



Oil India Limited
(A Govt. of India Enterprise)
P.O. Duliajan – 786602, Assam

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Email: materials@oilindia.in ; erp_mm@oilindia.in

Tender No. & Date: SDG 0261P16/07

Tender Fee : INR 4,500.00 OR USD 100.00
Bid Security Amount : INR 108,000.00 OR USD 1,600.00

Bidding Type : SINGLE STAGE TWO BID SYSTEM

Bid Closing on : 20.04.2016 (at 11.00 Hrs. IST)

Bid Opening on : 20.04.2016 (at 14.00 Hrs. IST)

Performance Guarantee : **Applicable**

OIL INDIA LIMITED invites Global Tenders for items detailed below:

Item No.	MATERIAL DESCRIPTION	QTY.	UOM
<u>10</u>	<p><u>ITEM DESCRIPTION</u></p> <p>2" X 900 Class Two/Three piece split body design Through Conduit Full Bore Ball Valve Cast Carbon Steel Flanged, gear operated along with companion flanges & requisite nos. of stud-nut. Design manufacturing & testing as per API 6D latest edition flanged ends RTJ as per ANSI B 16.5 STD.</p> <p>Data Sheet:</p> <p>Design Standard: API 6D latest edition, Fire Resistance Design as per API6FA Valve location and function: Onshore Sweet Natural Gas Service Special flow requirement: Full bore, Through Conduit, piggable Design Features: Two/Three piece, split body (double block), primary metal to metal seating internal trunnion mounting for ball. End connection details: Flanged ends RTJ as per ANSI B 16.5 STD Valve Operation: Wrench and gear mounted. Body Material: ASTM A216 GR WCB / ASTM A216 GR WCC / ASTM A352 LCB / ASTM A352 LCC/ ASTM A105N / ASTM A350 LF2</p> <p>Ball: (ASTM A216 GR WCB / ASTM A216 GR WCC / ASTM A352 LCB / ASTM A352 LCC / ASTM A105N /</p>	12	Nos.

	<p>ASTM A350 LF2) + 75 Micron ENP / AISI 410 Body Seat Rings: AISI 410/ASTM A182 Gr. F6A + PTFE/Devlon (High Molecular Weight Polyamide) Seat Seal: Graphite Stem: AISI 4140 + 75 micron ENP / AISI 410 Stem Seal: RPTFE / Graphite Stud Bolts: ASTM A 193 GR B7 Nuts: ASTM A 194 GR 2H Seat Housing: (ASTM A 216 GR WCB/AISI 4140) + 75 Micron ENP coated Valve design condition: (-)28deg C to 65 deg C Corrosion allowance: 1.5 mm Installation: Above and underground Pressure relief vent for valve: Required Emergent seat sealant injector system for valve service: Sweet Natural Gas Drain for valve: Required Locking arrangement: Required Foot Support: Required Painting (External): Zinc Chromate Primers + Aluminium paint.</p>		
<u>20</u>	<p>4" # 900 Two/Three piece split body design Ball Valve Flanged, gear operated along with companion flanges & requisite nos. of stud-nut. Design, manufacture & testing as per API 6D latest edition flanged ends RTJ as per ANSI B 16.5 STD</p> <p>Data Sheet:</p> <p>Design Standard: API 6D latest edition, Fire Safe Design and testing as per API6FA Valve location and function: Onshore Sweet Natural Gas Service Special flow requirement: Full bore, Through Conduit, piggable Design Features: Two/Three piece, split body (double block), primary metal to metal seating internal trunnion mounting for ball. End connection details: Flanged ends RTJ as per ANSI B 16.5 STD</p> <p>Valve Operation: Wrench and gear mounted. Body Material: ASTM A216 GR WCB / ASTM A216 GR WCC / ASTM A352 LCB / ASTM A352 LCC/ ASTM A105N / ASTM A350 LF2</p> <p>Ball: (ASTM A216 GR WCB / ASTM A216 GR WCC / ASTM A352 LCB / ASTM A352 LCC / ASTM A105N / ASTM A350 LF2) + 75 Micron ENP / AISI 410 Body Seat Rings: AISI 410 / F6a+PTFE Seat Seal: Graphite</p>	12	Nos.

	Stem: AISI 4140 + 75 micron ENP / AISI 410 Stem Seal: RPTFE / Graphite Stud Bolts: ASTM A 193 GR B7 Nuts: ASTM A 194 GR 2H Seat Housing: (ASTM A 216 GR WCB/AISI 4140) + 75 micron ENP coated Valve design condition : (-)28 deg C to 65 deg C Corrosion allowance: 1.5 mm Installation: Above and underground Pressure relief vent for valve: Required Emergent seat sealant injector system for valve service: Sweet Natural Gas Drain for valve: Required Lifting lugs: Required Locking arrangement: Required Foot Support: Required Painting (External): Zinc Chromate Primers + Aluminium paint.		
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(A) GENERAL NOTES FOR E- TENDER:

- 1.0 The tender will be governed by "General Terms & Conditions" for e-Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders) including Amendments & Addendum to "General Terms & Conditions" for e-Procurement.
- 2.0 Commercial Check list is furnished vide Annexure – B. Please ensure that the check list is properly filled up and uploaded along with Technical bid.
- 3.0 Please note that all tender forms and supporting documents are to be submitted through OIL's e-Procurement site only except following documents which are to be submitted manually in sealed envelope super scribed with tender no. and due date to The Head Materials, Materials Department, Oil India Limited, Duliajan- 786602, Assam on or before the Bid Closing Date and Time mentioned in the Tender.
 - a) Original Bid Security along with duplicate copies of Bid Security
 - b) Details Catalogue and any other document which have been specified to be submitted in original.
- 4.0 The tender is invited under SINGLE STAGE-TWO BID SYSTEM. The bidder has to submit both the "TECHNO-COMMERCIAL UNPRICED BID" and "PRICED BID" through electronic form in the OIL's e-Tender portal within the Bid Closing Date and Time stipulated in the e-Tender. The "Techno-commercial Unpriced Bid" shall contain all technical and commercial details except the prices which shall be kept blank. Details of prices as per Bid format / Commercial bid to be uploaded as attachment in the Attachment Tab "Notes and Attachments".

