractor scope than kindly clarify the requirement of isolation valve at inlet of existing heat exchanger.</p>	<p>Piping from new CPU to existing units shall be contractor's scope.</p> <p>Isolation valves to be provided at tie-in points with existing facilities.</p>
53	Part 6	2536 of 7166	P&ID	Scope Clarity	<p>We understood that all piping of new CPU(PNCP) plant which is connect with existing unit/equipment shall be in</p>	<p>Bidder understanding is correct.</p>

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY																
					scope of contractor. Also requirment isolation valve at existing unit/equipments shall be in scope of contractor. Kindly confirm our understanding.	Isolation valves to be provided at tie-in points with existing facilities.																
54	Part 5	2326 of 7166	PDS	Battery limit condensate	<table><tr><td>7</td><td colspan="3">INLET CONDITION OF CONDENSATE @ CPU B/L :</td></tr><tr><td></td><td></td><td>SUSPECT</td><td>PURE</td></tr><tr><td>OPERATING PRESSURE</td><td>KG/CM2 G MIN/NOR</td><td>2.0</td><td>2.0</td></tr><tr><td>OPERATING TEMPERATURE</td><td>* C</td><td>90</td><td>165</td></tr></table> <p>As per process datasheet, there is two nos of unpolished condensate(Suspect & pure) line available at battery limit.</p> <p>But in P&ID there is only No. of unpolished condensate line available at battery limit. Kindly clarify the same.</p>	7	INLET CONDITION OF CONDENSATE @ CPU B/L :					SUSPECT	PURE	OPERATING PRESSURE	KG/CM2 G MIN/NOR	2.0	2.0	OPERATING TEMPERATURE	* C	90	165	There is no separate Pure condensate line available in PNCP CPU unit. Bidder to follow the P&ID and CPU Specification shall be updated.
7	INLET CONDITION OF CONDENSATE @ CPU B/L :																					
		SUSPECT	PURE																			
OPERATING PRESSURE	KG/CM2 G MIN/NOR	2.0	2.0																			
OPERATING TEMPERATURE	* C	90	165																			
55	Part 5	2326 of 7166	PDS	Battery limit condition	Kindly provide the battery limit condition of cooling water supply line and cooling water return line.	Refer page no. 808 & 809 of 7166																
56	Part 4	1920 of 7166	Equipment list	MOC of pump	<p>As per equipment list, MOC of Unpolished condensate feed pump is SS304L.</p> <p>But as per Process datasheet, MOC of Unpolished condensate feed pump is CS.</p> <p>Kindly confirm the MOC of Unpolished condensate feed pump.</p>	MOC of Unpolished condensate feed pump shall be SS304L. Same shall be updated in amendment.																
57	Part 4	1920 of 7166	Equipment list	Lining of activated carbon filter	<p>We understood that lining inside the actiavted carbon filter (CPU-NPCP)shall be considered as per equipment list.</p> <p>Kindly confirm pur understanding.</p>	Lining inside Primary and secondary ACF shall be Glass flaked Vinyl Ester.Same shall be updated in amendment.																
58	Part 6	2538 of 7166	P&ID	Air blower connection	We undestood that requirement air blower line shall be catered from existing MB air scouring blower. As there is no line is provided for the air requiriement of activated carbon filter.	Bidder understanding is correct.																
59	Part 6	2186 of 7166	PDS	Hydraulic loading	For CPU (PNCP) plant, Kindly clarify that diameter of	Diameter of MB																

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
					mixed bed system shall be considered as per equipment list or as per hydraulic loading provided in datasheet.	Exchanger shall be as per hydraulic loading.
60	Part 6	2539 of 7166	P&ID	MOC of Caustic & acid line	 <p>As per existing P&ID of PCU plant, Pipe class of ACID and caustic inlet to MB system is A3Y. But as per new P&ID, Pipe class of ACID and caustic inlet to MB system is A1K.</p> <p>Kindly confirm the pipe class of ACID and caustic inlet to MB system.</p>	Pipe class of Acid and caustic to MB Exchanger shall be A1K.
61	Part 6	2190 of 7166	PDS	Head of morpholine dosing pump	<p>As per PDS, Head of morpholine dosing pump is 20 m and as per equipment list head of morpholine dosing pump is 90 m.</p> <p>Kindly confirm the head of morpholine dosing pump.</p>	Head of morpholine dosing pump shall be 20 m. Same shall be updated in amendment.
62	Part 6	2539 of 7166	P&ID	Regeneration of MB system	<p>As per P&ID, we understood that regeneration of MB system shall be done by ACF treated water only.</p> <p>Kindly confirm our understanding.</p>	Bidder understanding is correct.
63	Part 6	2539 of 7166	P&ID	Block and bleed valve	<p>➤ Block & bleed valve arrangements shall be provided at backwash inlet and regeneration (acid & alkali) inlet of individual MB.</p> <p>As per P&ID, there is no requirement for block and bleed valve at backwash inlet but requirement given in scope drawing.</p> <p>Kindly confirm the requirement.</p>	Block and bleed valves shall be provided for MB backwash and regeneration.
64	Part 6	2538 of 7166	P&ID	HC analyzer requirement	 <p>As per P&ID, requirement of online oil analyser is not given in downstream of ACF. If it is required then provide there</p>	Oil analyzer at ACF outlet not required.

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
					specific location of at down stream of ACF.	
65	Part 6	2522 of 7166	Equipment Layout	Battery limit location	Kindly provide elevation of all battery limit lines.	<p>OSBL PIPE RACK INTERFACE WITH RWTP & RO-DM-ZLD-CPU PACKAGE LIMIT IS INDICATED IN B269-487-16-43-SK-8701.</p> <p>THE TENTATIVE PORTAL CROSSECTION WIDTH CAN BE 6M /8M .NO OF PORTALS IN THE CROSSECTION SHALL BE FINALISED DURING DETAILED ENGINEERING</p> <p>THE TENTATIVE ELEVATIONS ARE 106.250 & 108.750</p> <p>THE FINAL ELEVATIONS AND SEQUENCE OF LINES AT BATTERY LIMIT SHALL BE DETERMINED DURING DETAIL ENGINEERING</p>
66	Part 6	2522 of 7166	Equipment Layout	Battery limit location	Kindly provide the battery limit location of LP steam and also provide battery limit condition.	ALL UTILITIES SHALL BE PROVIDED TO THE PACKAGE UNIT AT THE BATTERY LIMIT LOCATION INDICATED IN SCOPE DRAWING

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
						FOR PIPING .EXACT LOCATION & ELEVATION OF THE PARTICULAR UTILITY & IN THE OSBL PIPE RACK SHALL BE PROVIDED TO THE SUCESSIVE BIDDER DURING DETAIL ENGINEERING
67	Part 6	2522 of 7166	Equipment Layout	Battery limit location	Kindly provide the battery limit location of Instrument air and also provide battery limit condition.	ALL UTILITIES SHALL BE PROVIDED TO THE PACKAGE UNIT AT THE BATTERY LIMIT LOCATION INDICATED IN SCOPE DRAWING FOR PIPING .EXACT LOCATION & ELEVATION OF THE PARTICULAR UTILITY & IN THE OSBL PIPE RACK SHALL BE PROVIDED TO THE SUCESSIVE BIDDER DURING DETAIL ENGINEERING
68	Part 6	2522 of 7166	Equipment Layout	Waste disposal	As per equipment layout, ACF backwash waste and MB regeneration waste from new CPU plant shall be connect to existing nearest drain trench which is connect to waste disposal tank.	Please follow tender
69	Part 6	2522 of 7166	Equipment Layout	Shed requirement	We understood that shed is require only for Heat Exchanger, Trim Cooler, ACF & MB Exchanger.	Bidder understanding is correct

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
					Kindly confirm our understanding.	
70	Part 6	2522 of 7166	Equipment Layout	MB blower	Location of MB blowers are not found in existing CPU plant.	Existing MB air scour blowers are located near C15 in the existing plant layout as item no. 100.

Name of Work : RWTP, RO-DMP, CPU & ZLD Plant for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India
Bidding Document: SG/B269-475-PA-T-8701/23

PRE-BID QUERIES (Bidder-4)

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
1	JOB SPECIFICATIONS (INSTRUMENTATION) Doc. No. B269-475-16-51-SP-8701 Rev. F	1339/7166	2.4		<p>It is indicated under this clause that "GPS synchronization shall be done for the contractor's Package control system with purchasers GPS at UCR-105 and DMRO control room. Purchaser shall consider 1 No. NTP port at purchasers GPS system in UCR-105 and DMRO control room. Cabling from UCR-100 and DMRO control room to vendors system shall be by vendor including required convertors, LIU, etc. at both sides. Vendor shall use separate cores of serial link FO cable for the same. Control system supplied by Contractor shall be capable for the synchronization."</p> <p>We understand as below</p> <ul style="list-style-type: none"> (i) RO-DM,CPU & ZLD PLC shall be installed in CR-112 and shall be interfaced with purchaser's GPS at UCR-105. Approx distance between CR-112 & UCR-105 is 1100 m. (ii) RWTP PLC shall be installed in CR-122 and shall be interfaced with purchaser's GPS at UCR-105. Approx distance between CR-122 & UCR-105 is 1250 m. (iii) CPU (PNCP Complex) PLC shall be installed in DMRO control room and shall be interfaced with purchaser's GPS in DMRO control room only (iv) Cabling from UCR-100 seems to be typographical error as we have to interface with GPS in UCR-105. (v) The FO cable required for above interface shall be in bidder's scope. (vi) Cable Tray/ Cable Duct, and support for Tray/Duct (Cable Rack/Pipe Rack) required shall be by others/existing. <p>Please confirm our understanding.</p>	<ul style="list-style-type: none"> (i) Noted. (ii) Noted (iii) Noted (iv) Noted (v) Noted (vi) Follow tender requirement.

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
2	JOB SPECIFICATIONS (INSTRUMENTATION) Doc. No. B269-475-16-51-SP-8701 Rev. F	1340/7166	2.4.3		<p>It is indicated under this clause that “Redundant PLC control system with all the following modules (cards) and network components as being redundant:</p> <p>a. PLC Processor (CPU) and Communication Processor</p> <p>b. Processor power supply, IO rack power supply & IOs Bulk Power Supply (BPS),</p> <p>c. Serial communication (Modbus) module.</p> <p>d. IO cards / modules (all closed loops, controls, logics, interlocks, safety, shutdown signals).</p> <p>e. PLC network and its components (switches).</p> <p>We understand as below.</p> <p>(i) The PLC system required is General purpose (NOT SIL Certified) with redundancy as specified in this clause.</p> <p>(ii) IO Cards for Monitoring shall be Non Redundant.</p> <p>(iii) Analog IO cards are NOT required with HART Pass through feature and IAMS (Instrument Asset Management system software)is also NOT required.</p> <p>Please confirm our understanding.</p>	<p>i) SIL certification is not required, refer s.no.2 of clause 3.2.2 of instrumentation design basis, doc. No. B269-999-16-51-EDB-1001.</p> <p>(ii) I/O cards shall be redundant, refer s.no.2 of clause 3.2.2 of instrumentation design basis, doc. No. B269-999-16-51-EDB-1001.</p> <p>(iii) Noted, refer clause 3.3.9 of instrumentation design basis, doc. No. B269-999-16-51-EDB-1001.</p>
3	JOB SPECIFICATIONS (INSTRUMENTATION) Doc. No. B269-475-16-51-SP-8701 Rev. F	1340/7166	2.4.4		<p>It is indicated under this clause that “PLC hardware; All power distribution board (PDB), system, marshalling, barrier, relay and isolator cabinets shall be supplied, installed in</p> <p>A. CR-112 for</p> <p>i RO-DM & CPU Package</p> <p>ii ZLD package”</p> <p>We understand that there shall be two PLC systems in CR-112, one for RO-DM & CPU package and one for ZLD package. Even though both the systems are to be installed in same control room they cannot be combined in one</p>	<p>Separate PLC shall be provided as per tender requirement</p>

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
					system. Please confirm our understanding.	
4	JOB SPECIFICATIONS (INSTRUMENTATION) Doc. No. B269-475-16-51-SP-8701 Rev. F	1340/7166	2.4.5		It is indicated under this clause that "SOE capability required with PLC scan-time." We understand that separate SOE PC is NOT required. SOE can be part of Engineering Work station. Please confirm our understanding.	Dedicated SER PC is required as per clause 3.3.7 of instrumentation EDB, doc no. B269-999-16-51-EDB-1001 and Instrumentation Technical Amendment-01.
5	JOB SPECIFICATIONS (INSTRUMENTATION) Doc. No. B269-475-16-51-SP-8701 Rev. F	1343/7166	2.4.13		It is indicated under this clause that "All hardware / software required for connecting RODM, CPU & ZLD PLC in CR-112, RWTP PLC in CR-122 to Purchaser's DCS panel in UCR-105 and CPU (PNCP Complex) PLC to purchaser's DCS in DMRO control room through RS422 / 485 serial link with MODBUS RTU / TCP/IP protocol (shall be finalized during detailed engg.), which shall be suitable for two way communication, along with details such as address mapping list, baud rate, parity, stop bit, data bit, etc. shall be in Contractor's scope. (i) As indicated Approx distance between CR-112 & UCR-105 is 1100 m. & (ii) Approx distance between CR-122 & UCR-105 is 1250 m We understand as below. (a) The FO cable required for interfacing shall be in bidder's scope. (b) Cable Tray/Cable Duct and support for Tray/Duct (Cable Rack/Pipe Rack) shall be by others/existing. Please confirm our understanding.	Refer Reply at S.no.1
6	JOB SPECIFICATIONS (INSTRUMENTATION)	1346/7166	2.9.6		Under this clause requirement of Magnetic Level Gauge have been specified.	Bidder shall follow instrumentation Job

