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

Telephone No. (91-374) 2808724
Fax No: (91-374) 2800533
Email: materials@oilindia.in ; erp_mm@oilindia.in

Tender No. & Date: SDG6177P15/07 dtd 04.02.2015

Tender Fee : INR 4,500.00 OR USD 100.00
Bid Security Amount : INR 3, 62, 925.00 OR USD 8,065.00

Bidding Type : SINGLE STAGE TWO BID SYSTEM

Bid Closing on : As mentioned in the Basic Data of the tender in OIL's e-portal.

Bid Opening on : As mentioned in the Basic Data of the tender in OIL's e-portal.

Performance Guarantee : Applicable

OIL INDIA LIMITED invites Global Tenders for items detailed below:

Item No. / Mat. Code	Material Description	QTY.	UOM
1	Supply of API 6D Ball Valve as per the following: a) Detailed specification – Annexure - A b) Bid Rejection Criteria (BRC) and Bid Evaluation Criteria – Annexure-B. c) Technical &Commercial Checklist - Annexure -C		

General Notes to Bidders :

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 Technical and Commercial Check list is furnished vide Annexure – C. Please ensure that the check list is properly filled up and uploaded along with Technical bid.

3.0 The item qualifies for Nil duty / Deemed Export benefits. For Deemed Export benefits please refer Addendum to the General terms and conditions for Global tender.

4.0 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.

b) Details Catalogue and any other document which have been specified to be submitted in original.

5.0 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 is to be submitted as per Scope of Work & Technical Specification of the tender and "PRICED BID" as per theOnline Priced Bid format.

6.0In 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.The prices of the items should be quoted in "Conditions Tab". Details of prices as per Bid format / Commercial bid can be uploaded as Attachment under the attachment option under "Notes & Attachments"

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

8.0 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.

9.0 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.

10.0The 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.

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

(I) SHRI RAGHAW SHARAN PANDEY; I.A.S (Retd) ,
Former Secretary, Ministry of Petroleum & Natural Gas
E-mail Id : raghaw_pandey@hotmail.com

Specification of items:

Item No. 10: (Quantity: 12 nos.)

Ball valves for Natural Gas (Sweet) Service, Full Bore, Through Conduit condfiguration, Cast Carbon Steel Flanged, valve design Manufacturing and testing as per API 6D standard (Latest Edition), With Companion Flanges as per ANSI B 16.5 and face to face dimensions as per ASNI B 16.10 std. Materials conforming to ASTM A 105 with suitable High Tensile studs and nuts as per ASTM A 193 Gr. B-7 and ASTM A 194 Gr. 2H respectively. Size : 2" (50 mm) NB X 150 Class

Item No. 20: (Quantity: 12 nos.)

Ball valves for Natural Gas (Sweet) Service, Full Bore, Through Conduit condfiguration, Cast Carbon Steel Flanged, valve design Manufacturing and testing as per API 6D standard (Latest Edition), With Companion Flanges as per ANSI B 16.5 and face to face dimensions as per ASNI B 16.10 std. Materials conforming to ASTM A 105 with suitable High Tensile studs and nuts as per ASTM A 193 Gr. B-7 and ASTM A 194 Gr. 2H respectively. Size : 4" (100 mm) NB X 150 Class

Item No. 30: (Quantity: 12 nos.)

Ball valves for Natural Gas (Sweet) Service, Full Bore, Through Conduit condfiguration, Cast Carbon Steel Flanged, valve design Manufacturing and testing as per API 6D standard (Latest Edition), With Companion Flanges as per ANSI B 16.5 and face to face dimensions as per ASNI B 16.10 std. Materials conforming to ASTM A 105 with suitable High Tensile studs and nuts as per ASTM A 193 Gr. B-7 and ASTM A 194 Gr. 2H respectively. Size : 6" (150 mm) NB X 150 Class

Item No. 40: (Quantity: 18 nos.)

Ball valves for Natural Gas (Sweet) Service, Full Bore, Through Conduit condfiguration, Cast Carbon Steel Flanged, valve design Manufacturing and testing as per API 6D standard (Latest Edition), With Companion Flanges as per ANSI B 16.5 and face to face dimensions as per ASNI B 16.10 std. Materials conforming to ASTM A 105 with suitable High Tensile studs and nuts as per ASTM A 193 Gr. B-7 and ASTM A 194 Gr. 2H respectively. size: 6" (150 mm) NB X 300 Class

Item No. 50: (Quantity: 12 nos.)