Any offer not complying with above submission procedure will be rejected as per Bid Rejection Criteria mentioned in the tender.
- 5.0 In Technical Bid opening, only Technical Rfx will be opened. Therefore, the bidder should ensure that "TECHNO-COMMERCIAL UNPRICED BID" should contain details as mentioned in the technical specifications as well as BEC/ BRC and upload the same in the Technical RFx Response-> User - > Technical Bid. **No price should be given in above Technical Rfx otherwise the offer will be rejected.** Please go through the help document in details before uploading the document and ensure uploading of technical bid in the Technical RFx Response-> User - > Technical Bid only. The "PRICE BID" must contain the price schedule and the bidder's commercial terms and conditions. Details of prices

as per Bid format / Commercial bid can be uploaded as Attachment under the attachment option under "Notes & Attachments"

6.0 PRICED BIDS OF ONLY THOSE BIDDERS WILL BE OPENED WHOSE OFFERS ARE FOUND TO BE TECHNO-COMMERCIALLY ACCEPTABLE.

7.0 All the Bids must be Digitally Signed using "Class 3" digital certificate (*e-commerce application*) only as per Indian IT Act obtained from the licensed Certifying Authorities operating under the Root Certifying Authority of India (RCAI), Controller of Certifying Authorities (CCA) of India. The bid signed using other than "Class 3" digital certificate, will be liable for rejection.

8.0 Bidders are requested to examine all instructions, forms, terms and specifications in the bid. Failure to furnish all information required as per the bid or submission of offers not substantially responsive to the bid in every respect will be at the bidders risk and may result in the rejection of its offer without seeking any clarifications.

9.0 **The Integrity Pact is applicable against this tender.** OIL shall be entering into an Integrity Pact with the bidders as per format enclosed vide Annexure XII of the tender document. This Integrity Pact proforma has been duly signed digitally by OIL's competent signatory. The proforma has to be returned by the bidder (along with the technical bid) duly signed (digitally) by the same signatory who signed the bid, i.e., who is duly authorized to sign the bid. Uploading the Integrity Pact with digital signature will be construed that all pages of the Integrity Pact has been signed by the bidder's authorized signatory who sign the Bid. **If any bidder refuses to sign Integrity Pact or declines to submit Integrity Pact with the offer, their bid shall be rejected straightway.**

OIL's Independent External Monitors at present are as under:

1. SHRI RAJIV MATHUR, IPS (Retd.),
e-Mail ID : rajivmathur23@gmail.com

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(B) General Notes to Bidders:

- 1.0 Materials to be supplied shall be New, of recent make, of the best quality & workmanship and shall be guaranteed for a period of 18 months from the date of shipment or 12 months from the date of receipt, whichever is earlier against defects arising from faulty materials, workmanship or design. Defective goods / materials or parts notified by OIL shall be replaced immediately by supplier on F.O.R destination basis including payment of all taxes and duties at supplier's expense. This guarantee shall survive and hold good notwithstanding inspection, payment for and acceptance of the goods.
- 2.0 Material must be accompanied by test certificates for the raw materials used, hydraulic & air test etc. carried out. Air test shall be carried out as per API 6D.
- 3.0 Materials must have maker's stamp / identification mark / specification etc. embossed on each piece supplied.
- 4.0 Valve body casting shall be procured from M/s EIL / M/s Lloyd approved foundries only.
- 5.0 Casting for body & cover shall be of radio-graphic quality and 10% of the valves (randomly selected) shall have to be radio-graphed in presence of Third Party Inspection Agency (TPIA) and necessary documents (Radiographic films of the tested valves) in this regard, shall be submitted along with the materials which has to be certified by the TPIA.
- 6.0 Hydraulic testing shall be carried out preferably with kerosene. If water is used it must be mixed with suitable inhibitor to prevent corrosion.

- 7.0 Valves must bear the API monogram.
- 8.0 All the valves of similar type, size and pressure rating will have same casting pattern & bonnet design.
- 9.0 Height of all the valves of similar type, size and pressure rating will be same in order to maintain uniformity.
- 10.0 Quotation must be accompanied with detailed cross sectional drawing with dimensions, material specification, manufacturer's QAP, product catalogue/literature for our evaluation, valid API 6D certificate.
- 11.0 THIRD PARTY INSPECTION: All Valves shall be tested, inspected and certified by any one of the OIL's enlisted 3rd party inspection agencies i.e. M/s IRS/ M/s Lloyds/M/s Rites/M/s Bureau Veritas/M/s.Tuboscope Vetco or M/s DNV only. Third Party Inspection Charges to be quoted separately which will be considered for bid evaluation. Quotation received without TPI charges will be loaded with the maximum TPI charges received against this tender at the time of Commercial Evaluation. Scope of Inspection is as detailed below:
 - a) To review heat number wise foundry certificate of casting in order to ensure that the materials used are as per purchase order.
 - b) To ensure that valve body casting is procured from such foundries approved by M/s EIL or M/s Lloyds only.
 - c) To ensure that proper technique and procedure as per relevant API standard and purchase order are followed by the manufacturer.
 - d) To ensure that different component of the valve conform to order and API specifications fully.
 - e) To document and issue all inspection certificates.
 - f) To ensure that the valve inspected is fully embossed with the name of the manufacture, API monogram, heat number, rating & size and the inspection agency.
 - g) To witness hydraulic, pneumatic, test for body and seat on specified valve as applicable in the relevant standard.
 - h) To ensure that casting of body of valve is of radiographic quality. Radiography of 1(one) no. valve randomly selected against each item shall be witnessed by Inspection Agency and it shall be documented properly. Moreover, TPIA shall review radiographic films of all valves which were radiographed in presence of TPIA to ensure quality of casting.
- 12) Further to the above note, OIL Engineer may witness the following inspection at your works besides the third party inspection before dispatching the finished product. At least 15 days advance notice will be required for deputing OIL's Engineer.
 - a) Hydraulic testing
 - b) Magnetic Particle Testing
 - c) Any other tests relevant to the quality assurance
- 13) Ring Joint Gasket, Weld Neck Companion flange , Stud and Nut to be supplied as per ANSI B 16.5 std.
- 14) Quantity of each and every item may be increased /decreased at the time of final placement of order.

- 15) BID ENCLOSURES:
- a) The bidder's quote should indicate each and every item serially as given in the technical specification of the enquiry.
 - b) Relevant catalogue, technical brochures, detailed Engineering drawing to be furnished along with the quotation.
16. The Lowest acceptable bidder whose product has not been field proven in OIL will be considered for trial/development order for smaller quantity.