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
	Doc. No. B269-475-16-51-SP-8701 Rev. F				<p>We understand as below</p> <ul style="list-style-type: none"> (i) Since the magnetic level gauge can be read from distance maximum center to center distance for one level gauge shall be 3000 mm. (ii) Magnetic level gauge shall be used for local indication in tanks with height upto 5 Mtrs. (iii) For tank height more than 5 Mtrs if local level indication is required same shall be through loop powered indicator of level transmitter. This loop powered indicator will be installed at grade level. (iv) However if mechanical local indicator is mandatory for tank height more than 5 Mtrs. Float and Tape type level indicator shall be used in place of Magnetic level gauge. <p>Please confirm our understanding.</p>	specification and Engineering design basis attached with tender.
7	JOB SPECIFICATIONS (INSTRUMENTATION) Doc. No. B269-475-16-51-SP-8701 Rev. F	1351/7166	2.24.5		<p>Brief specifications for Silica Analyzer have been given under this clause.</p> <p>We understand that Multichannel Silica Analyzer 4 or 6 Channel are acceptable.</p> <p>Please confirm our understanding</p>	Shall be provided as per P&ID and tender's technical requirement.
8	JOB SPECIFICATIONS (INSTRUMENTATION) Doc. No. B269-475-16-51-SP-8701 Rev. F	1358/7166	5.4 & 5.5		<p>It is indicated under this clause that "Flame retardant cable required, as per IEC 60332 Cat. A. Both single pair and multipair cables for all ESD signals and gas detectors shall be Flame retardant and Fire resistant.</p> <p>We understand that since in RO DM,CPU,ZLD, RWTP & CPU (PNCP) there are NO ESD signals only the cables used for gas detectors shall be Flame retardant and Fire resistant.</p> <p>Please confirm our understanding.</p>	ESD signals shall be as per P&ID and process requirement.
9	JOB SPECIFICATIONS (INSTRUMENTATION) Doc. No. B269-475-16-51-SP-8701	1358 & 1359/7166	5.11		<p>It is indicated under this clause that "As per the attached Inst. cable routing drawing no. B269-000-16-51-00800. Contractor shall interface their package cables duct with purchaser's cable duct at the point indicated in the drawing.</p>	Attached with instrument amendment-01.

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
	Rev. F				Please note that the referred drawing B269-000-16-51-00800. Could NOT be found in the tender document. Request to provide the same.	
10	JOB SPECIFICATIONS (INSTRUMENTATION) Doc. No. B269-475-16-51-SP-8701 Rev. F	1364/7166	5.19		<p>It is indicated under this clause that "Covered Tray for all system and special cables shall be provided by Contractor. Cables from field up to marshalling cabinet and power cables shall be routed through open trays (perforated / ladder) below the false floor in rack room by Contractor.</p> <p>We understand that the Cable Trays used between Field Instrument to Junction Box and between Junction Box to Control room are NOT required with cover. Only the system cables & special cable are required to be laid in Covered Tray.</p> <p>Please confirm our understanding.</p>	<p>Bidder's understanding is not correct. Referred clause is for cable laying inside SRR.</p> <p>Refer clause 5.11 of job specification and duct fabrication drawing 7-52-0254 and perforated tray supports, doc no. 7-52-0107 attached with tender for duct and tray fabrication.</p>
11	JOB SPECIFICATIONS (INSTRUMENTATION) Doc. No. B269-475-16-51-SP-8701 Rev. F	1365/7166	7.1		<p>It is indicated under this clause that</p> <p>(A) "Contractor shall consider prefab hookup for Non-congealing Hydrocarbon services (Upto 600 class and maximum operating temp. upto 325 Deg C.) as well as utility services (except steam & hydrogen Service), standard bought out Prefabricated (with 5 valve manifold for flow and 2 valve manifold for PT) & pretested hook-up for all flow (dP) transmitters, Pressure transmitters shall be used.</p> <p>We understand prefabricated Hook-ups are NOT required for following.</p> <p>(a) Pressure Gauge (b) PT & DPT(FT) in steam service (c) DPT(FT) with D – D/2 tapping (d) PDT (e) DPT LT</p>	<p>(A) Bidder's understanding is correct.</p> <p>(B) This shall be reviewed on case to case basis during detailed engineering as per 3D model</p>

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
					<p>Please confirm our understanding.</p> <p>(B) Accessibility for Prefab in 3D model shall be ensured. If access is not available, same shall be remote type.</p> <p>We understand that if the Transmitter is Located at a Height above 1.5 M or the transmitter is located where it can not be accessed easily for such transmitters we have to use remote type Hook-up i.e conventional piping/tubing hook-up and NOT prefabricated hook-up.</p> <p>Please confirm our understanding.</p>	
12	JOB SPECIFICATIONS (INSTRUMENTATION) Doc. No. B269-475-16-51-SP-8701 Rev. F	1367/7166	7.8		<p>It is indicated under this clause that "All flow meters shall have rating of minimum 300# (Applicable only for orifice plate with flanged taps)."</p> <p>We understand that the requirement of 300# rating is NOT applicable to Flowmeters like Magnetic Flowmeter, Mass Flowmeter, Vortex Flowmeter, Rotameter etc. This requirement is applicable only for Orifice plates with Flanged Taps.</p> <p>Please confirm our understanding.</p>	Noted
13	JOB SPECIFICATIONS (INSTRUMENTATION) Doc. No. B269-475-16-51-SP-8701 Rev. F	1375/7166	Note 7		<p>It is indicated under this clause that "Cables with fire safe valves shall be fire resistant. For fire resistant cable vendor shall follow EIL Standard Specification 6-52-0046 (attached)".</p> <p>We understand that the On Off Valves & Control valves required for RO DM, CPU, ZLD, RWTP & CPU (PNCP) are NOT Fire safe and hence this Note is NOT Applicable.</p> <p>Please confirm our understanding.</p>	Bidder's understanding is correct
14	Engineering Design Basis (Instrumentation) Doc.	3025/7166	3.0 Sr. 8		<p>It is indicated under this clause that "Universal type Hand held communicator suitable for both smart as well as Fieldbus transmitters shall be supplied for smart transmitters and fieldbus</p>	

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
	No. B269-999-16-51-EDB-1001 Rev No. 3				transmitters. Minimum 3 Nos. Universal type Hand held communicator shall be considered for each unit. We understand as below (i) For RO DM, CPU,ZLD,RWTP & CPU (PNCP) since we have to supply Transmitters with HART protocol, HHC shall be with HART functionality only, Foundation fieldbus functionality is NOT required in HHC. (ii) For the complete package of RO DM, CPU, ZLD,RWTP & CPU (PNCP) we have to supply total 3 Nos Universal Hand held communicator Please confirm our understanding	Bidder shall supply HHC as per clause 2.9.7 of job specification, doc no. B269-487-16-51-SP-8702.
15	Engineering Design Basis (Instrumentation) Doc. No. B269-999-16-51-EDB-1001 Rev No. 3	3039/7166 3041/7166	3.3.1 3.3.2 & 3.3.3		Under these clauses (i) Operator Console and its requirements have been specified (ii) Console Configuration & Engineering Consoles and its requirements have been specified. We understand that these requirements are NOT applicable to RO DM, CPU,ZLD & CPU (PNCP). For PLC bidder has to follow the requirements given in Clause 2.4 (2.4.1 to 2.4.15) of Job Specification only. Please confirm our understanding	Bidder's understanding is correct
16	Engineering Design Basis (Instrumentation) Doc. No. B269-999-16-51-EDB-1001 Rev No. 3	3043/7166	3.3.4		Under this clause requirements of Engineering & Operational Database have been specified. We understand that these requirements are NOT applicable to . RO DM, CPU,ZLD & CPU (PNCP). For PLC bidder has to follow the requirements given in Clause 2.4 (2.4.1 to 2.4.15) of Job Specification only. Please confirm our understanding	Bidder's understanding is correct
17	Engineering Design Basis (Instrumentation) Doc.	3044/7166	3.3.6		Under this clause requirement of Giant Screen has been specified. We understand that for RO DM, CPU,ZLD & CPU (PNCP) this	Bidder's

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
	No. B269-999-16-51-EDB-1001 Rev No. 3				<p>clause is NOT applicable.</p> <p>Please confirm our understanding</p>	<p>understanding is correct</p>
18	Engineering Design Basis (Instrumentation) Doc. No. B269-999-16-51-EDB-1001 Rev No. 3	3045/7166	3.3.9		<p>Under this clause requirement of Asset Management system has been specified.</p> <p>We understand that for RO DM, CPU,ZLD & CPU (PNCP). Asset Management system is NOT required also the Analog Input Output cards shall be without HART pass through feature.</p> <p>Please confirm our understanding</p>	<p>Bidder's understanding is correct</p>
19	Engineering Design Basis (Instrumentation) Doc. No. B269-999-16-51-EDB-1001 Rev No. 3	3045/7166	3.3.10		<p>Under this clause requirement of Documentation Node has been specified.</p> <p>We understand that this clause is NOT applicable for RO DM, CPU,ZLD & CPU (PNCP).</p> <p>Please confirm our understanding</p>	<p>Bidder's understanding is correct</p>
20	Engineering Design Basis (Instrumentation) Doc. No. B269-999-16-51-EDB-1001 Rev No. 3	3046/7166	3.4		<p>Under this clause requirement of Instrumentation on Control room panel/ Hard wired console has been specified.</p> <p>We understand that this clause is NOT applicable for RO DM, CPU,ZLD & CPU (PNCP).</p> <p>Please confirm our understanding</p>	<p>Bidder's understanding is correct</p>
21	Engineering Design Basis (Instrumentation) Doc. No. B269-999-16-51-EDB-1001 Rev No. 3	3055/7166	3.5.14		<p>Under this clause requirement of Stack Analyzer has been specified.</p> <p>We understand that this clause is NOT applicable for RO DM, CPU,ZLD & CPU (PNCP).</p> <p>Please confirm our understanding</p>	<p>Noted</p>

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
22	Engineering Design Basis (Instrumentation) Doc. No. B269-999-16-51-EDB-1001 Rev No. 3	3058/7166	4.3.1		<p>Under this clause requirement of Level Measurement has been specified.</p> <p>We understand that Servo LT & Tank Farm Management system (TFMS) is NOT applicable for RO DM, CPU,ZLD & CPU (PNCP).</p> <p>Please confirm our understanding</p>	Noted
23	Engineering Design Basis (Instrumentation) Doc. No. B269-999-16-51-EDB-1001 Rev No. 3	3062/7166	4.5.1 Sr. 10		<p>It is indicated under this clause that "Flexible fire-proof jacket shall be considered for valve actuators and its accessories for fire safe valve</p> <p>We understand that for RO DM, CPU,ZLD & CPU (PNCP). package Fire Safe valves are NOT required hence this clause is NOT applicable.</p> <p>Please confirm our understanding</p>	Bidder's understanding is correct
24	Engineering Design Basis (Instrumentation) Doc. No. B269-999-16-51-EDB-1001 Rev No. 3	3062/7166	4.5.4		<p>It is indicated under this clause that "In general ball type valves shall be used for shutdown unless any other type specifically required for the application. For line sizes 20" and above triple offset butterfly valves with double flange design shall be used.</p> <p>1. Kindly note that Detailed P&ID is provided in tender documents indicating type of On-Off valves as per EIL process requirement.</p> <p>From above we understand that the type of valve Ball/Butterfly shall be followed as per tender P&ID.</p> <p>Kindly confirm</p> <p>2. The On- Off valve shall have following specifications.</p> <p>Ball Valve type (a) Body & Flange rating – 300# Min or as per relevant pipe</p>	<p>S.no. 1 &2 : For ball and Butterfly valve follow MR requirement.</p> <p>S.no.3: Auto On-off valves shall be as</p>