Ball valves for Natural Gas (Sweet) Service, Full Bore, Through Conduit condfiguration, Cast Carbon Steel Flanged, valve design Manufacturing and testing as per API 6D standard (Latest Edition), With Companion Flanges as per ANSI B 16.5 and face to face dimensions as per ASNI B 16.10 std. Materials conforming to ASTM A 105 with suitable High Tensile studs and nuts as per ASTM A 193 Gr. B-7 and ASTM A 194 Gr. 2H respectively. size: 4" (100 mm) NB X 300 Class

Item No. 60: (Quantity: 06 nos.)

Ball valves for Natural Gas (Sweet) Service, Full Bore, Through Conduit condfiguration, Cast Carbon Steel Flanged, valve design Manufacturing and testing as per API 6D standard (Latest Edition), With Companion Flanges as per ANSI B 16.5 and face to face dimensions as per ASNI B 16.10 std. Materials conforming to ASTM A 105 with suitable High Tensile studs and nuts as per ASTM A 193 Gr. B-7 and ASTM A 194 Gr. 2H respectively. size: 8" (200 mm) NB X 300 Class

Item No. 70: (Quantity: 10 nos.)

Ball valves for Natural Gas (Sweet) Service, Full Bore, Through Conduit condfiguration, Cast Carbon Steel Flanged, valve design Manufacturing and testing as per API 6D standard (Latest Edition), With Companion Flanges as per ANSI B 16.5 and face to face dimensions as per ASNI B 16.10 std. Materials conforming to ASTM A 105 with suitable High Tensile studs and nuts as per ASTM A 193 Gr. B-7 and ASTM A 194 Gr. 2H respectively. Size : 10" (250 mm) NB X 150 Class

Item No. 80: (Quantity: 18 nos.)

Ball valves for Natural Gas (Sweet) Service, Full Bore, Through Conduit condfiguration, Cast Carbon Steel Flanged, valve design Manufacturing and testing as per API 6D standard (Latest Edition), With Companion Flanges as per ANSI B 16.5 and face to face dimensions as per ASNI B 16.10 std. Materials conforming to ASTM A 105 with suitable High Tensile studs and nuts as per ASTM A 193 Gr. B-7 and ASTM A 194 Gr. 2H respectively. size: 10" (250 mm) NB X 300 Class

Item No. 90: (Quantity: 20 nos.)

Ball valves for Natural Gas (Sweet) Service, Full Bore, Through Conduit condfiguration, Cast Carbon Steel Flanged, valve design Manufacturing and testing as per API 6D standard (Latest Edition), With Companion Flanges as per ANSI B 16.5 and face to face dimensions as per ASNI B 16.10 std. Materials conforming to ASTM A 105 with suitable High Tensile studs and nuts as per ASTM A 193 Gr. B-7 and ASTM A 194 Gr. 2H respectively. size: 12" (300 mm) NB X 300 Class

Special Notes:

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 >= 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 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 ASTMA388

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 commissioning 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.

12.0 **The Lowest acceptable bidder whose product has not been field proven in OIL, will be considered for trial/development order for smaller quantity.**

13.0 The bidders to confirm and submit the signed and sealed **Annexure-D:** Scope of supply of Ball Valves along with the Technical bid.

14.0 Bidders Quality Assurance Plan as per **Annexure –E** to be submitted along with the technical bid.

Data Sheet

1. Design Standard: API 6D 24th Edition January 2014, Fire Safe design and Fire Tests as per API6FA
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.

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ANNEXURE- B

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

(I) BID REJECTION CRITERIA (BRC)

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 :

1.0 Bidder's Qualification

1.1 The bidder shall be an Original Equipment Manufacturer (OEM) having experience in manufacturing of API 6D Ball Valves similar to Tender Valve Data Sheet of pressure rating indicated in the tender or more.