(C) Special terms and Condition to Bidders:

1.0 SCOPE:

All valves shall be manufactured and supplied in accordance with the 24th Edition January 2014 American Petroleum Institute (API) Specification 6D/Latest edition, with additions and Modifications as indicated in the following sections of this specification.

2.0 REFERENCE DOCUMENTS:

2.1 Reference has also been made in this specification to the latest edition of the following Codes, Standards and Specifications.

- (i) ASME B16.5 - Pipe Flanges and Flanged Fittings : NPS 1/2 through NPS 24 Metric/Inch Standard
- (ii) ASME B16.34 – Valves Flanged, Threaded and Welding End
- (iii) ASTM A370 - Standard Test Methods and Definitions for Mechanical Testing of Steel Products.
- (iv) ASTM B733 - Standard Specification for Autocatalytic (Electroless) Nickel-Phosphorus Coatings on Metal
- (v) MSS-SP-6 - Standard Finishes for Contact Faces of Pipe Flanges and Connecting-End Flanges of Valves and Fittings
- (vi) API 6FA - Specification for Fire Test for Valves

In case of conflict between the requirements of this specification, API 6D and the Codes, Standards and specifications referred in clause 2.1 above, the requirements of this specification shall govern.

3.0 MATERIALS:

3.1 Material of construction for major components of the valves shall be as indicated in Valve Data Sheet. In addition, the material shall also meet the requirements specified herein. Other components shall be as per Manufacturer's standard, which shall be subject to approval by Purchaser.

3.2 For all such valves where Carbon Steel is used as ball material, the ball shall have 75 Micrometers (0.003 inches) thick Electroless Nickel Plating (ENP) as per ASTM B733 with following classification: SC2, Type II, Class 2. The hardness of plating shall be minimum 50 RC.

4.0 DESIGN AND CONSTRUCTION:

4.1 Valve design shall meet the requirements of API specification 6D. The ASME Boiler & Pressure Vessel Code, Section VIII, Division 1 shall be used to design the valve body. Allowable stress requirements shall comply the provisions of ASME B 31.3.

4.2 The manufacturer shall have valid license to use API monogram on valves manufactured as per API 6D.

4.3 Valve shall be two / three piece, split body (double block) and valves 150 mm NB and above shall have Gear mounted/gear operated hand wheel.

4.4 Valves shall be Full Bore (FB), shall be suitable for the passage of all types of pipeline scraper and inspection pigs on regular basis without casing damage to either the valve component or the pig. The Full Bore valve shall provide an unobstructed profile for pigging operations in either direction. Full Bore valves shall be designed to minimize accumulation of debris in the seat ring region to ensure that valve movement is not impeded.

4.5 Ball mounting shall be on internal trunnion only as per valve data sheet. Valve design shall minimize the Possibility of debris ingress into the trunnion as far as practicable.

4.6 Valve seats shall be with primary Metal-to-Metal contact. O-rings or other seals if used for drip tight sealing shall be encased in a suitable groove in such a manner that it can not be removed from seat ring and there is not extrusion during opening or closing operation at maximum differential pressure. The seat rings shall be so designed as to ensure sealing at low as well as high differential pressure.

4.7 Full Bore valves, shall have provision for secondary sealant injection under full line pressure for seat and stem seals.

All sealant injection connections shall be provided with an internal non-return valve. Valve design shall have a provision to replace the sealant injection fitting under full line pressure.

4.8 Valves shall be provided with vent and drain connections.

4.9 Valve design shall ensure repair of stem seals / packing under full line pressure.

Note: Vendor to provide 2 No. of hand grease guns and 4 packets of stem seal/packing along with supply.

4.10 Valve shall be provided with Ball Position Indicator and stops of rugged construction at the fully open and fully closed positions.

4.11 Full Bore valve of nominal valve size, of nominal valve size, DN \geq 150 MM (6"), shall be equipped with support foot and lifting lugs.

Tapped holes and eyebolts shall not be used for lifting lugs. Height of support foot shall be kept minimum.

4.12 Valves shall have locking devices to lock the valve either in full open (LO) or full close (LC) positions. Locking devices shall be permanently attached to the valve operator and shall not interfere with operation of the valve.

4.13 Valves shall be suitable for either buried or above ground installation.

4.14 Valve ends shall be flanged as indicated in the Valve DATA Sheet. Flanges of the flanged end cast / forged body valves shall be integrally cast / forged with the body of the valve. Face to face / end to end dimensions shall conform to API 6D.

4.15 Flanged end shall have dimensions as per ASME B16.5 and as per MSS-SP-44/ASME B 16.47 Series A for valve sizes. Flange face shall be raised face as indicated in Valve Data Sheet.

4.16 The valve body castings and forging are to be procured from foundries as approved by M/s EIL or M/s Lloyds only.

5.0 INSPECTION AND TESTS:

The manufacturer shall perform all inspection and tests as per requirement of API 6D specifications and relevant codes, prior to shipment, at his works. Such inspection and tests shall be, but not limited to the following.

5.1 All valves shall be visually inspected.

5.2 Dimensional check on all valves shall be carried out as per the purchaser approved drawings

5.3 All valves shall be 100% radiographed.

(i) Radiographic testing of castings on 100% of critical areas in accordance with ASME B 16.34.

(ii) Radiographic testing of castings on 100% of accessible areas. Examination shall be carried out in accordance with ASME Section V, article 22. The sensitivity, as indicated by wire penetrometers, shall be 1.5% or better. Acceptance shall be in accordance with ASME Sec VIII Div-1, appendix 7.

(iii) If Valve Body MOC is forging, Ultrasonic testing of forgings on 100% of surface area shall be carried out in accordance with ASTM A388.

5.4 Cavity relief testing should be carried out for all (Trunnion Mounted) ball valves.

5.5 Hydraulic test shall be 100% for all valves and test pressure shall be as per API 6D Spec.

Note: OIL may depute its representative at the vendor's works during manufacturing / testing stage. bidder to ensure that OIL representative shall get fair opportunity to witness the manufacturing of critical component and testing of the valve(s). Party to inform OIL at least 15 days ahead of such inspection.

Valves may be subjected to Hydrostatic Testing after receipt at OIL's warehouse and in case of any observance of deviation from test reports, supplier will be asked to depute its Engineer/Technician to witness and repair the same at their own cost.