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
					<p>class whichever is higher.</p> <p>(b) Body Material as per relevant pipe class.</p> <p>(c) Ball material – SS316</p> <p>(d) Seat Material – PTFE</p> <p>Butterfly Valve type</p> <p>(a) Body rating – 300# Min or as per relevant pipe class whichever is higher</p> <p>(b) End Connection – Lugged</p> <p>(c) Design --- Double Offset design</p> <p>(d) Body material – as per relevant pipe class</p> <p>(e) Disc Material – SS316</p> <p>(f) Seat Material – PTFE</p> <p>Kindly confirm.</p> <p>3. Further we would like to inform that in P & ID at some places On Off valve type has been depicted as Gate valve. However since On Off valves are mainly available as either Ball or Butterfly valve, for places where On - Off Gate valve has been depicted, we will consider On Off Butterfly valve with above specifications.</p> <p>Kindly confirm</p>	per Instrumentation EDB: B269-999-16-51-EDB-1001
25	Engineering Design Basis (Instrumentation) Doc. No. B269-999-16-51-EDB-1001 Rev No. 3	3063/7166	4.5.4 Note a		<p>It is indicated under this clause that “Partial stroke checking of –Fail Close shutdown valves used in SIL 2 & 3 loops shall be considered from IAMS and AO card in DCS.</p> <p>We understand that Partial stroke testing (PST) is NOT applicable for On Off valves used in RO DM, CPU,ZLD & CPU (PNCP) package.</p> <p>Please confirm our understanding.</p>	Follow requirement. MR
26	Engineering Design	3066/7166	4.13		Requirement of CCTV system has been specified under this	CCTV shall be free

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
	Basis (Instrumentation) Doc. No. B269-999-16-51-EDB-1001 Rev No. 3				<p>clause.</p> <p>We understand that CCTV system is NOT applicable for RO DM, CPU,ZLD & CPU (PNCP) package.</p> <p>Please confirm our understanding.</p>	issued to ETP contractor, Refer Clause 3.30 of scope of work, doc. no. B269-487-16-51-SOW-8702 for CCTV system related scope to be carried out by bidder.
27	Engineering Design Basis (Instrumentation) Doc. No. B269-999-16-51-EDB-1001 Rev No. 3	3066/7166	4.14		<p>Requirement of Fire & Gas Detection system has been specified under this clause.</p> <p>We understand that only the Gas detectors which are depicted in the tender P & ID are applicable for RO DM, CPU,ZLD & CPU (PNCP).</p> <p>Following are NOT applicable for RO DM, CPU,ZLD & CPU (PNCP).</p> <ul style="list-style-type: none"> (i) Fire Detection system (ii) Separate F & G PLC (iii) F & G PLC/Monitor (iv) Integration with DGFAP <p>Please confirm our understanding.</p>	Noted, moreover Gas detectors shall be as per clause 2.24.10 of Job Specification, document no. B269-487-16-51-SP-8702.
28	Engineering Design Basis (Instrumentation) Doc. No. B269-999-16-51-EDB-1001 Rev No. 3	3067/7166	4.15		<p>Requirement of Boiler Drum Instrumentation has been specified under this clause.</p> <p>We understand that this clause is NOT applicable for RO DM, CPU,ZLD & CPU (PNCP).</p> <p>Please confirm our understanding</p>	Noted
29	Engineering Design Basis	3068/7166	4.16		Requirement of Ambient Air Quality Monitoring system has been specified under this clause.	

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
	(Instrumentation) Doc. No. B269-999-16-51-EDB-1001 Rev No. 3				<p>We understand that this clause is NOT applicable for RO DM, CPU,ZLD & CPU (PNCP).</p> <p>Please confirm our understanding</p>	Noted
30	Engineering Design Basis (Instrumentation) Doc. No. B269-999-16-51-EDB-1001 Rev No. 3	3068 to 3070/7166	7.0		<p>On the referred pages requirement of Mandatory spares for Instrumentation have been specified.</p> <p>We understand that Mandatory spares for Instrumentation shall be only as per Doc. No. B269-475-16-51-SL-8701 Rev. 1 MANDATORY SPARES LIST (INSTRUMENTATION).</p> <p>Requirement for spares specified elsewhere in the tender document is NOT applicable.</p> <p>Please confirm our understanding</p>	<p>Mandatory spares shall be as per mandatory spare list B269-487-16-51-SL-8702, Rev 1 and s.no.4 of TECHNICAL AMENDMENT for Instrumentation.</p>
31	Suppliers List for RO-DM,CPU,ZLD & RWT	3904/7166			<p>On the referred page following vendors for Control valve positioner (Item Code 15DC) have been provided.</p> <p>(a) Samson Controls PVT.LTD India (b) Flowserve India Control PVT. LTD India</p> <p>Please note that above mentioned both the vendors are control valve manufacturers and are part of vendor list for control valve. There are other approved vendors in control valve and they are not manufacturing positioners by them selves. Hence they will not get a competitive quote for valve positioners from the above two vendors.</p> <p>In view of above we request you to add following vendors</p> <p>(a) Metso (b) Fisher (c) Dresser (d) Siemens</p> <p>Please note that these vendors are normally in the approved</p>	<p>Follow MR requirement.</p>

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
					vendor list for all EIL projects.	
32	SCOPE OF WORKS / SUPPLY (PLOT PLAN & WATER) for RWTP Doc. No. B269-472-17-44-SS-1001 Rev. 1	770/7166	4		<p>Following is indicated on the referred page A UF Skids and following associated Items / Equipments of the RWTP shall be provided by the Contractor in the UF Shed.</p> <ul style="list-style-type: none"> • Auto backwash filters of the RWTP • UF Skids of the RWTP • CEB/CIP Tanks and CEP/CIP Pumps for the RWTP UF Skids System • Common Analyzer Room (with Air conditioner) <p>Hence we understand that the Analyzers pertaining to RWTP shall be installed in Analyzer room to be located in UF shed.</p> <p>Please confirm our understanding.</p>	Bidder understanding is correct.
33	SCOPE OF WORKS/SUPPLY (PLOT PLAN & WATER) FOR RO-DMP & ZLD Doc. No. B269-475-17-44-SS-1001, Rev.4	795/7166	4		<p>Following is indicated on the referred page A UF/RO SHED shall be provided by the contractor for housing the following items/ equipment in RODMP:</p> <ul style="list-style-type: none"> • Auto backwash filters (ABF-I & ABF-II) • UF Skids – I & UF Skids – II • RO Skids – I, RO Skids – II, RO Skids – III & RO Skids – IV • Cleaning systems for the RO skids • Cartridge filters (CF-I & CF-II) • RO-I feed pumps, RO-II feed pumps, RO-III feed pumps & RO-IV feed pumps • Pressure Exchangers, Pressure Exchangers Booster Pumps, Turbo Chargers • MB Exchanger Vessels (RO-DMP and CPU) • Oil Coalescers & ACF (CPU) • Analyser Room (with air conditioner) <p>Hence we understand that the Analyzers pertaining to RO DM, CPU & ZLD shall be installed in Analyzer room to be located in UF shed.</p> <p>Please confirm our understanding.</p>	<p>Bidder understanding is correct.</p> <p>For ZLD plant, shed and analyzer room shall be separate.</p>

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
34	SCOPE OF WORKS / SUPPLY (PLOT PLAN & WATER) for RWTP Doc. No. B269-472-17-44-SS-1001 Rev. 1	769/7166	4		<p>It is indicated under this clause that "All Signals of the RWTP shall be repeated in the MCR of the Refinery for Monitoring.</p> <p>We understand that repeat signal in MCR shall be through Serial Interface, hardwired signal repetition is NOT required.</p> <p>Please confirm our understanding.</p>	Follow tender requirement
35	SCOPE OF WORKS/SUPPLY (PLOT PLAN & WATER) FOR RO-DMP & ZLD Doc. No. B269-475-17-44-SS-1001, Rev.4	794/7166	4		<p>It is indicated under this clause that "All Signals of the RODMP+ CPU and ZLDP shall be repeated in the MCR of the Refinery for Monitoring.</p> <p>We understand that repeat signal in MCR shall be through Serial Interface, hardwired signal repetition is NOT required.</p> <p>Please confirm our understanding.</p>	Follow tender requirement
36	P & ID RWTP B269-472-17-44-1116				<p>In the referred P & ID a Magnetic Flowmeter has been indicated in 30" line.</p> <p>We understand that this magnetic flowmeter shall be insertion type. Inline flowmeter is NOT required as line size is quiet large.</p> <p>Please confirm our understanding.</p>	Bidder understanding is correct.
37	P & ID RWTP B269-472-17-44-1118				<p>In the referred P & ID Control valve has been indicated in 26" line.</p> <p>We understand that this control valve shall be Butterfly type with lugged end connection. Globe Control valve is NOT required as this line size is quiet large.</p> <p>Please confirm our understanding.</p>	Bidder understanding is correct.
38	Substation & Control Room (RWTP) Drg. No. B269-000-81-41-02433 Rev.A	2554/7166			<p>In the referred drawing control room has been indicated on second floor and the size of building indicated is 67 M x 39 M.</p> <p>However on page 2558/7166 Drawing with title Substation & Control room (RWTP-122) Drg. No. B269-000-81-41-02508 has been provided. In this drawing also control room has been indicated on second floor but the size of building indicated is 55 M x 30 M.</p> <p>Please clarify which drawing is applicable for RWTP control room.</p>	<p><u>Architecture reply.</u> As per revised Tender input, Drg. No. B269-000-81-41-02433 Rev.C is Substation & Control Room -RODM.</p> <p>Substation& Control</p>

SL. No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
						Room- RWTP-122 is Dwg B269-000-81-41-02508 Rev.A which is 55 M x 30 M .
39	Equipment Layout of RO Based DM plant & CPU (PNCP)	2522/7166			<p>From the layout we understand that the Instrument cables have been laid in trench and NOT above ground.</p> <p>For the Instrumentation of CPU (PNCP), please confirm that the instrumentation cables can be laid through existing trench and space for the same is available.</p>	Follow tender requirement

PRE-BID QUERIES (Bidder-5)						
Name of Work		RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India				
Bidding Document		SG/B269-475-PA-T-8701/23				
Sl. No.	Reference in Enquiry Document				Bidder's query	IOCL/EIL's Reply
	Part No./ Volume	Page no.	Clause No.	Subject		
1	SCOPE OF SUPPLY & WORK (ELECTRICAL) RWTP / RODMP / ZLDP / CPU PACKAGE (TENDER NO. B269-475-17-44-PA-T-8701)	Page 13 of 15	1.0(f)	Owner feeders	Bidder understand that Quantity is mentioned as Feeders. Ex. For S.no "1" PMCC 400A ACB feeders required=3Nos and total Loading to be considered as 2x150KVA. Owner/PMC May please confirm	Bidder's understanding is correct.
2	SCOPE OF SUPPLY & WORK (ELECTRICAL) RWTP / RODMP / ZLDP / CPU PACKAGE (TENDER NO. B269-475-17-44-PA-T-8701)	Page 13 of 15	1.0(f)	Owner Equipment	Bidder understand that only spare feeders need to be provide from Bidders equipment and reserving space need not to be provide in Substation for locating owner equipment. Owner/PMC May please confirm	Bidder's understanding is correct.
3	ENGINEERING DESIGN BASIS ELECTRICAL (B269-999-16-50-EDB-1001)	Page 9 of 49	4.0 (1)	PA System	Referred clause Spare capacity of exchange of new PA System shall be considered as 30%. However as per Scope of Work-Electrical PA Exchange is free issued by Owner to Contractor. In view of above please clarify Scope of PA exchange supply.	Bidder to note that as per Scope of Work (electrical) B269-475-16-50-SOW-8701 Page 12 of 15, 1 no. PA Exchange is free issued by Owner to Contractor.
4	ENGINEERING DESIGN BASIS ELECTRICAL (B269-999-16-50-EDB-1001)	Page 9 of 49	4.0 (21)	Application Electrical Insulating Mats	Referred clause calls "Flooring of substation switchgear hall shall be painted with insulating paint. Rubber mats shall also be provided around switchboards as per CEA safety regulations. However Both Insulating paint and Electrical mats are not required and one item is sufficient. Please clarify.	Deviation is not acceptable. Bidder to follow Tender documents.
5	ENGINEERING DESIGN BASIS ELECTRICAL (B269-999-16-50-EDB-1001)	Page 39 of 49	5.8 (1)	Earth electrode	Referred clause Earth Electrode mentioned as " Cu bonded high tensile low carbon steel core electrode " In some places & Std drawings 63Dia GI Pipe earth electrode was mentioned. In view of above Bidder considering 63mm Dia GI Pipe earth electrode for Earthing. Owner/PMC May please confirm	Bidder to follow Earth electrode as "Cu bonded high tensile low carbon steel core electrode" as per Tender documents. Bidder to note that 63mm dia GI pipe earth electrode for earthing if specified anywhere in the Tender documents to be ignored.