OR

1.2 The bidder shall be an authorized dealer of OEM.

2.0 Bidder's Experience

In case, the bidder is an Original Equipment Manufacturer (OEM):

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 for the last 5 (five) years as on Bid Closing Date of this tender. Documentary evidence in the form of a valid API 6D certificate for the last 5 years as on Bid Closing Date of this tender shall be submitted along with the bid without which offer will be rejected.

2.1.2 The bidder shall have the credential of successful execution of at least 2 (two) orders not less than 25% of the tender quantity of API 6D Ball Valves in quantum of pressure rating indicated in the tender or more against each order during the currency of last 5 (five) years preceding from the bid closing date of this tender to any Oil and Gas Industry.

The bidder shall submit details of the previous supply of such valves in a tabular format as shown below in absence of which the bid will be summarily rejected.

SL NO	Client / Customer Name and Address	Order No / Contract No.	Date of order	Technical specifications & quantity supplied	Completion date	Supporting document (to be enclosed)

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 an authorized dealer of OEM:**

The following criteria shall be met by the Bidder:

2.2.1 The Bidder shall confirm supply of API 6D Ball Valves from API 6D Ball Valves Manufacturer (OEM) who meets the qualification requirements stipulated under clauses 2.1.1, 2.1.2 & 2.1.3 above.

2.2.2 The bidder shall have the credential of successful execution of at least 1 (one) order not less than 25% of the tender quantity of API 6D Ball Valves in quantum of pressure rating indicated in the tender or more during the currency of last 5 (five) years preceding from the bid closing date of this tender to any Oil and Gas Industry.

The bidder shall submit details of the previous supply of such valves in a tabular format as shown below in absence of which the bid will be summarily rejected.

SL NO	Client / Customer Name and Address	Order No / Contract No.	Date of order	Technical specifications & quantity supplied	Completion date	Supporting document (to be enclosed).

2.2.3 Bidder shall enclose an Authorization Certificate with back up Warranty & Guarantee from the OEM to quote against this tender.

2.2.4 The bid shall be rejected in case of any change of the proposed OEM after submission of the bid.

2.4 <u>Supporting Documents</u>

a) In support of the experience as noted in para 2.1.1, 2.1.2, 2.2.1 and 2.2.2 above, the bidder shall submit the following documents:

(i) Copy of the Purchase Orders for supplying Valves similar to Tender Valve Data sheet along with relevant documents that confirm the satisfactory execution of each order(s), viz., satisfactory supply completion certificate/ bill of laden/ consignee received delivery challan / invoice/ Third Party Inspection Release Note (IRN).

(ii) Copy of valid API 6D certificate.

b) In support of clause 2.1.3 & 2.2.3, supporting documents shall be enclosed as mentioned.

3.0 **GENERAL:**

3.1 The Bidder shall confirm in their bid meeting all the points noted under technical qualification criteria as stated in the enquiry and shall also submit all necessary supporting documents, technical details, literature etc. as indicated in the enquiry along with the bid failing which the offer shall be rejected.

3.2 Bidder's response to all NIT stipulations shall clearly be defined. Bidder shall furnish specific details/specifications of all major components, systems with Make & Model, etc.
Generalized response like - *'As per NIT Specifications/Technical Leaflet', 'Noted', 'Accepted'* or in any similar fashion is not acceptable

(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 US $ 8,065.00 or Rs. 3,62, 925.00**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 **21.04.2016**

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 twelve (12) months from the date of receipt and acceptance of materials at site or eighteen(18) months from the date of dispatch ,whichever is earlier ,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 twelve (12) months from the date of receipt and acceptance of the materials at site or eighteen (18) months from the date of dispatch. 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) <u>Price Bid Format (SUMMARY) for Foreign Bidders</u> :

(A) Total Material Value :
(B) Packing & FOB Charges :
(C) Total FOB Port of Shipment value, (A + B) above :
(D) Overseas Freight Charges upto Kolkata, India :
(E) Insurance Charges :
(F) Total CIF Kolkata value, (C + D + E) :
(G) TPI Charges (if any) :
(H) Grand Total Value,(F + G)
(I) Grand Total Value in words :
(J) Gross Weight :
(K) Gross Volume :

ii) <u>Price Bid Format (SUMMARY) for Indigenous Bidders:</u>

(A) Total Material Value :
(B) Packing and Forwarding Charges:
(C) Total Ex-works value, (A + B) above :
(D) Sales Tax, (Please indicate applicable rate of Tax)
(E) Total FOR Despatching station price, (C + D) above
(F) Road Transportation charges to Duliajan
(G) Insurance Charges
(H) Assam Entry Tax
(I) Total FOR Duliajan value, (E + F + G + H) above
(J) TPI Charges (if any) :
(K) Total value, (I+J) above :
(L) Total Value in words :
(M) Gross Weight :
(N) Gross Volume :