6.0 PAINTING, MARKING AND SHIPMENT

6.1 Valve surface shall be thoroughly cleaned, freed from rust and grease and applied with sufficient coats of corrosion resistant paint. Surface preparation shall be carried out by shot blasting to SP-6 in accordance with Steel Structures Painting Council Visual Standard SSPC-VIS-1.

6.2 All valves shall be marked as per API 6D. The unit of marking shall be metric except nominal diameter, which shall be in inches also.

6.3 Packing and shipping instructions shall be as per API-6D.

6.4 On packages, following shall be marked legibly with suitable marking ink.

- a) OIL's Order Number
- b) Manufacturer's Name
- c) Valve size and rating
- d) Tag Number
- e) Serial Number

6.5 Valve ends shall be suitably protected to avoid any damage during transit. All threaded and machined surfaces subject to corrosion shall be well protected by a coat of grease or other suitable material. All valves shall be provided with suitable protectors for flange faces, securely attached to the valves.

7.0 DOCUMENTS TO BE SUBMITTED ALONG WITH THE OFFER:

The following documents are required to be submitted at the time of bidding

7.1 Valid API 6 D certificates

7.2 Details sectional arrangement drawing showing all parts with reference numbers, materials specification.

7.3 Assembly drawing with detailed dimensions of bonnet, hand wheel stem, yoke etc. Drawing shall also indicate the number of turns of hand wheel (in case of gear operators) required for operating the valve from full open to full close position and the painting scheme. Complete dimensional details of support foot (where applicable) shall be indicated in these drawings.

Note: All valves of similar size, type and pressure rating will have same casting pattern, bonnet design, height and overall dimensions shall also be same.

7.4 Point wise compliance of NIT requirements. Deviations from the NIT, if any must be highlighted with documentation.

7.5 Technical catalogue / literature of the valves.

7.6 Testing and quality control procedures /QAP.

7.7 Supplier of valves has to get drawings supplied against 7.3 above approved before carrying out fabrication of the valves, incase order is placed on them.

7.8 Vendor to confirm that the valve body castings and forging will be procured from foundries as approved by M/s EIL or M/s Lloyds only. Valid documentary evidence in this regard shall be submitted along with the bid.

8.0 THIRD PARTY INSPECTION:

The valves will be inspected by M/s OIL approved Third Party Inspection Agency viz M/s Lloyds or M/s Bureau Veritas or RITES or M/s BV, or M/s IRS or M/s. Tuboscope Vetco or M/s DNV only. Third Party Inspection charges to be quoted separately which will be considered for bid evaluation. Quotation received without TPI charges will be loaded with the maximum TPI charges received against this tender at the time of commercial evaluation. The scope of Third Party Inspection will be as under:-

8.1 To review heat number wise foundry certificates of castings and material certificates in order to ensure that the materials used are as per purchase order.

8.2 To ensure that valve body castings and forging are procured from foundries as approved by M/s EIL or M/s Lloyds only.

8.3 To ensure that proper technique and procedure as per relevant API standard and Purchase Order are followed by the manufacturer.

8.4 To ensure that different components of the valve conform to purchase order, API 6D specification and all referred standard, codes and specifications in point 2.0 above of the special terms and conditions.

8.5 To ensure and check that valves are tested as per API 6D specifications

8.6 To documents and issue all inspection certificates.

8.7 To ensure that the valves inspected are fully embossed with API monogram and other markings as per API 6D specifications.

8.8 To witness hydraulic, pneumatic test for the body and seat on each specified valve as per API 6D standards.

8.9 To review and check the radiograph films of body and bonnet of all the valves of rating ANSI 300 Class and above. Certified radiography film shall be submitted along with the supplied valves.

9.0 SUBMISSION OF DOCUMENTS ALONG WITH SUPPLY OF VALVES:

The manufacturer must submit the following along with the supply of the valves.

9.1 All test reports and certificates as required by API 6D specifications.

9.2 Mill test certificates relevant to the chemical analysis and mechanical properties of the materials used for the valve construction as per the relevant standards.

9.3 Test certificate of hydraulic test complete with records of timing and pressure of each test carried out.

9.4 TPI certified radiograph films of all the valves for casting material.

9.5 TPI certified Ultrasonic testing report of forgings on 100% of surface area as per ASTM A388

9.5 Above mentioned certificates shall be valid only when signed by Purchaser's Third party Inspection agency. Only those valves which have been certified by Purchaser's Third party Inspection agency shall be dispatched from Manufacturer's works.

10.0 The items shall be brand new, unused & of prime quality. Bidder shall warrant (in the event of an order) that the product supplied will be free from all defects & fault in material, workmanship & manufacture and shall be in full conformity with ordered specifications. This clause shall be valid for 18 months from date of receipt or 12 months from date of receipt of the items. The defective materials, if any, rejected by us shall be replaced by the supplier at their own expense. Bidders must confirm the same while quoting.

11.0 Quantity of Individual item may be increased or decrease at the time of final placement of order.

Data Sheet

1. Design Standard: API 6D 24th Edition January 2014, Fire Safe design and Fire Tests as per API 6FA

2. Valve Location and function: Onshore Sweet Natural Gas Service

3. Valve Size: 2" to 16" NB ; Quantity: as mentioned in the NIT

4. Valve Pressure Class: 150 & 300

5. Type of Valve: Ball Valve

6. Special flow requirement : Full Bore, Through Conduit Type Piggable.

7. Design features: Two/ Three piece, split body (double block)

Primary Metal-to-Metal seating

Internal Trunnion Mounting for Ball

8. End connection details:

Ends (both): RF type Flanged ends

Size & Pressure Class: As per ASME B16.5

9. Valve Operation: Wrench & Gear Mounted Hand wheel operation as applicable.

10. Valve components and material specification (equivalent or superior grade material will also be acceptable)

BODY Material ASTM A216 GR WCB / ASTM A216 GR WCC / ASTM A352 LCB / ASTM A352 LCC / ASTM A105N / ASTM A350 LF2

BALL (ASTM A216 GR WCB / ASTM A216 GR WCC / ASTM A352 LCB / ASTM A352 LCC / ASTM A105N / ASTM A350 LF2) + 75 Micron ENP / AISI 410

BODY SEAT RINGS AISI 410/ASTM A182 Gr. F6A + PTFE/Devlon (High Molecular Weight Polyamide)