PRE-BID QUERIES (Bidder-5)						
Name of Work		RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India				
Bidding Document		SG/B269-475-PA-T-8701/23				
Sl. No.	Reference in Enquiry Document				Bidder's query	IOCL/EIL's Reply
	Part No./ Volume	Page no.	Clause No.	Subject		
6	JOB SPECIFICATION (ELECTRICAL) FOR RWTP / RODMP / ZLDP / CPU PACKAGE (TENDER NO. B269-475-17-44-PA-T-8701)	Page 4 of 49	1.4	Bidder Terminal Point for 66kV & 6.6KV Power/	<p>Terminal points-Bidder understand is as follows.</p> <p>1. 66kV Power cables shall by terminated by Owner at 66/6.9kV Transformer at Substation SS-112</p> <p>2. 6.6kV power cables shall by terminated by Owner at 6.6kV Switchboard at Substation SS-122.</p> <p>3. Upstream Power cables & Control cables are not in Bidder scope.</p> <p>Owner/PMC May please confirm bidder's understanding.</p>	<p>1. Bidder to note that 66/6.9 kV Power Transformer is Deleted from Bidder's scope. Accordingly 66kV main power supply at SS-112 shall not be provided anymore. Bidder to kindly note that Owner/EIL shall provide 6.6kV Plant Feeders (2 Nos.) (Each rated for 100% load of the package) from Owner's 6.6kV Switchboard (located in MRSS-100) along with 6.6kV Cable, control cables, OFC cable to RODM/CPU/ZLD Substation SS-112. Termination of all cables in is in the scope of Contractor for SS-112.</p> <p>2. Bidder's understanding is not correct. Termination of all cables is in the scope of Contractor for SS-122.</p> <p>3. Bidder's understanding is partly correct. Upstream power cables & control cables and OFC cables are Owner scope of supply, however termination at Contractors's Equipment are in Contractor's scope of work.</p>
7	JOB SPECIFICATION (ELECTRICAL) FOR RWTP / RODMP / ZLDP / CPU PACKAGE (TENDER NO. B269-475-17-44-PA-T-8701)	Page 5 of 49	1.4	Power Supply for ECS RTU panels	<p>Please clarify any power supply i.e. AC/DC/UPS required from Bidders supplied Equipment for owner ECS RTU panels/Marshalling/Transduce panels or not?</p> <p>If required please furnish details.</p>	Bidder to note that as per 1st para on page 5 of 49 of Job Spec. Electrical (Doc. No. B269-475-16-50-SP-8701) attached with Tender, 230V AC UPS system shall be provided by Contractor for Control supply of VFD, Heater Control thyristor panels, LAN system, ECS system etc. This UPS shall be located in a separate room/partition in switchgear hall of substation. Bidder to follow Tender documents. Also any non-UPS power supply for the Owner's equipment shall be in the scope of Contractor.
8	JOB SPECIFICATION (ELECTRICAL) FOR RWTP / RODMP / ZLDP / CPU PACKAGE (TENDER NO. B269-475-17-44-PA-T-8701)	Page 7 of 49	2.2.1	Fault Level for LT System	<p>Bidder proposing 50KA/1Sec for PMCC/MCC/ASB If 2.0 MVA LV Dist. Transformer are provided in system.</p> <p>Owner/PMC May please confirm</p>	Deviation is not acceptable. Bidder to follow Tender documents.

PRE-BID QUERIES (Bidder-5)						
Name of Work		RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India				
Bidding Document		SG/B269-475-PA-T-8701/23				
Sl. No.	Reference in Enquiry Document				Bidder's query	IOCL/EIL's Reply
	Part No./ Volume	Page no.	Clause No.	Subject		
9	JOB SPECIFICATION (ELECTRICAL) FOR RWTP / RODMP / ZLDP / CPU PACKAGE (TENDER NO. B269-475-17-44-PA-T-8701)	Page 8 of 49	2.3.5	APFC Capacitor Banks Requirement for SS-122	APFC Capacitor bank requirement in SS-122 was not mentioned. Please clarify the requirement in SS-122.	Capacitor bank with APFC panels shall be in Contractor's scope of supply for both Substations SS-112 and SS-122.
10	JOB SPECIFICATION (ELECTRICAL) FOR RWTP / RODMP / ZLDP / CPU PACKAGE (TENDER NO. B269-475-17-44-PA-T-8701)	Page 11 of 49 & Page 12 of 49	3.1.3 3.2.1	Power & LV Dist. Transformer Sizing	<p>Referred clause calls for "Transformer shall be sized considering 10% design margin as per 6-51-0099 and 20% spare capacity as per Engg. Design Basis. Each transformer shall be sized to feed the complete load independently"</p> <p>Total 32 % (Rated Capacity x 10%Design Margin x 20% spare capacity) will leads to over rating of transformer and Efficiency also will be effected due to light load condition (Design Max. Efficiency at 40% of Trafo. loading).</p> <p>In view of above bidder is proposing total 20% capacity i.e 10% design margin+10% future groth for Transformer sizing.</p> <p>Owner/PMC May please confirm</p>	<p>Bidder's understanding is correct for 10% design margin as per 6-51-0099 and 20% spare capacity as per Engg. Design Basis attached with Tender. Accordingly, Bidder to size the switchboards and transformers.</p> <p>Bidder's proposal for 20% capacity i.e 10% design margin+10% future growth for Transformer sizing is not acceptable.</p>
11	JOB SPECIFICATION (ELECTRICAL) FOR RWTP / RODMP / ZLDP / CPU PACKAGE (TENDER NO. B269-475-17-44-PA-T-8701)	Page 13 of 49	3.3.3	Power Factor	<p>Referred Clause Calls for 0.95 Power factor at primary of 66/6.9kV Transformer. Please note that Bidder terminal point for 66kV power is at Power transformer Terminals. No CT & PT signals are available at bidders premises for 66kV for maintaining 0.95 PF.</p> <p>In view of above bidder is proposing 0.95 PF will be maintained at 6.6kV switchboard incomer through APFC capacitors.</p> <p>Owner/PMC May please confirm. If same is not acceptable owner/PMC may please furnish philosophy to achieve same.</p>	Bidder to follow Tender Documents. Details of transformer shall be provided during detail engineering to account for its reactive power requirement to be worked out by the package contractor alongwith reactive power requirement of RODM/CPU/ZLD package equipment/ loads. Capacitor banks shall be sized accordingly by package contractor.
12	Engineering Design Basis for Electrical B269-999-16-50-EDB-1001 Rev No. 0	Page 32 of 49	MEDIUM VOLTAGE OUTGOING FEEDER TYPE	Feeders of all other ratings not listed above shall be provided with ACB	We are proposing upto 400A shal be Switch fuse with Contactor and CBCT for earth fault protection . Above 400A shall be ACB . Kindly accept	Bidder to follow Tender Documents.

PRE-BID QUERIES (Bidder-5)						
Name of Work		RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India				
Bidding Document		SG/B269-475-PA-T-8701/23				
Sl. No.	Reference in Enquiry Document				Bidder's query	IOCL/EIL's Reply
	Part No./ Volume	Page no.	Clause No.	Subject		
13	Engineering Design Basis for Electrical B269-999-16-50-EDB-1001 Rev No. 0	Page 34 of 49	MV Switchgear	MV switchgear shall be provided with 4-pole circuit breaker in Incomers and bus coupler	We have understood that 4 pole Air circuit breaker to be provided for Incomer and Buscopuler	Page reference by Bidder is incorrect. Bidder's to refer Table 3.0, Sr No. 6, page 9 of 49 of Engineering Design Basis for Electrical (B269-999-16-50-EDB-1001)
14	6-51-0018 Rev. 5	Page 5 of 17	Cl no 5.2	The switchboard enclosure shall be dust and vermin proof and shall provide a degree of protection not less than IP-41.	Curent raing upto 1600A shall be IP 52 and Above 1600A shall be IP 42.	Bidder's proposal is meeting tender requirement and hence acceptable.
15	6-51-0018 Rev. 5	Page 5 of 17	Cl no 5.16	MCC/MCC part of PMCC shall be	We have considered MCC/MCC part of PMCC shall be of double front executionas it will reduce the panel dimension	Bidder to note that Breaker Panels/PMCC/EPMCC/MCC/ASB/LDB/ELDB shall be Drawout Single Front as per Tender documents. However, as per Note-1 on Page 32 of 49 of Eng. Design Basis-Electrical (Doc. No. B269-999-16-50-EDB-1001), MCCs, ASB, LDB may be considered Double Front where required due to space limitations in the building. The final configuration shall be proposed by contractor during detail engineering for review/ acceptance by Owner/EIL.
16	6-51-0018 Rev. 5	Page 7 of 17	Cl no 5.27.1	Bus bars shall be of high conductivity electrolytic aluminium or copper supported	We are proosing high conductivity electrolytic aluminium as busbar material for all rating	Bidder to follow Tender Documents. Aluminium/ Copper, both are acceptable as per valid type test certificates meeting all the requirements of Tender.
17	6-51-0018 Rev. 5	Page 16 of 17	Cl no 10.3	Vendor shall provide certificates to prove that the design of switchgear/switchboard has been successfully type tested as per 1EC-61439 and IEC-61641	Kindly clarify the type test certificate validity period	For HV switchboards and MV switchboards, Bidder to refer clause no. 4.1.31 and 4.6.33 of Job Spec. Electrical (B269-477-16-50-SP-7490 Rev. 4) attached with Tender.

PRE-BID QUERIES (Bidder-5)						
Name of Work		RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India				
Bidding Document		SG/B269-475-PA-T-8701/23				
Sl. No.	Reference in Enquiry Document				Bidder's query	IOCL/EIL's Reply
	Part No./ Volume	Page no.	Clause No.	Subject		
18	B269-999-16-50-EDB-1001 Rev No. 0 Engineering Design Basis (Electrical)	Page 9 of 49	Cl no 4. sl no 15	All large capacity motors/feeders in MV Switchgear shall be provided with online wireless temperature monitoring facility	Online Wireless temperature monitoring system will not be part of MV switchgear	Deviation is not acceptable. Bidder to follow Tender documents.
19	JOB SPECIFICATIONS (INSTRUMENTATION) RWTP, RO-DM, CPU & ZLD PACKAGE ' (B269-475-16-51-SP-8701) Engineering Design Basis-Instrumentation (B269-999-16-51-EDB-1001)	Page 23 of 42 Page 48 of 54	5.11 4.8	Material For Cable Duct	In Inst Job Spec FRP cable ducts for RO-DM,CPU & ZLD package and on GI duct for RWTP and new CPU package (PNCP complex) was mentioned However In Design Basis GI Cable duct requirement is mentioned. Inview of above please clarify the Instrument cable Duct material.	Instrument duct material shall be as per instrumentation Job Specification,B269-475-16-51-SP-8701

PRE-BID QUERIES (Bidder-5)						
Name of Work		RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India				
Bidding Document		SG/B269-475-PA-T-8701/23				
Sl. No.	Reference in Enquiry Document				Bidder's query	IOCL/EIL's Reply
	Part No./ Volume	Page no.	Clause No.	Subject		
20	DOCUMENT NO. B269-475-16-51-SP-8701 Rev. F JOB SPECIFICATIONS (INSTRUMENTATION)	Page 4 of 42	2	Type of control system for RWTP, RO-DM, CPU & ZLD and CPU (PNCP Complex) packages (for control, logics, interlocks, safety, shutdown, monitoring, indication)-A. Through Dedicated package PLC system & consoles envisaged in CR-112 for i. RO-DM/CPU ii. ZLD B. Through Dedicated package PLC system & consoles envisaged in CR-122 for RWTP .Further data shall also be sent to Purchaser’s Main plant DCS at UCR-105 (through CR-112 & CR-122) for monitoring & shall be mapped to DCS with dedicated graphics. C. Through Dedicated package PLC system & consoles envisaged in DMRO control room for CPU (PNCP Complex).	Bidder proposes in-house manufactured Valmet DNA DCS based control system meeting specification requirements for control of various equipments in bid package. This system is manufactured by BHEL at Electronics Division, Bangalore under collaboration with Valmet Automation, Finland. It is a proven system being supplied in power plants up to 800 MW and implemented as part of OEM proprietary standard. Please confirm.	Follow tender requirement
21	DOCUMENT NO. B269-475-16-51-SP-8701 Rev. F JOB SPECIFICATIONS (INSTRUMENTATION)	Page 3 of 42	1.2	RO-DM, CPU & ZLD: From CR-112 through package PLC based control system envisaged in CR-112. Further data shall also be sent to Purchaser’s Main plant DCS at UCR-105 (through CR-112) for monitoring.	Kindly inform the details of third party system to be interfaced. Any modification in third party system / Plant DCS is not in bidder scope. Please confirm.	Bidder's package PLC shall be serially interfaced with purchaser's DCS as per tender requirement. Plant DCS shall be by purchaser.

PRE-BID QUERIES (Bidder-5)						
Name of Work		RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India				
Bidding Document		SG/B269-475-PA-T-8701/23				
Sl. No.	Reference in Enquiry Document				Bidder's query	IOCL/EIL's Reply
	Part No./ Volume	Page no.	Clause No.	Subject		
22	STANDARD SPECIFICATION No. 6-52-0052 Rev. 4 STANDARD SPECIFICATION FOR INSTRUMENTATION OF PACKAGE UNITS Suppliers List for IOCL P25	Page 43 of 58 Page 4 of 134	4.15.2	Machine Monitoring System (MMS) Machine Monitoring system shall be provided for continuous monitoring and indication of machine parameters like vibration & axial displacement, bearing and winding temperature, key-phasor etc. Item Code : 15BB Description : MACHINE MONITORING SYSTEMS 1 27464 PROGNOST SYSTEMS GMBH GERMANY 2 R178 ROCKWELL AUTOMATION INDIA PVT LTD INDIA 3 G147A GE Oil & Gas India Pvt. Ltd. INDIA 4 S814 SHINKAWA ELECTRIC COMPANY LTD. JAPAN	Bidder proposes ValmetDNA based Vibration Monitoring system meeting specification requirement. The same is well established for various application including power plant up to 800MW & process plant. Equivalent spare for the system shall be supplied. Bidder requests to include BHEL in MMS vendor list.	Follow tender requirement
23	STANDARD SPECIFICATION No. 6-52-0052 Rev. 4 STANDARD SPECIFICATION FOR INSTRUMENTATION OF PACKAGE UNITS	Page 43 of 58	4.15.2.3	For MMS the display unit shall be provided at local control panel with necessary statutory certification. Alternatively purged enclosure (suitable for the hazardous area) is also acceptable with necessary certification.	Please clarify whether the local display unit is required near each machine in the field or the same can be provided in centralized location. It may be noted that if local display unit is required near each machine in the field, dedicated vibration monitoring racks also need to be provided along with display unit in the field. Bidder proposes centralized display unit suitably located for all the applicable machines where MMS is required. This is a better technical solution from operation & maintenance point of view. Please confirm.	