<u>NOTE:</u>

1. 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.
2. Banking charges in the country of the foreign bidder shall be borne by the bidder

7) Offers received without Integrity Pact duly signed by the authorized signatory of the bidder will be rejected.

8) 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.

9) 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.

10) Bids containing incorrect statement will be rejected.

11) A bid shall be rejected straightway if it does not conform to any one of the following clauses:

(a) Validity of bid shorter than the validity indicated in the Tender.

(b) Original Bid Security not received within the stipulated date & time mentioned in the Tender.

(c) Bid Security with (i) validity shorter than the validity indicated in Tender and/or (ii) Bid Security amount lesser than the amount indicated in the Tender.

(d) In case the Party refuses to sign Integrity Pact.

(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 given below:

1) The evaluation of bids will be done as per the Priced Schedule (summary) detailed vide para (6) of BRC (Commercial).

2) If there is any discrepancy between the unit price and total price, the unit price will prevail and the total price shall be corrected. Similarly, if there is any discrepancy between words and figure, the amounts in words shall prevail and will be adopted for evaluation.

3) For conversion of foreign currency into Indian currency, B.C. selling (Market) rate declared by State Bank of India, one day prior to the date of price bid opening shall be considered. However, if the time lag between the opening of the bids and final decision exceed 3(three) months, then B.C. Selling(Market) rate of exchange declared by SBI on the date prior to the date of final decision shall be adopted for conversion and evaluation.

4) To ascertain the inter-se-ranking, the comparison of the responsive bids will be made as under, subject to corrections / adjustments given herein.

4.1) When only foreign bidders are involved:

Comparison of bids will be done on the basis of "Grand Total Value" which is estimated as under:

(A) Total Material Value :

(B) Packing & FOB Charges :

(C) Total FOB Port of Shipment value, (A + B) above :

(D) Overseas Freight Charges upto Kolkata, India :

(E) Insurance Charges @1% of Total FOB Port of Shipment value vide (C) above

(F) Banking Charges @ 0.5% of Total FOB Value (C) above in case of payment through Letter of Credit (If confirmed L/C at buyer's account is required, 1.5% of Total FOB Value will be loaded)

(G) Total CIF Kolkata value, (C + D + E + F) :

(H) TPI Charges, if any :

(I) Grand Total Value including above (G+H) :

4.2) When only domestic bidders are involved or when more than one domestic bidders are in contention in case of mixed response : Comparison of bids will be done on the basis of "Grand Total Value" which is estimate as under :

(A) Total Material Value :
(B) Packing and Forwarding Charges:
(C) Total Ex-works value, (A + B) above :
(D) Sales Tax, (Please indicate applicable rate of Tax)
(E) Total FOR Despatching station price, (C + D) above
(F) Road Transportation charges to Duliajan
(G) Insurance Charges
(H) Assam Entry Tax
(I) Total FOR Duliajan value, (E + F + G + H) above
(J) TPI Charges, if any
(K) Grand Total value, (I+J) above :

NOTE: Excise Duty in case of the indigenous bidder is EXEMPTED

4.3) When both foreign and domestic bidders are involved:
The Grand Total Value of domestic bidder (inclusive of customs duty on imported raw material and components etc, and applicable terminal excise duty on the finished products and Sales Tax) excluding inland transportation to destination and Insurance charges worked out as per Para 4.2 above and Grand Total Value of the foreign bidder worked out as per Para 4.1 above (with customs duty as applicable on the bid closing date) excluding inland transportation to destination will be compared. No price preference will be allowed to indigenous bidders except that for capital goods, the domestic manufacturers would be accorded a price preference to offset CST to the extent of 4 % or actuals, whichever is less subject to 30 % local content norms as stipulated for World Bank Funded project to the satisfaction of OIL. When more than one domestic bidders fall within price preference range, inter-se-ranking will be done on Grand Total Value basis.
Note: If the Government of India revises these evaluation criteria the same as applicable on the bid closing date will be adopted for evaluation of the offers.