SEAT SEAL Graphite

STEM AISI 4140 + 75 Micron ENP / AISI 410

STEM SEAL RPTFE / Graphite

STUD BOLTS ASTM A193 GR B7

NUTS ASTM A194 GR 2H

SEAT HOUSING ASTM A 216 GR WCB / AISI 4140) + 75 Micron ENP coated

12. Valve design conditions: Service Temperature (-) 28 deg C to 65 deg C

Service : Sweet Natural Gas

Corrosion allowance: 1.5 mm

Installation: Above & Underground

13. Pressure relief vent for valve: Required

14. Emergency seat Sealant injector system for valve: Required

15. Drain for valve : Required

16. Lifting lugs : Required

17. Locking arrangement: Required

18. Foot support : Required for sizes 150 mm NB and above

19. Painting (external): Zinc Chromate Primer + Aluminum paint

20. Quantity may be increased or decreased at the time of final placement of purchase order.

(D) Special Notes:

1. The items shall be brand new, unused & of prime quality. Bidder shall warrant (in the event of an order) that the product supplied will be free from all defects & fault in material, workmanship & manufacture and shall be in full conformity with ordered specifications. This clause shall be valid for 12 months from date of receipt at site or 18 months from the date of shipment/despatch. The defective materials, if any, rejected by us shall be replaced by the supplier at their own expense on FOR Destination basis. Bidders must confirm the same while quoting.
2. Validity of the offers should be 180 days from the date of bid opening. Bids with lesser validity shall be summarily rejected.
3. The items covered under this enquiry shall be used by OIL in the PEL/ML areas issued/renewed after 01/04/99 and hence, applicable Customs Duty for import of goods shall be ZERO. Indigenous bidders must quote Deemed Export prices. Excise Duty under Deemed Export exempted. Necessary Project Authority Certificate (PAC) shall be issued by OIL towards this. Indian bidders however to note that Recommendatory Letter to DGH for availing NIL customs duty benefit shall not be issued by OIL.
4. Technical and Commercial Check-List vide **Annexure- B** and Quality Assurance Plan vide **Annexure -C** shall be filled-up and submitted along with the offer.
5. To ascertain the substantial responsiveness of the bid OIL reserves the right to ask the bidder for clarification in respect of clauses covered under BRC also and such clarifications fulfilling the BRC clauses in toto must be received on or before the deadline given by OIL, failing which the offer will be summarily rejected.

6. Bidders to note that Govt. of India under Micro, Small and Medium Enterprises Development (MSMED) Act 2006, has proclaimed the Public Procurement Policy, 2012 with effect from 1st April, 2012 in respect of procurement of goods and services, produced and provided by micro and small enterprises, by its Ministries, Departments and Public Sector Undertakings for promotion and development of Micro and Small Enterprises. A new Clause on applicability of Public Procurement Policy for procurement of goods from Micro and Small Enterprises (MSE) in the tender is furnished vide Amendment to General Terms and Conditions for Global Tender (MM/GLOBAL/E-01/2005). Bidders are requested to take note of the same and to submit their offers accordingly.
7. Other terms and conditions of the tender shall be as per "General Terms & Conditions" for e- Procurement as per Booklet No.MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders). However, if any of the Clauses of the Bid Rejection Criteria (BRC) / Bid Evaluation Criteria (BEC) mentioned here contradict the Clauses in the "General Terms & Conditions" for e-Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders) of the tender and/or elsewhere, those mentioned in this BEC / BRC shall prevail.

BID REJECTION CRITERIA (BRC)/BID EVALUATION CRITERIA (BEC)

(I) BID REJECTION CRITERIA (BRC)

- 1.0 The bids must conform to the specifications and terms and conditions given in the tender. Bids shall be rejected in case the item(s) offered do not conform to the required minimum/maximum parameters stipulated in the technical specifications and to the respective international/national standards wherever stipulated. Notwithstanding the general conformity of the bids to the stipulated specifications and terms and conditions, the following requirements shall have to be particularly met by the bidders, without which the offer will be considered as non-responsive and rejected.

(A) TECHNICAL:

2.0 Bidder's Qualification

- 1.1 The bidder shall be an Original Manufacturer (OM) having experience in manufacturing of API 6D Ball Valves similar to Tender Valve Data Sheet of pressure rating indicated in the tender or more. The party must have valid license to use API monogram on manufacturing the Ball Valves.
Or,
1.2 The bidder shall be an authorized sole selling agent/dealer/distributor/supply house of API 6D Ball valves manufactured by OM. The valid authorisation letter must be available and it should be valid till successful execution of the whole order.

2.0 Bidder's Experience

In case, the bidder is an Original Manufacturer (OM)

- 2.1.1 The bidder shall be a Manufacturer of API 6D Ball Valves similar to Tender Valve Data Sheet of pressure rating indicated in the tender or more and shall be in the business of manufacturing the same valves for the last 5 (five) years on Original Bid Closing Date of this tender. Valid API 6D certificate for the last 05 years as on Original Bid Closing Date of this tender shall be submitted along with the bid without which the offer will be rejected
- 2.1.2 The bidder shall have the credential of successful execution of at least 2 (two) orders of at least 50% of the tendered quantity of API 6D Ball valves of pressure rating indicated in the tender or more in each order during the last 5 (five) years preceding from the original bid closing date of this tender to any Oil and Gas Industry. Documents in support of successful execution of past supply shall be in the form of copy of purchase order and performance bank guarantee release document or commissioning report or successful execution report or performance report from client of the corresponding executed supply along with one of the following documents (a) Commercial Invoice or (b) Bill of lading or (iii) Final inspection release note from third Party Inspection Agency.
- 2.1.3 Bidder shall provide a copy of certificate for Fire Safe Design as per API-6FA and as a Proof of Fire-Test, Data-Sheet shall be submitted along with the bid for at least 1 No. of API 6D Ball Valve similar to Tender Valve Data Sheet for any size but of pressure rating indicated in the tender or more. Fire-Test Data-Sheet must be certified by the Third Party Inspection Agency.
- 2.2 In case the bidder is not an OM,
Bidder must be an authorized sole selling agent/dealer / distributor /supply house of OM of API 6D Ball valves. The Bidder shall enclose the copy of the Certificate in support of authorization of sole

selling agent/dealer / distributor /supply house from OM. Such authority letter must be valid for the entire period of execution of the order. In this case the following criteria shall be met by the Bidder:

- 2.2.1 The Bidder shall confirm supply of API 6D Ball Valves from OM who meets the qualification requirements stipulated under clauses 1.1, 2.1.1, 2.1.2 & 2.1.3 above. Copy of OM's valid API certificate in this regard shall be submitted along with the bid.
- 2.2.2 The bidder shall have the experience to that extent of 2.1.2 above for supplying API 6D Ball valves.
- 2.2.3 Bidder shall enclose a valid Authorization Certificate with back up Warranty & Guarantee from the OM to quote against this tender.
- 2.2.4 The bid shall be rejected in case of any change of the proposed OM after submission of the bid.