PRE-BID QUERIES (Bidder-5)						
Name of Work		RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India				
Bidding Document		SG/B269-475-PA-T-8701/23				
Sl. No.	Reference in Enquiry Document				Bidder's query	IOCL/EIL's Reply
	Part No./ Volume	Page no.	Clause No.	Subject		
24	STANDARD SPECIFICATION No. 6-52-0052 Rev. 4 STANDARD SPECIFICATION FOR INSTRUMENTATION OF PACKAGE UNITS	Page 43 of 58	4.15.2.7	Vendor shall also supply one common laptop based configuration unit for the package unit with required configuration software (refer clause 4.17) and hardware for configuration of MMS system including the serial communication cable required between configuration unit (laptop) & MMS monitors.	Bidder proposes to source configuration laptop for Anti-surge control system, Turbine Speed governor control system and MMS system, etc. from respective OEMs. Pl. confirm your acceptance.	Follow tender requirement
25	Doc. No. : B269-475-16-50-SP-8701 Rev. C JOB SPECIFICATION (Electrical)	Page 27 of 49	3.9.1	For single large/critical drives with VFD, redundant VFDs (Hot Standby) along with redundant PLC for change over without any common point of failure shall be provided and shall have provision for Auto/Manual change over between the running and standby VFDs without tripping / stopping the motor	Please clarify whether Redundant VFD in Hot standby mode and Synchronous Bypass feature is applicable for VFD.	Bidder to follow Tender Documents. Bidder to note that as per Note-1 on page 37 of 49 of Engg. Design Basis (electrical) B269-999-16-50-EDB-1001, Bypass for VFD shall be provided as a standard practice unless not recommended from Process or driven equipment operation point of view.
26	Doc. No. : B269-475-16-50-SP-8701 Rev. C JOB SPECIFICATION (Electrical)	Page 25 of 49	3.8.12	Conformal coating shall be done for all electronic equipments as per grade 3C3 (Harsh environment) of IEC 60721-3-3. Alternatively, it shall comply with ANSI/ ISA S71.04 class G3 or IEC 60068-2-60 for mixed flow gas test or ASTM B845. Certification for batch of supplied items shall be submitted by vendor for the same.	Electronic cards shall be with ISA-G3, ISA-GX or 3C2 (IEC60721-3-3) coating, as these are standard types offered by HV VFD vendors. Please confirm.	Bidder's proposal for ISA-G3 is meeting tender requirement of ANSI/ISA S71.04 class G3 and hence acceptable. Also 3C3 coating shall be provided in place of 3C2 as per the Tender requirements.

PRE-BID QUERIES (Bidder-5)						
Name of Work		RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India				
Bidding Document		SG/B269-475-PA-T-8701/23				
Sl. No.	Reference in Enquiry Document				Bidder's query	IOCL/EIL's Reply
	Part No./ Volume	Page no.	Clause No.	Subject		
27	Doc. No. : B269-475-16-50-SP-8701 Rev. C JOB SPECIFICATION (Electrical)	Page 33 of 49	3.17.3	For LCS for VFD controlled motors, in addition the above requirements, speed raise /lower push buttons, speed indication etc. shall be provided.	Emergency stop push button shall be part of VFD-LCP/LCS mounted near motor only. Please confirm.	Bidder's understanding is correct for Emergency stop push button in the field LCS mounted near motor. However, Emergency stop push button shall also be provided on VFD Panel and Emergency Stop from DCS/PLC (if specified by Process/ Instrumentation) also shall be available. All these 3 nos. Emergency stop shall be in series connection.
28	STANDARD SPECIFICATION No. 6-51-0038 Rev. 3 SPECIFICATION FOR MV VARIABLE FREQUENCY DRIVE SYSTEM	Page 11 of 17	5.5.2	Converter Transformer (As applicable) The converter transformer shall be suitable for use with the variable frequency drive system and shall comply to IEC 61378-1.	Dry Type Transformer integrated with VFD is being proposed. Please confirm.	Bidder's proposal for Dry Type Transformer for VFD is noted. Bidder to follow Tender Documents.
29	TENDERDOCUMENT_PART_5: B269-475-81-41-GTD-0022-Rev. 0	184/700(5 of 31)	6.2	Pile Foundation	Customer may furnish the preliminary Soil investigation report for pile foundations.	Available soil investigation report/data is attached in the bid document.
30	TENDERDOCUMENT_PART_2 : B269-475-17-44-PC-T-8701	188/700(9 of 31)	Annex-1	Borelogs	Customer to confirm if the borelog details furnished in the geo-technical report are applicable for this project.	Bore-logs (from RWTP and nearby areas) attached in the bid are for reference. Refer location co-ordinates of each bore-logs for their actual locations.
31	TENDERDOCUMENT_PART_2 : B269-475-17-44-PC-T-8701	187/457(3 of 20)	1	Scope of work: Demolition of underground facilities / Relocation of underground facilities	Customer to provide the details / list of underground facilities or structures to be demolished or relocated, if any.	No major existing structures are envisaged. This clause is for minor/ incidental existing structures which may be encountered.
32				Barricading	Customer to confirm the requirement of barricading for this tender. If barricading is to be provided the Customer to provide the extent of barricading and barricading height. Customer to share reference /standard drawing.	Safety Barricading as required for construction.Barricading shall be provided as per tender conditions.
33	TENDERDOCUMENT_PART_5: B269-475-81-41-GTD-0022-Rev. 0	186/700(7 of 31)	1.0	Back filling	Filling and Grading in the proposed areas shall be carried out using excavated soil. Customer may pl. confirm the same	Bidder's to follow bid requirements.
34				Fencing and Boundary wall	Bidder understands that the present scope of work in this tender is part of well established project and there is no special requirement of separate fencing and boundary wall . Customer to confirm the bidders understanding.	Boundary wall is not is bidder's scope. Fencing shall be provided within RWTP/RODM battery limit as specified in bid document.

PRE-BID QUERIES (Bidder-5)						
Name of Work		RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India				
Bidding Document		SG/B269-475-PA-T-8701/23				
Sl. No.	Reference in Enquiry Document				Bidder's query	IOCL/EIL's Reply
	Part No./ Volume	Page no.	Clause No.	Subject		
35				topography	Customer to provide the topo/contour drawing	Topography survey data to be provided to succesfull bidder.
36				Rain water Harvesting	Customer to provide the scheme ,standard drawings and type of structure to be provided by bidder .	Bidder to refer attached EIL standrad for Rainwater harvesting 7-65-0442, 7-65-0443, 7-65-0444, 7-65-0445 & 7-65-0446
37				Disposal of surplus earth	It is assumed that the dismantled materials shall be disposed at a distance of 2 to 5 km from the project site. If not, Please specify the distance of disposal from project sites.	dismantled materials shall be disposed as per engineering in charge
38				Rain water Harvesting	Customer to provide the scheme ,standard drawings and type of structure to be provided by bidder .	Bidder to refer attached EIL standrad for Rainwater harvesting 7-65-0442, 7-65-0443, 7-65-0444, 7-65-0445 & 7-65-0446

Pre Bid Queries (Bidder-6)

Work Details		: RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India				
Bidding Document No		: SG/B269-475-PA-T-8701/23				
Sl. No.	Reference of Bidding Document				Bidder's Query	Consultant Reply
	Part / Vol.	Page No.	Clause No.	Subject		
	Notice Inviting Tender					
1	NIT	7 of 24	11.1.3	Bidder shall furnish a memorandum of Understanding (MoU) with the Evaporator and Dryer Units Supplier(s) in the bid, conforming to the Supplier's scope and back-to-back guarantees requirements as defined in the above clauses. The MoU shall also define the responsibility scope matrix between the Bidder and the Supplier(s). The MoU shall be valid up to the end of the Defect Liability period	As signing MoU is time consuming and many of the times, the vendors are reluctant to sign the MoU during bidding stage, therefore We request EIL/IOCL to consider the acceptance of Bidder's bid along with Bidder's UNDERTAKING, as an alternative to MoU, that "the successful bidder shall source the Evaporator and Dryer Units from the vendor who meets the tender requirement as mentioned at Clause no 11.1.3.(II - V) for the ZLD supplier"	Please follow tender

PRE-BID QUERIES (Bidder-7)						
WORK DETAILS				RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India		
TENDER NO.				BIDDING DOCUMENT : SG/B269-475-PA-T-8701/Z3		
SR. NO	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY-dated-28.01.2022	EIL/IOCL REPLY
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
1	SECTION – 8 - MISCELLANEOUS	Page 116 of 192	8.20.0.0	STATUTORY APPROVALS	We hereby propose to exclude statutory approvals for the entire scope of plant from bidder's scope, however IEIL will provide necessary documentary / Technical support for the same.	Please follow tender.
	SPECIAL CONDITIONS OF CONTRACT (SCC) PART-A	Page 8 of 33	10.0			
2	SCOPE OF WORKS/SUPPLY OPERATION AND MAINTENANCE	Page 6 of 16	3. SPARES AND CONSUMABLES	Supply of Chemicals	As per clause No. 3.(xi) Supply of all Chemicals (excluding HCl and NaOH) shall be in the scope of the contractor and adequate inventory of all chemicals shall be maintained at all times for the entire duration of the 2 years O&M contract. kindly confirm, Whether supply of chemicals for two years O & M is included in contractor scope.	The query is self explanatory
3	SCOPE OF WORKS/SUPPLY (PLOT PLAN AND WATER) REVERSE OSMOSIS- MIXED BED BASED DEMINERALIZATION PLANT (RODMP),Document No. B269-475-17-44-SS-1001, Rev.4	Page 9 of 25	2.0 DETAILED SCOPE OF SUPPLY/WORK, 2.13 PERFORMANCE AND GUARANTEES	DM Water Quality	kindly confirm, Whether we have to follow DM Water quality as per clause-2.13 or 2.3.1	The guarantee parameters as per Clause No. 2.1.3 of Design Basis B269-475-17-44-DB-1001 Rev. 3 shall be followed. Same shall be updated in SOW document
	PROCESS DESIGN BASIS (PLOT PLAN AND WATER) FOR REVERSE OSMOSIS - MIXED BED BASED DEMINERALIZATION PLANT (RO-DMP) AND ZERO LIQUID DISCHARGE PLANT (ZLDP),Document No. B269-475-17-44-DB-1001 Rev. 3	Page 9 of 21	2.0 DESIGN OF RO-DM AND ZLD PLANT, 2.3.1- DEMINERALIZED WATER QUALITY			
4	SCOPE OF WORKS/SUPPLY (PLOT PLAN AND WATER) CONDENSATE POLISHING UNIT (CPU), B269-476-17-44-SS-1001, Rev.1	Page 9 of 19	2.0 DETAILED SCOPE OF SUPPLY/WORK, 2.13 PERFORMANCE AND GUARANTEES	Polished Condensate quality	kindly confirm, Whether we have to follow Polished condensate quality as per clause-2.13 or have to follow condensate polishing unit Process Datasheet	Polished condensate quality shall be as per Process Datasheet B269-476-02-DS-1901, Rev. No.- B. However, Kindly refer updated SOW B269-476-17-44-SS-1001 in Amendment for guarantee parameters of polished condensate quality
	Document no-B269-476-02-DS-1901, Rev. No.- B	Page 2 of 4	CONDENSATE POLISHING UNIT PROCESS DATASHEET			
5	SCOPE OF WORKS/SUPPLY (PLOT PLAN AND WATER) CONDENSATE POLISHING UNIT (CPU) (PNCP COMPLEX), B269-81-17-44-SS-1001, Rev. 1	Page 8 of 19	2.0 DETAILED SCOPE OF SUPPLY/WORK, 2.13 PERFORMANCE AND GUARANTEES	Polished Condensate quality	kindly confirm, Whether we have to follow Polished condensate quality as per clause-2.13 or condensate polishing unit Process Datasheet	Polished condensate quality shall be as per Process Datasheet B269-81-02-DS-1901, Rev. No.- 0 However, Kindly refer updated SOW B269-81-17-44-SS-1001 in Amendment for guarantee parameters of polished condensate quality
	Document no-B269-81-02-DS-1901, Rev. No.- 0	Page 1 of 3	CONDENSATE POLISHING UNIT PROCESS DATASHEET			
6	DATASHEETS INDEX (PLOT PLAN AND WATER) RAW WATER TREATMENT PLANT (RWTP)	Lamella Clarifier datasheet		Outlet Characteristics	As per Tender datasheet turbidity guarantee at outlet of lamella clarifier mentioned as < 1 NTU typically turbidity guarantee at outlet of lamella clarifier shall be < 20 NTU.	Guarantee of turbidity at the outlet of lamella clarifier shall be <20 NTU.
7	DATASHEETS INDEX (PLOT PLAN AND WATER) RAW WATER TREATMENT PLANT (RWTP)	Centrifuge datasheet		Sludge consistency	To achieve 5% sludge consistency we may have to consider sludge thickener since at the outlet of Lamella Clarifier & High rate solid contact clarifier, upto 2 to 3 % sludge consistency can be achieved . Please confirm	Centrifuge inlet sludge consistency shall be revised to 2-5 %.