5) Other terms and conditions of the enquiry shall be as per General Terms and Conditions for Global Tender. However, if any of the Clauses of the Bid Rejection Criteria/Bid Evaluation Criteria (BEC/BRC) mentioned here contradict the clauses in the General Terms & Conditions of Global Tender of the tender and/or elsewhere, those mentioned in this BEC/BRC shall prevail.

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ANNEXURE-C

(A) TECHNICAL CHECKLIST

Sl. No.	NIT Requirement	Compliance		Vendors' Deviation/ Remarks
		Yes	No	
1.0	The bidder's quote should indicate each and every item serially as given in the technical specification of the enquiry.			
2.0	Scope of supply under this tender shall be as per **Annexure-D.** Confirmation to the same is submitted.			
3.0	Bidders Quality Assurance Procedure (QAP) (as **Annexure-E)** is submitted along with the bid.			
4.0	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.			
5.0	Vendor to provide valid API 6 D authorization certificate.			
6.0	Vendor to confirm that all valves shall meet the fire safe design requirement as per API-6FA.			
7.0	Vendor to confirm that delivery of materials will be done within 4 (four) months after PO placement.			
8.0	Vendor to confirm that all the Inspection and Test will be carried out as per the NIT and QAP.			
9.0	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.			
10.0	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.			
11.0	Vendor to confirm to provide API monogram on the valve body as per NIT.			
12.0	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.			
13.0	Vendor to confirm that all the material will be thoroughly cleaned & painted with anti-corrosive paint or varnish to avoid corrosion as per NIT.			
14.0	Vendor to confirm that materials will be guaranteed for workmanship & performance for a period of 18 months from the date of despatch/shipment or 12 months from the date of receipt and acceptance at site whichever is earlier and relevant guarantee certificate in duplicate must be provided along with the supply.			
15.0	Vendor to confirm that packing and tagging of finished product for dispatch will be done as per NIT.			
16.0	Vendor to Confirm that bid is submitted along with Bid Enclosures as mentioned in the BRC Clause No 3.0			

(B) 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	

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ANNEXURE-D

SCOPE OF SUPPLY FOR BALL VALVES

Sl No	Valve Description	Total no. of valves reqd. in Nos.	No. of flanges reqd. per valve	No. of Gasket required per valve	No. of stud /bolt required per valve	Wrench / Hand wheel rqd. per valve	Total nos of Flanges required against the Tender	Total no. of Gasket required against the Tender	Total no. of stud/bolt required against the Tender	Total nos of Wrench / Hand wheel required against the Tender
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)=(c)x(d)	(i)=(c)x(e)	(j)=(c)x(f)	(k)=(c)x(g)
1	2" X 150 Class API 6D Ball Valve	12	2	2	8	1	**24**	**24**	**96**	**12**
2	4" X 150 Class API 6D Ball Valve	12	2	2	16	1	**24**	**24**	**192**	**12**
3	6" X 150 Class API 6D Ball Valve	12	2	2	16	1	**24**	**24**	**192**	**12**
4	6" X 300 Class API 6D Ball Valve	18	2	2	24	1	**36**	**36**	**432**	**18**
5	4" X 300 Class API 6D Ball Valve	12	2	2	16	1	**24**	**24**	**192**	**12**
6	8" X 300 Class API 6D Ball Valve	6	2	2	24	1	**12**	**12**	**144**	**6**
7	10" X 150 Class API 6D Ball Valve	10	2	2	32	1	**20**	**20**	**320**	**10**
8	10" X 300 Class API 6D Ball Valve	18	2	2	32	1	**36**	**36**	**576**	**18**
9	12" X 300 Class API 6D Ball Valve	20	2	2	32	1	**40**	**40**	**640**	**20**

In the event of placement of Purchase Order against our firm, we hereby confirm to supply the required numbers of flanges, gaskets, Stud/Bolts and wrench/hand wheel under column (h), (i), (j) and (k) respectively as per tender specification.

Signature _____

Name _____

Bidders' Seal

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.