(B)COMMERCIAL:

Commercial Bid Rejection Criteria will be as per Section D of General Terms & Conditions of Global Tender (MM/GLOBAL/E-01/2005) with following Special Bid Rejection Criteria.

1).Bids are invited under **Single Stage Two Bid System**. Bidders shall quote accordingly under Single Stage Two Bid System. **Please note that no price details should be furnished in the Technical (i.e. Unpriced) bid.** The "Unpriced Bid" shall contain all techno-commercial details except the prices, which shall be kept blank. The "Price Bid" must contain the price schedule and the bidder's commercial terms and conditions.

Bidder not complying with above submission procedure will be rejected.

2).Bid security of INR 1,08,000.00 or US\$ 1600.00; shall be furnished as a part of the TECHNICAL BID (refer Clause Nos.9.0 & 12.0 (Section A) of "General Terms & Conditions" for e-Procurement as per Booklet No.MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders)). **Any bid not accompanied by a proper bid security in ORIGINAL will be rejected without any further consideration.** For exemption for submission of Bid Security, please refer Clause No. 9.8 (Section A) of "General Terms & Conditions" for e-Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders).Bank Guarantee towards Bid Security shall remain valid till **19.04.2017**

3).Validity of the bid shall be minimum 180 days from the date of Bid Closing date. Bids with lesser validity will be rejected.

4.) Bidders must confirm that Goods, materials or plant(s) to be supplied shall be new of recent make and of the best quality and workmanship and shall be guaranteed for a period of 18(eighteen) months from the date of despatch/shipment or 12(twelve) months from the date of receipt at site against any defects arising from faulty materials, workmanship or design. Defective goods/materials or parts rejected by OIL shall be replaced immediately by the supplier at the supplier's expenses at no extra cost to OIL.

5.) Successful bidder will be required to furnish a Performance Bank Guarantee @10% of the order value. The Performance Bank Guarantee must be valid for 18(eighteen) months from the date of despatch/shipment or 12(twelve) months from the date of receipt at site. Bidder must confirm the same in their Technical Bid. Offers not complying with this clause will be rejected

6.) Bidders are required to submit the summary of the prices in their price bids as per bid format (Summary), given below:

- i) Price Bid Format (SUMMARY) for Foreign Bidders :
- (A) Total Material Value :
 - (B) TPI Charges (if any)
 - (C) Packing & FOB Charges :
 - (D) Total FOB Port of Shipment value, (A + B + C) above :
 - (E) Overseas Freight Charges upto Kolkata, India :
 - (F) Insurance Charges :
 - (G) Total CIF Kolkata value, (D + E + F) :
 - (H) Total CIF Kolkata value in words :
 - (I) Gross Weight :
 - (J) Gross Volume :
- ii) Price Bid Format (SUMMARY) for Indigenous Bidders:
- (A) Total Material Value :
 - (B) TPI Charges (if any) :
 - (C) Packing and Forwarding Charges:
 - (D) Total Ex-works value, (A + B + C) above :
 - (E) Excise Duty (Please indicate applicable rate of Duty) :
 - (F) Sales Tax, (Please indicate applicable rate of Tax)
 - (G) Total FOR Despatching station price, (D + E + F) above
 - (H) Road Transportation charges to Duliajan
 - (I) Insurance Charges
 - (J) Assam Entry Tax
 - (K) Total FOR Duliajan value, (G + H + I + J) above
 - (L) Total FOR Duliajan value in words :
 - (M) Gross Weight :
 - (N) Gross Volume :

NOTE:

- i) Cost of the individual items must be quoted separately.
- 7.) The prices offered will have to be firm through delivery and not subject to variation on any account. A bid submitted with an adjustable price will be treated as non-responsive and rejected.
- 8.) Bids received after the bid closing date and time will be rejected. Similarly, modifications to bids received after the bid closing date & time will not be considered.
- 9.) Bids containing incorrect statement will be rejected.

(II) BID EVALUATION CRITERIA (BEC) :

Bids conforming to the specifications, terms and conditions stipulated in the tender and considered to be responsive after subjecting to the Bid Rejection Criteria will be considered for further evaluation as per the Bid Evaluation Criteria mentioned in Section D of "General Terms & Conditions" for e-Procurement as per Booklet No. MM/GLOBAL/E-01/2005.

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CHECK LIST**(A) COMMERCIAL CHECK-LIST**