PRE-BID QUERIES (Bidder-7)						
WORK DETAILS				RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India		
TENDER NO.				BIDDING DOCUMENT : SG/B269-475-PA-T-8701/Z3		
SR. NO	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY-dated-28.01.2022	EIL/IOCL REPLY
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
8	EQUIPMENT PROCESS DATASHEET INDEX (PLOT PLAN AND WATER) RODMP	Morpholine Solution Dosing Tank Datasheet		Morpholine concentration	We request you to provide morpholine solution concentration which needs to be kept in dosing tank.	Morpholine solution concentration shall be 10%.
9	CONDENSATE POLISHING UNIT (PNCP AREA), Document No-B269-81-02-DS-1901	Page-2 of 3	Sr. No-14	Characteristics for Polished condensate	As per mentioned clause-TDS gurantee at the outlet of MB should be 25 ppb (max) Excluding NH3 and conductivity is 0.2 microsiemens/cm2. Based on the same TDS value at the outlet of MB shall be < 0.1 ppm.	Polished Condensate quality shall be as per DM water Quality. The value also matching with existing PNCP polished condensate qualities.
10	General	-	-	Chemical Dosing Rate	We request you to provide the dosing rate of all the chemical required in water block package in ppm or mg/l	Dosing rate to be finalized by contractor during detail engineering.
11	General	-	Indicative equipment Layout for Raw water treatment plant, ndicative equipment Layout for RO-DM, CPU & ZLD		The location of equipment shown in tender equipment layout is preliminary and tentative and bidder can re-locate the same as per requirement, kindly confirm	The location of Substation and control room in RWTP and Control Building in RODMP/ZLD/CPU is fixed. OISD norms to be followed for equipment layout and distance from OSBL units to be maintained as per OISD.

FORMAT FOR BIDDERS' QUERIES (Bidder-8)

WORK DETAILS : RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India

BIDDING DOCUMENT : SG/B269-475-PA-T-8701/23

Sl.No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
1	B269-475-16-51-SP-8701 Rev. F	Page 1357 of 7166	4	INSTRUMENT AIR REQUIREMENT	"All pneumatic devices shall be able to operate with 0.5 kg/cm2 less than minimum air supply pressure given in process package. Actuator shall be sized for Inst Air pressure of 4 Kg/cm2g. Kindly allow the bidder to size for Instrument air pressure of 7 kg/cm2 g .	Follow as per Tender
2	B269-475-16-51-SP-8701 Rev. F	1352 of 7166	2.26	Control valve and on-off valve rating	"Control valve and on-off valve body and flange rating shall be minimum 300#." We request to allow the bidder to go for minimum 150 # and based online pressure.	Follow as per Tender
3	B269-475-17-44-DS-1055	2057 of 7166	-	UF backwash system	Kindly allow bidder to Design of UF system including recovery, operating flux, backwash system shall be as per UF manufacturer recommendation with respect to feed water qualities. Kindly confirm.	Please follow tender.
4	B269-472-17-44-DS-1003	1932 of 7166	-	Lamella Clarifier - PLATES/ TUBES – FRP	As per tender plates /tubes MOC mentioned as FRP. However other material also (i.e. uPVC) well proven media in India. Bidder request to client kindly allow the PVC MOC for design.	Please follow tender.
5	B269-475-17-44-DB-1001	983 of 7166	2.1.2.1.	COOLING TOWER BLOW DOWNS FROM CT-1&CT-2.	Kindly provide the cooling towers blow-down inlet parameter to be consider for design purpose.	CT Blowdown qualities are already mentioned in Section 2.1.2.1 and Operating conditions are mentioned in Section 2.1.2.5 of B269-475-17-44-DB-1001
6	B269-472-17-44-DS-1018	1950 of 7166	-	CENTRIFUGE FEED PUMPS – FLOODED SUCTION	For sludge application we recommend progress cavity pumps which can operate in negative suction also. Kindly confirm	Please follow tender.
	B269-475-17-44-DS-1047	2047 of 7166	-	HRSCC-II SLUDGE TRANSFER PUMPS– FLOODED SUCTION		
7	B269-472-17-44-DS-1018	1950 of 7166	-	ALL PUMPS SHALL BE LOCATED IN PUMP HOUSE	Pump house requires only for underground tanks. Kindly confirm	Bidder understanding is correct.
8	B269-475-17-44-DS-1047	2047 of 7166	-			
9	B269-475-17-44-DS-1044	2043 of 7166	-	HIGH-RATE SOLID CONTACT CLARIFIER-II	As per data HRSCC scrapper arm MOC mentioned as MSEF. HRSCCII feed which contains high TDS. Hence, we suggest to MSFRP/MSRL line. Kindly confirm.	HRSCC-II scrapper arm MOC shall be MSFRP
10	B269-475-17-44-DS-1054	2056 of 7166	-	AUTO BACKWASH FILTERS-II	In Basket filter body also contact with high TDS water. Hence, we request to review the internal lining.	Noted. The internal lining of ABF-II shall be Glass flaked vinyl ester lining
11	B269-475-17-44-DS-1061	2064 of 7166	-	RO-IV CARTRIDGE FILTERS	In Cartridge Filters body also contact with high TDS water. Hence, we request to review the internal lining.	Noted. The internal lining of CF-II shall be Glass flaked vinyl ester lining
12	B269-475-17-44-EL-1001	1903 of 7166 1907 of 7166	-	Equipment List	UFCIP and CEB chemicals selection and tank volume will vary based on vendor design. We understand that mentioned CEB and CIP tanks volume and pump capacity are indicative and same shall be per UF manufacturer recommendation with respect to feed water qualities. Kindly confirm.	The tank volume and pump capacities are minimum requirements and higher capacities if required shall be provided as per UF system supplier recommendation.
13	B269-475-17-44-EL-1001 Rev. 3	1909 of 7166 1910 of 7166	-	The sizes specified in the equipment list are minimum requirements.	We understand that size mentioned for UF -RO – MB shed are indicative purpose only. The same shall be as change bidders design accommodate the UF/RO MB units. Kindly confirm.	The UF/RO/MB shed size is minimum requirements and higher shed area if required shall be provided.
14	B296-000-81-41-SP-9802	1451 of 7166	3	SPECIFIC DESIGN REQUIREMENT	We presumed that there is no OSD is applicable for both RWTP & RO DM plant layout preparation & the complete RWTP & RO DM plant is classified under Non-hazardous area. kindly confirm.	The location of substations and control building are as per OSD standards to maintain minimum safe distance from offsite facilities and cannot be changed. RWTP/RO DM/CPU/ZLDP plant is classified under Non-hazardous area
15	B269-475-17-44-DB-1001, Rev. 3	984 of 7166	B. BLOW DOWN FROM PROCESS UNITS	TDS Value	Kindly furnish ionic break-up for TDS (i.e. Cations, Anion) of 50 mg/l for designing RO system.	The ionic breakup is not available, however, the major contaminants in Boiler blow down shall be silica and phosphates
16	B269-475-17-44-DB-1001, Rev. 3	984 of 7166	TREATED ETP EFFLUENT	TDS Value	Kindly furnish ionic break-up for TDS (i.e. Cations, Anion) of 3000 mg/l for designing RO system.	The ionic breakup is not available, can be considered based on Cooling Tower blow down and treated raw water quality.
17	B269-475-81-41-GTD-0022	1639 of 7166	Clause 6.1	Settlement for shallow foundation	Allowable settlement is mentioned as 25mm, 40mm for width of footing <=5m & 40mm for >= 5m but as per IS: 1904 allowable settlement is 50mm for isolated footing & 100mm for raft(in clayey soil). Kindly clarify shall we follow the IS code.	Bidder shall follow the bid requirements.

FORMAT FOR BIDDERS' QUERIES (Bidder-8)

WORK DETAILS : RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India

BIDDING DOCUMENT : SG/B269-475-PA-T-8701/23

Sl.No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
18	B269-475-81-41-GTD-0022	1639 of 7166	Clause 6.1	Settlement for shallow foundation	Kindly clarify the settlement criterial to be considered for different structures	Settlement criteria shall be as per the requirements of EDB document (doc. no.: B269-999-81-41-EDB-1001).
19	B269-475-81-41-GTD-0022	1638 of 7166	Clause 3.0	Ground topography	Kindly provide the topography survey data for better understanding	Topography survey data to be provided to succesfull bidder.
20	B269-999-81-41-EDB-1001	1060 of 7166	Clause A.4.1.5	Interconnecting Storm Water drain works	Kindly furnish the invert levels of existing storm water drain for interconnecting the proposed RWTP & RODM drain.	invert level of drains outside battery limit to be provided to successful bidder.
21	B269-999-81-41-EDB-1001	1065 of 7166	Clause A.4.1.11	Compound wall	AS per the referred clause, we understand that Compound wall is in bidder's scope. Please confirm and furnish the length & MOC of the Compound wall to be provided	Bidder's understanding is not correct. Compound wall is not under the scope of ETP contractor.
22	B269-472-17-44-SS-1001 Rev. 1 SCOPE OF WORKS/SUPPLY (PLOT PLAN & WATER) FOR RWTP	Pg No 775 of 7166	-	Cathodic Protection for Steel Tank Bottom	As per referred clause "Cathodic protection shall be considered for all tanks which are not provided on RCC/pile foundation.". We presume that Cathodic Protection for bottom plates of steel tanks is applicable to Sand Pad Type Tank platform only.Kindly confirm if our understanding is correct.	As per the Project philosophy, Cathodic Protection system has not been considered for tank bottom plate.
23	General	-	-	Steel Tanks Dead Volume Requirement	Kindly specify the Dead Volume Depth (DVD) / Liquid Level to be considered for Steel Tanks Design.	Follow tender requirement
24	B269-999-80-42-EDB-1001 Rev 0 EDB STATIC EQUIPMENT	pg no 2795 of 7166	3.10	Steel Tanks Free Board Requirement	Free Board volume depth for fixed roof tanks is specified as 1000 mm . Also Roof Supporting Structures height will exceed 1000 mm depth based on the tank diameter and submerge into the fluid at Max level. So kindly confirm the submergence of Roof supporting structures into the fluid by fixing depth of Free Board Volume for all fixed roof tanks as 1000 mm.	Follow tender requirement
25	General	-	-	Steel Tanks Minimum Plate Thickness	We persume that, Minimum plate thickness for Bottom, Shell and Roof shall be calculated as per API650 only. Incase of anyother specific Client/Consultant requiremnt of minimum steel plate size for sizes of steel tanks, please specify.	Provided thickness shall be maximum of requirement specified in EIL specification and API 650.
26	B269-999-80-42-EDB-1001 Rev 0 EDB STATIC EQUIPMENT	pg no 2795 of 7166	3.9	Eqrthquake Consideration	As per referred clause "Earthquake loads for equipments shall be calculated in accordance with IS 1893/ Site Specific Seismic Spectra as specified in the project specification". Also as per Site Speific Seismic Spectra , pg 1635 of 7166 , Notes 5 , it is specified that "When cylindrical storage tanks are designed as per API 650/620 using site-specific design methods, the percentage of critical damping and response reduction shall be taken in accordance with the respective design codes".Kindly specify which clause to refer while designing the tanks for the Earthquake consideration.	Sesmic design of tanks shall be carried out as per API 650 / API 620 (applicable) and seismic values shall be considered as per site spectra attached with tender.
27	B269-000-16-54-DB-0001 Rev. No. 0 SITE SPECIFIC SEISMIC SPECTRA	pg no 1635 of 7166	Notes 4	Seismic Design of Steel Tanks	As per the referred clause " For any other purpose such as ductile detailing requirement, the site location shall be considered as Zone IV."We presume that this point is also valid for steel tanks. Kindly Confirm	This clause is applicable wherever ductile detailing requirement is there.
28	B269-000-16-54-DB-0001 Rev. No. 0	pg no 1635 of 7166	Notes 5	Seismic Design of Steel Tanks	Kindly Specify the Importance Factor & Siesmic Use Group to be considered for Design Basis Earthquake.	It shall be as per the respective design code.
29	General	-	-	Seismic Design of Steel Tanks	As per Annexre-E of API-650, The seismic Design is carried out by "Maximum Considered Earthquake". Kindly confirm if "Maximum Considered Earthquake" can be used for the seismic Design of Steel tanks.	ASCE 7 is not applicable. Follow equipment category as per IS 1893.
30	6-12-0031 Rev. 5 STANDARD SPECIFICATION FOR STORAGE TANKS FOR PACKAGE ITEMS	pg 4168 of 7166	3.8.2	Standard Specifcation for Fire Bricks	As per Referred Clause "Tanks having design temperature more than 100°C shall have thermal barrier (suitable fire bricks) between tank bottom plate and foundation. " Kindly provide the standard specification for Fire Bricks.	Please follow tender.
31	General	-	-	Sluice Gate Requirement and Specifications	Kindly provide the unit-wise requirement of sluice gates (if any) to be considered for the project scope.Kindly also provide the detailed specifications to be followed for the design of sluice gates (in case of requirement).	Sluice gate shall be provided as per tender requirement and the design shall be as per IS.
32	Technical document Part-2 B269-472-17-44-SS-1001	12 of 457	3	Battery limit Conditions	We presume there is steam, cooling water supply/return, instrument air, service water is available at the battery limit. Please confirm the same so that we can propose the VAM system for Air conditioning of the buildings as per document no: B269-999-80-42-EDB-1002, clause 5.16	Steam is not available. HVAC system shall be provided as specified in Scope of work (doc no. B269-475-80-43-SOW-8701-01) & Job specificztion (doc no. B269-475-80-43-SP-8701-01) attached with the tender.