Sl. No.	PARAMETERS/REQUIREMENTS	BIDDER RESPONSE	REMARKS IF ANY
1.	Whether Original Signed quotation submitted?	YES/NO	
2.	Whether quoted as manufacturer?	YES/NO	
3.	Whether quoted as authorized dealer? [To Specify]	YES/NO	
4.	If quoted as authorized dealer,		
5.	(a)Whether submitted valid and proper authorization letter from manufacturer IN ORIGINAL confirming that bidder is their authorized dealer for the product offered?	YES/NO	
6.	(b)Whether manufacturer's back-up Warranty/Guarantee certificate submitted?	YES/NO	
7.	Whether bid submitted under single stage Two-Bid System?	YES/NO	
8.	Whether ORIGINAL Bid Bond (not copy of Bid Bond) enclosed with the offer? If YES, provide details	YES/NO	
	(a) Amount :		
	(b) Name of issuing Bank :		
	(c) Validity of Bid Bond :		
9.	Whether offered firm prices?	YES/NO	
10.	Whether quoted offer validity of 180 days from the date of closing of tender?	YES/NO	
11.	Whether quoted a firm delivery period?	YES/NO	
12.	Whether quoted as per NIT (without any deviations)?	YES/NO	
13.	Whether any deviation is there in the offer?	YES/NO	
14.	Whether deviation separately highlighted?	YES/NO	
15.	Whether agreed to the NIT Warranty clause?	YES/NO	
16.	Whether Price Bid submitted as per Price Schedule?	YES/NO	
17.	Whether indicated the country of origin for the items quoted?	YES/NO	
18.	Whether all the items of tender quoted?	YES/NO	
19.	Whether technical literature/catalogue/drawings enclosed?	YES/NO	
20.	For Foreign Bidders - Whether offered FOB/FCA port of dispatch including sea/air worthy packing & forwarding?	YES/NO	
21.	For Foreign Bidders – Whether port of shipment indicated? [To specify]	YES/NO	
22.	For Foreign Bidders only - Whether indicated ocean freight up to C&F Kolkata port (Excluding marine insurance)?	YES/NO	
23.	Whether Indian Agent applicable?	YES/NO	
	If YES, whether following details of Indian Agent provided?		
	(a) Name & address of the agent in India – To indicate		
	(b) Amount of agency commission – To indicate		
	(c) Whether agency commission included in quoted material value?	YES/NO	
24.	Whether weight & volume of items offered indicated?	YES/NO	
25.	Whether confirmed to submit PBG as asked for in NIT?	YES/NO	
26.	Whether agreed to submit PBG within 30 days of placement of order?	YES/NO	
27.	For Indian bidders – Whether place of dispatch indicated in the offer? [To specify]	YES/NO	
28.	For Indian bidders – Whether road transportation charges up to Duliajan quoted?	YES/NO	
29.	For Indian Bidders only - Whether offered Ex-works price including packing/forwarding charges?	YES/NO	
30.	For Indian Bidders only - Whether offered Deemed Export prices?	YES/NO	
31.	Whether quoted prices are exclusive of Excise duty?	YES/NO	
32.	For Indian bidders only – whether import content indicated in the offer?	YES/NO	
33.	For Indian Bidders only - whether all Taxes have been indicated categorically?	YES/NO	
34.	Whether all BRC/BEC clauses accepted?	YES/NO	
35.	Whether confirm to accept all clauses of Integrity Pact?	YES/NO	
36.	Whether duly signed Integrity Pact enclosed?	YES/NO	

(B) TECHNICAL CHECK-LIST

Sl. No.	PARAMETERS/REQUIREMENTS	BIDDER RESPONSE	REMARKS IF ANY
1.	The bidder's quote should indicate each and every item serially as given in the technical specification of the enquiry.	YES/NO	
2.	Bidders Quality Assurance Procedure (QAP) (as Annexure-C) is submitted along with the bid.	YES/NO	
3.	Vendor to confirm that all the items offered are exactly as per specification, size, material of construction, design & testing standards etc. wherever applicable as mentioned in the NIT.	YES/NO	
4.	Vendor to provide valid API 6 D authorization certificate.	YES/NO	
5.	Vendor to confirm that all valves shall meet the fire safe design requirement as per API-6FA.	YES/NO	
6.	Vendor to confirm that all the Inspection and Test will be carried out as per the NIT and QAP.	YES/NO	
7.	Vendor to confirm that the materials will be tested, inspected and certified by OIL's approved Third Party Inspection Agency and inspection report must be forwarded to us along with the materials as per the NIT. Vendor to confirm that scope of test and inspection by OIL's approved third party inspection agency will be as per NIT.	YES/NO	
8.	Vendor to confirm along with materials: The submission of Test certificates of raw material used,Hydraulic Test conducted, Air Test /Magnetic Particle test conducted and dimensional check.	YES/NO	
9.	Vendor to confirm to provide API monogram on the valve body as per NIT.	YES/NO	
10.	Vendor to confirm to provide permanent marks (i.e.Manufacturer name, Valve Size, Pressure Rating, Serial No,Manufactured for OIL, OIL PO No) in the valve body as per NIT.	YES/NO	
11.	Vendor to confirm that all the material will be thoroughly cleaned & painted with anticorrosive paint or varnish to avoid corrosion as per NIT.	YES/NO	
12.	Vendor to confirm that materials will be guaranteed for workmanship & performance for a period of 18 months from the date of receipt at Duliagan or 12 months from the date of receipt, whichever is earlier and relevant guarantee certificate in duplicate must be provided along with the supply.	YES/NO	
13.	Vendor to confirm that packing and tagging of finished product for dispatch will be done as per NIT.	YES/NO	

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QUALITY ASSURANCE PLAN (QAP) FOR BALL VALVES**1.0 GENERAL**

1.1 .QAP shall be submitted for each valve separately with break-up of assembly/sub-assembly & part/component or for group of component having same specification. A sample QAP is as given below.

2.0 RAW MATERIAL AND IN PROCESS STAGE INSPECTION, TEST CERTIFICATES, DOCUMENTS ETC.

2.1 BODY			
S.N.	INSPECTION REQUIRED	INSPECTION BY & PLAN	DOCUMENTS
(A)	VISUAL & DIMENSIONAL	TPI (review) MFR (review)	APPROVED GAD,REPORT
(B)	PHYSICAL TEST (Sample)	TPI (review) MFR (review)	MATERIAL TEST CERTIFICATES
(C)	CHEMICAL TEST (Sample)	TPI (review) MFR (review)	MATERIAL TEST CERTIFICATES
(D)	ULTRASONIC TEST FOR FORGING	TPI (review) MFR (hold)	TEST REPORT
(E)	MAGNETIC PARTICLE TEST(MPI)	TPI (review) MFR (hold)	TEST REPORT
(F)	RADIOGRAPHIC TEST FOR CASTING	TPI (review) MFR (hold)	TEST REPORT
(G)	HEAT TREATMENT	TPI (review) MFR (review)	TERST REPORT MATERIAL TEST CERTIFICATES
(H)	CHARPY "V" NOTCH TEST	TPI (review) MFR (review)	MATERIAL TEST CERTIFICATES
TPI:THIRD PARTY INSPECTOR			
MFR:MANUFACTURER			
2.2 COVER			
S.N.	INSPECTION REQUIRED	INSPECTION BY & PLAN	DOCUMENTS
(A)	VISUAL & DIMENSIONAL	TPI(review) MFR(review)	APPROVED GAD,REPORT
(B)	PHYSICAL TEST (Sample)	TPI(review) MFR(review)	MATERIAL TEST CERTIFICATES
(C)	CHEMICAL TEST (Sample)	TPI(review) MFR(review)	MATERIAL TEST CERTIFICATES
(D)	ULTRASONIC TEST FOR FORGING	TPI(review) MFR(hold)	TEST REPORT
(E)	MAGNETIC PARTICLE TEST (MPI)	TPI(review) MFR(hold)	TEST REPORT
(F)	RADIOGRAPHIC TEST FOR CASTING	TPI(review) MFR(hold)	TEST REPORT
(G)	HEAT TREATMENT	TPI(review) MFR(review)	TERST REPORT MATERIAL TEST CERTIFICATES
(H)	CHARPY "V" NOTCH TEST	TPI(review) MFR(review)	MATERIAL TEST CERTIFICATES
TPI:THIRD PARTY INSPECTOR			
MFR:MANUFACTURER			