FORMAT FOR BIDDERS' QUERIES (Bidder-8)

WORK DETAILS : RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India

BIDDING DOCUMENT : SG/B269-475-PA-T-8701/23

Sl.No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
33	Technical document Part-2 B269-999-80-42-EDB-1002	408 of 457	5.1.1	Control of Humidity	It is mentioned that for Administrative building the relative humidity is mentioned as 50+/- 5%. Please confirm whether do we need to maintain the RH in this buildings or else the mentioned RH to be considered only to size the air conditioning equipment	Bidder to follow tender requirement.
34	Technical document Part-2 B269-999-80-42-EDB-1002	408 of 457	5.1.1	Control of Humidity	It is mentioned that for Operational staff room the relative humidity is mentioned as 30-70%. Please confirm whether do we need to maintain the RH or else the mentioned RH to be considered only to size the air conditioning equipment.	Bidder to follow tender requirement.
35	Technical document Part-2 B269-999-80-42-EDB-1002	409 of 457	5.1.4	List of Air conditioning rooms	It is mentioned that "All the areas as defined in Architectural drawings are to be air conditioned". Please provide the list of rooms to be Air conditioned for the Administrative & Lab buildings.	Bidder to refer architecture drawing attached with the tender.
36	Technical document Part-2 B269-999-80-42-EDB-1002	410 of 457	5.1.6	Heating requirements	It is mentioned that "Air-conditioning requirements for Individual area/room up to 5 TR and where no specific RH requirement is envisaged, may be provided with single/multiple inverter type split air-conditioners suitable for cooling as well as heating". Please confirm whether heating is required where there is no RH control.	Heating is also required.Bidder to follow tender requirement.
37	Technical document Part-2 B269-999-80-42-EDB-1002	410 of 457	5.1.9	Fresh air requirements	Except switchgear buildings all other buildings it is mentioned that fresh air of 1ACPH to be considered. We presume it is applicable for control room building &, Laboratory building. Please confirm our understanding is correct.	Bidder to follow tender requirement. For control room- 1ACPH and for Laboratory building- once through system to be followed.
38	Technical document Part-2 B269-999-80-42-EDB-1002	410 of 457	5.1.9	Fresh air requirements	As the Administrative building comes under the category of the office building can we consider the fresh air requirements as per the ASHRAE 62.1 standard instead of 1ACPH as mentioned in clause 5.1.9 (table). If we consider 1ACPH for the Administrative building, the fresh air load will drastically increases. Please confirm.	Bidder to follow tender requirement.
39	Technical document Part-2 B269-999-80-42-EDB-1002	410 of 457	5.1.1	Laboratory exhaust	Please provide the Laboratory building floor plan along with exhaust requirements as per clause 5.1.1.	Shall be provided / discussed post award based on the lab building size selection made by the bidder.
40	Technical document Part-2 B269-999-80-42-EDB-1002	422 of 457	5.17	Ventilation requirements	It is mentioned that "Ventilation air requirement shall be calculated based on Minimum 15 air changes per hour". We presume this is applicable for all the ventilated areas like (toilet, stores, cable cellar,Labs etc). Please confirm	Bidder to follow tender specification. For Laboratory building- once through system to be followed.
41	Technical document Part-2 6-52-0087	1161 of 1400	2.6.3	HVAC requirements for Analyser shelter	It is mentioned that "Pressurisation system shall be provided for Analyser Shelter". Please confirm separate pressurisation fans to be considered as these room is served by the Air conditioning system (which is however pressurised compared to ambient)	Required pressurisation to be achieved maintaining the required ACPH, temperature and RH.
42	Technical document Part-2 6-52-0087	1161 of 1400	2.6.3	Type of Air conditioning	It is mentioned that Package AC (1W+1S) to be considered for Analyser room. Also as per Technical document Part-2, B269-999-80-42-EDB-1002 clause 5.6.1, if the capacity less than 5TR Hi-wall units to be considered. Considering above, can we propose Hi-wall units for the Analyser room if the Cooling load requirements inside the Analyser is less than 5TR. Please confirm which system to be adopted if Cooling load requirement in Analyser room is less than 5TR.	Hi-wall unit is not applicable for analyser shelter HVAC system.
43	Technical document Part-2 6-52-0087	1162 of 1400	2.6.4	HVAC requirements for Analyser shelter	We will consider the indoor conditions to be maintained in the Analyser room as per mentioned clause 2.6.4, as there are no details of indoor requirements mentioned in Technical document Part-2, B269-999-80-42-EDB-1002 clause 5.1.1. Please confirm	Noted.
44	Technical document Part-6	41 of 277	Dwg no: 02434	Section-YY	As per the Section Y-Y, there is a level difference between the floors of AC Plant room & Switchgear room. Is this acceptable? Or else we need to raise the entire cable cellar floor height to match both the floor levels.	Bidder to follow tender. Further details can be discussed during detailed engineering stage.
45	-	-	-	General	Smoke extraction requirements if any for the Switchgear room/Cable cellar areas to be provided as these details are not mentioned in any part of the contract document	Bidder to follow tender requirement.

FORMAT FOR BIDDERS' QUERIES (Bidder-8)

WORK DETAILS : RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India

BIDDING DOCUMENT : SG/B269-475-PA-T-8701/23

Sl.No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
46	6-61-0017	-	Appendix 1	General	Can we consider Nitrile rubber insulation for the Duct & Pipe thermal insulation, Acoustic insulation, Wall insulation instead of the materials provided in the Appendix 1. As Nitrile rubber in superior and will speed up the installation works at the site. Please confirm.	Bidder to follow tender. Further details can be discussed during detailed engineering stage.
47	-	-	-	General	Please confirm any free standing Air conditioning requirements (if any) in the UPS/Rack room	Bidder to follow tender requirement.
48	B269-999-81-41-EDB-1002, Rev-0	1120	3.1	Design Philosophy	"Automatic spray system for pressurised tanks like mounded bullets". We understand that this is not applicable to RWTP.	Bidder understanding is correct
49	B269-999-81-41-EDB-1002, Rev-0	1120	3.1	Design Philosophy	"Automatic DCP (Dry chemical powder) flooding system shall be provided for TEAL storage facility".We understand that this is not applicable to RWTP.	Bidder understanding is correct
50	B269-999-81-41-EDB-1002, Rev-0	1124	4.2	Fire water pumping station	We understand that Fire water pumping station is not in our scope.	Bidder understanding is correct
51	B269-999-81-41-EDB-1002, Rev-0	1127	5.0	Fire station	We understand that fire station is not in our scope.	Bidder understanding is correct
52	B269-999-81-41-EDB-1002, Rev-0	1127	6.0	Mobile Fire-fighting equipment	We understand that mentioned fire-fighting equipment is not in our scope.	Bidder understanding is correct
53	B269-999-81-41-EDB-1002, Rev-0	1129	9.0 (t)	Specific requirement	"Digital indicator shall be provided at new P25 fire station to monitor pressure at fire water pump house and hydraulically remotest location." We understood that Pump house is not in our scope then it is not required.	Bidder understanding is correct
54	B269-999-81-41-EDB-1002, Rev-0	1129	9.0 (P)	Specific requirement	"Annunciation panel for fire alarm, detector, MCP shall be provided at new satellite. The repeater panel shall also be provided in existing fire station of PR." Kindly provide the cable scope from this battery limit to existing fire station.	For Fire Alarm System, Bidder to follow Scope of Supply & Work-Electrical (B269-475-16-50-SOW-8701), Job Spec. Electrical (B269-475-16-50-SP-8701), etc. attached with the Tender. All cabling for Owner's equipments (Free issued materials) located in substation, control room and plant areas are included in Contractor's scope of supply & work. Fire Alarm Cabling up to existing Fire Station is excluded from Contractor's scope of work & supply.
55	B269-999-81-41-EDB-1002, Rev-0	1129	9.0 (u)	Specific requirement	HVLRm of 2000 GPM in tank farm area shall be provided with dedicated individual foam tank of 2000 liter capacity." Kindly confirm the tank farm area is applicable to this project.	not applicable
56	B269-475-17-44-3-0101, Rev-B	2548	1.0	Fire water P&ID for RODM/RWTP/CPU/ZLD package	Kindly confirm the scope of fire water network. RODM pipe network is showing "Fabrication yard" also in shown pipe network loop along with RODM facility.	Refer drg no:B269-475-81-45-30101
57	Job Spec B269-475-16-43-SK-8701; Rev. C (Sheet 1 of 3 and sheet 2 of 3)	2563 of 7166 2565 of 7166	-	Battery Limits Coordinate Confirmation	We understand that scope of inlet Pipeline starts and outlet pipeline ends at Battery Limit Coordinates W-3719.000,N-1624.000 for RODM/CPU/ZLD Plant. Similarly pipeline Battery limit coordinates for RWTP plant is W4074.000 , N 1205.550 as shown in the drawings. We presume that pipeline beyond the mentioned Batterylimit coordinate points are not in the scope of work. Kindly confirm.	THE BATTERY LIMIT CORDINATES INDICATED IN B269-475-16-43-SK-8701 ,REV C ARE TENTATIVE. REFER NOTE 4 OF THE AFOREMENTIONED SKETCH .THE LOCATION OF THE RAW WATER INLET LINE TO RWTP SHALL BE REFERRED FROM CIVIL SCOPE DRAWING .THE ROUTING OF THE LINES IN THE OSBL BEYOND THE BATTERY LIMIT IS NOT IN THE SCOPE OF THE PACKAGE VENDOR
58	Job Spec B269-475-16-51-SP-8701; Rev. F	13 of 42	2.16	Thermocouple	In RWTP/RO/DM/CPU/ZLD temperature of the process medium will be ambient only. We request EIL to accept the proposal of using RTD (Simplex type) instead Thermocouple RTD's response time is much higher than Thermocouple. Kindly confirm.	Follow Tender requirement

FORMAT FOR BIDDERS' QUERIES (Bidder-8)