2.3 BALL			
S.N.	INSPECTION REQUIRED	INSPECTION BY & PLAN	DOCUMENTS
(A)	VISUAL & DIMENSIONAL	TPI(review) MFR(review)	APPROVED GAD,REPORT
(B)	PHYSICAL TEST (Sample)	TPI(review) MFR(review)	MATERIAL TEST CERTIFICATES
(C)	CHEMICAL TEST (Sample)	TPI(review) MFR(review)	MATERIAL TEST CERTIFICATES
(D)	HEAT TREATMENT	TPI(review) MFR(review)	TEST REPORT MATERIAL TEST CERTIFICATES
(E)	ENP COATING	TPI(review) MFR(hold)	MATERIAL TEST CERTIFICATES FOR COMPOSITION,HARDNESS,THICKNESS & INTEGRITY
(F)	CHARPY "V" NOTCH TEST	TPI(review) MFR(review)	MATERIAL TEST CERTIFICATES
TPI:THIRD PARTY INSPECTOR			
MFR:MANUFACTURER			

2.4 STEM			
S.N.	INSPECTION REQUIRED	INSPECTION BY & PLAN	DOCUMENTS
(A)	VISUAL & DIMENSIONAL	TPI(review) MFR(review)	APPROVED GAD,REPORT
(B)	PHYSICAL TEST (Sample)	TPI(review) MFR(review)	MATERIAL TEST CERTIFICATES
(C)	CHEMICAL TEST (Sample)	TPI(review) MFR(review)	MATERIAL TEST CERTIFICATES
(D)	HEAT TREATMENT	TPI(review) MFR(review)	TEST REPORT MATERIAL TEST CERTIFICATES
(E)	ENP COATING	TPI(review) MFR(hold)	MATERIAL TEST CERTIFICATES FOR COMPOSITION,HARDNESS,THICKNESS & INTEGRITY
TPI:THIRD PARTY INSPECTOR			
MFR:MANUFACTURER			

2.5 SEAT			
S.N.	INSPECTION REQUIRED	INSPECTION BY & PLAN	DOCUMENTS
(A)	VISUAL & DIMENSIONAL	TPI(review) MFR(review)	APPROVED GAD,REPORT
(B)	PHYSICAL TEST (Sample)	TPI(review) MFR(review)	MATERIAL TEST CERTIFICATES
(C)	CHEMICAL TEST (Sample)	TPI(review) MFR(review)	MATERIAL TEST CERTIFICATES
(D)	HEAT TREATMENT	TPI(review) MFR(review)	TEST REPORT MATERIAL TEST CERTIFICATES
(E)	ENP COATING	TPI(review) MFR(hold)	MATERIAL TEST CERTIFICATES FOR COMPOSITION,HARDNESS,THICKNESS & INTEGRITY
TPI:THIRD PARTY INSPECTOR			
MFR:MANUFACTURER			

2.6 STUD & NUTS (BOLTING MATERIAL)

S.N.	INSPECTION REQUIRED	INSPECTION BY & PLAN	DOCUMENTS
(A)	VISUAL & DIMENSIONAL	TPI(review) MFR(review)	APPROVED GAD,REPORT
(B)	PHYSICAL TEST (Sample)	TPI(review) MFR(review)	MATERIAL TEST CERTIFICATES
(C)	CHEMICAL TEST (Sample)	TPI(review) MFR(review)	MATERIAL TEST CERTIFICATES
(D)	HEAT TREATMENT	TPI(review) MFR(review)	TEST REPORT MATERIAL TEST CERTIFICATES
(E)	CHARPY "V" NOTCH TEST	TPI(review) MFR(review)	MATERIAL TEST CERTIFICATES
TPI:THIRD PARTY INSPECTOR			
MFR:MANUFACTURER			

3.0 INSPECTION AFTER VALVE ASSEMBLY**3.1 ASSEMBLED VALVES(BALL)**

S.N.	INSPECTION REQUIRED	INSPECTION BY & PLAN	DOCUMENTS
(A)	VISUAL & DIMENSIONAL	MFR (hold) TPI (witness)	APPROVED GAD,REPORT
(B)	FITMENT & ALIGNMENT	MFR (hold) TPI (witness)	REPORT
(C)	PRESSURE TEST	MFR (hold) TPI (witness) OIL (witness)	REPORT, TEST CERTIFICATES
(D)	LEAKAGE TEST	MFR (hold) TPI (witness) OIL (witness)	REPORT, TEST CERTIFICATES
(E)	FIRE TEST (TYPE TEST)	MFR (review) TPI (review) OIL (review)	REPORT, TEST CERTIFICATES
(F)	OPERATIONAL TORQUE TEST	MFR (hold) TPI (witness) OIL (witness)	REPORT, TEST CERTIFICATES
(G)	CALIBRATION	MFR (hold) TPI (review) OIL (review)	CERTIFICATES
(H)	PAINTING	MFR (hold) TPI (review) OIL (review)	REPORT, TEST CERTIFICATES
(I)	HYDROSTATIC DOUBLE BLOCK & BLEED TEST	MFR (hold) TPI (witness) OIL (witness)	REPORT, TEST CERTIFICATES
(J)	FUNCTIONAL TEST	MFR (hold) TPI (witness) OIL (witness)	REPORT, TEST CERTIFICATES
TPI:THIRD PARTY INSPECTOR			
MFR:MANUFACTURER			
OIL:OIL INDIA LTD			

4.0

4.1 FINAL DOCUMENTATION

S.N.	INSPECTION REQUIRED	INSPECTION BY & PLAN	DOCUMENTS
1.	FINAL DOCUMENTATION CHECK	MFR (hold) TPI (review)	FINAL REPORTS FINAL CERTIFICATES
TPI:THIRD PARTY INSPECTOR			
MFR:MANUFACTURER			
OIL:OIL INDIA LTD			

"hold"The test will be conducted
"review"The test report will be reviewed, verified
"witness"The test will be performed in the presence of the concerned personnel such as
MFR, TPI and OIL.