WORK DETAILS : RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India

BIDDING DOCUMENT : SG/B269-475-PA-T-8701/23

Sl.No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
59	Job Spec B269-475-16-51-SP-8701; Rev. F	13 of 42	2.24	Analysers	We propose pH, ORP, Conductivity, Concentration, Turbidity analyser sensors are mounted in Flow tee/Direct mounted and does not requires separate sampling system. Kindly confirm.	Follow Tender requirement
60	Job Spec B269-475-16-51-SP-8701; Rev. F	15 of 42	2.24.2 & 2.24.3	pH & Conducstivity Analyser	With reference to the clause, We propose not to have automatic cleaning of sensors (MOC of pH sensor if Glass) through purging/cleaning, it may lead to sensor damage. We propose for periodic manual cleaning. Kindly confirm.	Follow Tender requirement
61	Job Spec B269-475-16-51-SP-8701; Rev. F	16 of 42	2.24.5	Silica Analyser	With reference to the clause, Request EIL to accept Multi channel (6 streams max) Silica Anyser. Kindly confirm.	Shall be provided as per P&ID and tender's technical requirement
62	Job Spec B269-475-16-51-SP-8701; Rev. F	16 of 42	2.24.6	DO Analyser	We propose to EIL to accept UV fluorescence type also for DO as it is the latest technology. Kindly confirm.	Follow Tender requirement
63	Job Spec B269-475-16-51-SP-8701; Rev. F	30 of 42	7	Installation Requirment	Refer to the stated clause, We presume that Pre-fabricated Hook-Up is not applicable for RWTP/RODM/ZLD & CPU Package PT and DP-FTs. Kindly confirm.	Follow Tender requirement
64	EDB Instrumentation B269-999-16-51-EDB-1001	21 of 56	3.2.4	Machine Monitoring System	With Reference to the clause, Machine Monitoring System (MMS) is not applicable for RWTP/RODM/ZLD & CPU Package. Kindly confirm.	Noted
65	EDB Instrumentation B269-999-16-51-EDB-1001	29 of 56	3.3.7	Sequence of Event Recording (SER)	Refer to the stated clause, We presume that Dedicated PC for SER is is not applicable for RWTP/RODM/ZLD & CPU Package. Kindly confirm.	Separate SER PC shall be provided as per instrumentation amendment
66	EDB Instrumentation B269-999-16-51-EDB-1001	44 of 56	4.3.3	Level transmitter	Non contact Radar Level transmitter provided for tank in RWTP/RODM/ZLD/CPU Package does not require still well. Kindly confirm.	Follow Tender requirement
67	EDB Instrumentation B269-999-16-51-EDB-1001	29 of 56	3.3.9	Asset Management System	With reference to the clause, Dedicated station loaded with Instrument Asset Management System software is required on only on DCS Network. We presume that, Asset management system is not part of RWTP/RODM/CPU/ZLD Package, Only MUX and dual input barriers to be considered in RWTP/RODM/CPU/ZLD PLC for interface. Kindly confirm.	Noted
68	EDB Instrumentation B269-999-16-51-EDB-1001	30 of 56	3.4	Hardwire Console/Alarm Annunciator	Refer to the stated clause, We presume that HWC & Alarm Annunciator is is not applicable for RWTP/RODM/ZLD & CPU Package. Kindly confirm.	Shall be provided as per P&ID and tender's technical requirement
69	EDB Instrumentation B269-999-16-51-EDB-1001	44 of 56	4.3.3	Level transmitter	With Reference to the clause, guided wave radar type instruments shall be used for level measurement upto 3000mm, whereas as in the same clause, Guided Wave Radar type Level transmitter shall be used for level measurement upto 2400 mm. Kindly clarify.	GWR shall be used for level measurement upto 2400 mm as per clause 4.3.3 of doc. No.B269-999-16-51-EDB-1001 and as per clause 2.9.5 of instrumentation job specification, doc. No. B269-475-16-51-SP-8701.
70	EDB Instrumentation B269-999-16-51-EDB-1001	44 of 56	4.3.3	Level transmitter	We presume that level transmitter used in RWTP/RODM/CPU/ZLD Package for storage application can have process connection of 4" Flanged. Kindly confirm.	Instrument connection on vessel, standpipe and tanks shall be as per std. spec. 7-52-0001.
71	EDB Instrumentation B269-999-16-51-EDB-1001	47 of 56	4.5.4	ON/OFF valve	We presume that, Since there in no SIL2/SIL3 loops in RWTP/RODM/CPU/ZLD, Partial Stroke Checking is not applicable for On/OFF valves. Kindly confirm.	Follow Tender requirement
72	EDB Instrumentation B269-999-16-51-EDB-1001 Job Spec	23 of 42 and 48 of 56	5.11 & 4.8	Instrumentation Duct MOC	Refer to the clauses, Job spec calls for FRP MOC duct Whereas EDB calls for GI duct. Kindly clarify which MOC to be considered for Instrumentation duct.	Shall be as per Instrumentation Job specification and scope of work attached with tenser
73	EDB Instrumentation B269-999-16-51-EDB-1001	49 of 56	4.8	Fire proofing of Duct/Trays	Refer to EDB clause, Since RWTP/RODM/ZLD/CPU falls under "Safe area", Fire proofing of ducts/trays is not applicable. Kindly confirm.	Noted, follow tender requirement
74	General	-	-	UPS	Since RWTP/RODM/CPU/ZLD Plant falls under utility, we request PMC to accept all UPS makes as per tender other that M/s GUTOR to avoid monopolistic situation.	Bidder's query is not clear. Bidder to follow Approved Vendor List-Electrical Doc. No. B269-475-16-50-VL-8701 attached with Tender.
75	General	-	-	ESD	We envisage no ESD system in RWTP/RODM/CPU/ZLD Package as there is no ESD Tags. Kindly confirm.	All logics and interlocks shall be executed through package vendor's supplied PLC.
76	General	-	-	Approved Vendor List	Please provide list of approved vendor for Pump, RO Pressure Tubes,UF and RO Membranes.	Shall be provided in Amendment
77	TENDERDOCUMENT_PART_4	1919 of 7166	-	Existing Equipment in PNCP RODMP & CPU	We understand that we have to use certain existing equipments in the upcoming plant. We presume that these equipments/units are in perfect working condition and contractor will not be responsible for any maintenance and performance issues. Kindly Confirm	Bidder's understanding is correct

FORMAT FOR BIDDERS' QUERIES (Bidder-8)

WORK DETAILS : RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India

BIDDING DOCUMENT : SG/B269-475-PA-T-8701/23

Sl.No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
78	General	-	-	Layout	Since there is interconnections between new units and existing structures, please provide the existing PNCP CPU layout.	The same is attached in Tender.

FORMAT FOR BIDDERS' QUERIES (Bidder-9)

WORK DETAILS : RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India

BIDDING DOCUMENT : SG/B269-475-PA-T-8701/23

Sl.No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
1	B269-475-16-50-0001 & B269-475-16-50-0011	2566 of 7166	-	Single Line Diagram	From the Single Line Diagram, we understand that 66 kV Main Power Supply & 6.6 kV Emergency Power supply shall be directly Terminated on the Transformer Primary side cable box. We presume that Isolator Panels are not envisaged. Also, both power and control cable for the incoming side is "By Others". Kindly confirm.	Bidder to note that 66/6.9 kV Power Transformer is Deleted from Contractor's scope. Accordingly 66kV main power supply at SS-112 shall not be provided anymore. Bidder to kindly note that Owner/EIL shall provide 6.6kV Plant Feeders (2 Nos.) (Each rated for 100% load of the package) from Owner's 6.6kV Switchboard (located in MRSS-100) along with 6.6kV Cable, control cables, OFC cable to RODM/CPU/ZLD Substation SS-112. Termination of all cables in is in the scope of Contractor for SS-112. For 6.6kV Emergency power supply, Bidder to follow Tender Documents.
2	B269-999-16-50-SP-0022 Rev A	1434 of 7166	-	Roof Top Solar system	From the stated clause, we understand that Roof Solar system shall be considered whereas solar system is not shown in Tender Single Line Diagram(B269-475-16-50-0001 & B269-475-16-50-0011). Kindly clarify.	Solar PV system is not in Bidder's scope in this Tender.
3	B269-487-16-50-SP-8702 Rev. C	1385 of 7166	2.3.8	Transformer	From the stated clause,we understand that Transformer Rating shall be selected with Design margin of 10%, spare capacity of 20 % and Transformer shall be loaded 80% of the Rated Capacity. Hence the calculation shall be Power Demand x 1.1 x 1.2 / 0.8. Kindly confirm.	Bidder's understanding is partly correct. Bidder to refer Cl. 2.3.7, 2.3.8, 3.2.1, of Job Spec.(Electrical) Doc. No. B269-475-16-50-SP-8701 attached with Tender & size the switchboards and transformers accordingly. Further margin over & above 20% future margin, is not called for.
4	6-51-0001 Rev. 7	4639 of 7166	5.3.2	6.6 kV HT Switchgear Bus Bar Material	From the stated clause, we observed that 6.6 kV HT Switchgear Panel busbar shall be either Aluminium or Copper. We presume that Aluminium busbar shall be considered. Kindly confirm.	Bidder to follow Tender Documents. Aluminium/ Copper, both are acceptable as per valid type test certificates meeting all the requirements of Tender.
5	6-51-0018 Rev. 5	4693 of 7166	5.27.1	LV Switchgear's Bus Bar Material	From the stated clause, we observed that 415V LV Switchgear Panels busbar shall be either Aluminium or Copper. We presume that Aluminium busbar shall be considered. Kindly confirm.	Bidder to follow Tender Documents. Aluminium/ Copper, both are acceptable as per valid type test certificates meeting all the requirements of Tender.

FORMAT FOR BIDDERS' QUERIES (Bidder-9)

WORK DETAILS : RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India

BIDDING DOCUMENT : SG/B269-475-PA-T-8701/23

Sl.No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
6	B269-475-16-50-SP-8701 Rev. C	1404 of 7166	3.9.7	LV VFD Input Transformer	From the stated clause, we observed that all 415V Variable Frequency Drive (VFD) shall be provided with input transformer. We presume that input transformer shall not be required in case of achieving the system harmonic level as per IEEE 519 without input Transformer. Kindly confirm.	Bidder to note that as per cl. 4.7.7 of Job Spec.(Electrical) Doc. No. B269-487-16-50-SP-8702, the transformer for the VFD system(if required) shall be of dry type, VFD panel mounted only. Bidder to follow Tender Documents.
7	B269-999-16-50-EDB-1001 Rev No. 0	1014 of 7166	5.3.4	APFC	We presume that Capacitors of each bus section of 6.6kV switchboard shall be sized based on the respective bus loads. Kindly confirm.	Bidder's understanding is in order.
8	B269-475-16-50-SP-8701 Rev. C	1391 of 7166	3.4.3	MV Busduct	From the stated clause, we understand that MV Busduct shall be Non segregated phase air insulated type. Whereas MV Busduct Data sheet (Document no : B269-999-16-50-DS-0103, Rev A & Page number 2351 of 7166) calls for Phase Insulated Sandwich type. Kindly clarify.	Bidder's Understanding is correct. Please read the same as "Non segregated phase air insulated type" in MV Busduct Datasheet Doc. No. B269-999-16-50-DS-0103 attached with Tender.
9	SCOPE OF WORKS/SUPPLY (O&M) FOR EFFLUENT TREATMENT PLANT PANIPAT REFINERY EXPANSION(P-25) PROJECT PANIPAT, HARYANA B269-487-17-44-SP-1002 Rev 0	1310 of 5335 4 of 13	3. (v)	3. SPARES AND CONSUMABLES	Bidder understands that the list of spares (as per Annexure-I) shall be handedover to M/s IOCL before start of O&M. However any requirement of spares during O&M period shall be consumed and later the same spare shall be replenished by the contractor. please confirm.	Please follow tender

FORMAT FOR BIDDERS' QUERIES (Bidder-9)

WORK DETAILS : RWTP, RO-DMP, CPU & ZLD PLANT for Panipat Refinery Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India Expansion Project (P25) of M/s Indian Oil Corporation Limited (IOCL), India

BIDDING DOCUMENT : SG/B269-475-PA-T-8701/23

Sl.No.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	EIL/IOCL REPLY
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
10	SCOPE OF WORKS/SUPPLY (O&M) FOR EFFLUENT TREATMENT PLANT PANIPAT REFINERY EXPANSION(P-25) PROJECT PANIPAT, HARYANA B269-487-17-44-SP-1002 Rev 0	1310 of 5335 4 of 13	3. (vi)	Any deficiency in providing services, as pointed out by M/s IOCL, shall be made good in respect of manpower or otherwise within 48 (Forty Eight) hours of time after having been indicated by M/s IOCL in writing, failing which such deficiencies shall be made good by IOCL at the sole risk and cost of the contractor.	Employer will check all the spares handedover to IOCL during execution shall be checked 100% of supplied spares, if any defects shall be notified to the contractor for rectification / replacement by OEM and it will helps any O&M contractor to replace the sapres on emergency conditions during O&M period.	Please follow tender
11	SCOPE OF WORKS/SUPPLY (O&M) FOR EFFLUENT TREATMENT PLANT PANIPAT REFINERY EXPANSION(P-25) PROJECT PANIPAT, HARYANA B269-487-17-44-SP-1002 Rev 0	1312/5335 6 of 13	5 (v)	5. PLANT OPERATION - Lab Analysis	All lab testing shall be carriedout at existing IOCL Lab by IOCL-Chemist, contratctor no scope for testing of water analysis. Hence, Lab chemist not considered in manpower requirement. Please confirm bidder understanding is correct	Bidder understanding is correct
12	SCOPE OF WORKS/SUPPLY (O&M) FOR EFFLUENT TREATMENT PLANT PANIPAT REFINERY EXPANSION(P-25) PROJECT PANIPAT, HARYANA B269-487-17-44-SP-1002 Rev 0	1313/5335 (459/680)	6 (v)	6. MAINTENANCE - Calibration	Bidder requesting to confirm the calibration frequency of online instruments / analysers by NABL accredited laboratory	Shall be as per analyzer supplier recommendation
13	B269-487-17-44-SS-1001	1316 of 5335 10 of 13	8 & 3.1 Design Basis of ITB	Guaranteed Parameters & Design Basis	Any deviation in Raw Effluent quality will effect the performance of all process equipment / system & plant. If such occations, the requirement of chemicals and consumables like process equipment, membranes, cartridge filters, media's, resins etc consumption shall be on higher side than the normal operations. During such conditions the additional expenses shall be paid by the Contractor and shall be reimbursed by the Employer in the monthly bills. Kindly confirm	Please follow tender
14	B269-487-17-44-SS-1001	1316 of 5335 10 of 13	8 & 3.1 Design Basis of ITB	Guaranteed Parameters & Design Basis	Any deviation in Raw Effluent quality will effect the performance of all process equipment / system & plant. If such occations, to stabilise the plant requires to replace / repair spares / equipment / consumbles, and the same shall be supplied by the client. Or the Cost incurred to restore the performance shall be reimbursed with overheads. Kindly confirm.	Please follow tender