OIL INDIA LIMITED
(A Govt. of India Enterprise)
P.O. Udayanvihar ,Narangi ,Guwahati ,Assam

Telephone No. (91-361) 2594122 Fax No: (91-361) 2643686 Email: oilmatpl@oilindia.in ; erp_mm@oilindia.in;bimal_bora@oilindia.in

Tender No. & Date	**: SGG8580P16 15.9.2015**
Tender Fee	INR 6000.00 OR USD 100.00
Bid Security Amount	INR 45000.00 USD 750.00
Bidding Type	**: SINGLE STAGE COMPOSITE SYSTEM**
Bid Closing on	9.12.2015 (at 11.00 Hrs. IST)
Bid Opening on	9.12.2015 (at 14.00 Hrs. IST)
Performance Guarantee	Applicable

OIL INDIA LIMITED invites Global Tenders for items detailed below:

Item No./Mat. Code	Material Description	QTY.	UOM
10	SUPPLY OF API 6D PLUG VALVE 200 MM (8")DIAMETER 600 CLASS RTJ FLANGE (BOTH ENDS) HAND OPERATION FOR CRUDE OIL PIPELINE.	2	No.
20	API 6D PLUG VALVE 150 MM (6")DIAMETER 600 CLASS RAISED FACE FLANGE (BOTH ENDS) HAND OPERATION FOR PRODUCT PIPELINE.	4	No.
30	API 6D PLUG VALVE 100 MM (4")DIAMETER 600 CLASS RTJ FLANGE (BOTH ENDS) HAND OPERATION FOR CRUDE OIL PIPELINE.	2	No

	AS PER THE FOLLOWING ANNEXURE: a) Detailed specification – Annexure - I. b) Bid Rejection Criteria (BRC) and Bid Evaluation Criteria – Annexure - II. c) Technical & Commercial Check list vide III		

(A)General Notes for e-tender :

1.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 Amendment and Addendum.

2.The general details of tender can be viewed by opening the RFx [Tender] under RFx and Auctions. The details of items tendered can be found in the Item Data and details uploaded under Technical RFX.

3.Bid must be submitted electronically only through OIL's e-procurement portal. Bid submitted in any other form will be rejected.

4.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 Chief Materials Manager, Oil India Limited, P.O.-Udayan Vihar ,Narangi,Guwahati -781171 ,Assam**, on or before 13:00 hrs (IST) on the Bid Closing Date mentioned in the Tender.

a)Original Bid Security.

b)Details Catalogue and any other document which have been specified to be submitted in original All documents submitted in physical form should be signed on all pages by the authorized signatory of the bidder and to be submitted in triplicate.

5.Bidders must ensure that their bid is uploaded in the system before the tender closing date and time. Also, they must ensure that above documents which are to be submitted in a sealed envelope are also submitted at the above mentioned address before the bid closing date and time failing which the offer shall be rejected.

6.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.

7.All the Bids must be Digitally Signed using “Class 3” digital certificate (e-commerce application) with organisation nameas 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.

8.Please do refer the User Manual provided on the portal on the procedure How to create Response for submitting offer.

(B)General Notes for Bidders :

1.The Make and Model of the offered valve should be clearly mentioned in the offer document. The original product catalogue (from the OEM) of the offered model must accompany the quotation submitted against this enquiry.

(C)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 18 months from date of despatch/shipment or 12 months from date of receipt, which ever is earlier. In case of breakdown during the warranty period, a competent service engineer of the supplier shall make as many visits as shall be necessary to rectify the system. The supplier shall provide all spares required for making the system operational. Bidders must confirm the same while quoting.

2. The minimum FOB/FCA charges in case of partial order for reduced quantity/ items shall have to be indicated by the bidder. In case this is not indicated specifically, the charges quoted would be prorata calculated and the same will be binding on the bidder.

3.Validity of the offers should be 120 days from the date of bid opening. Bids with lesser validity shall be summarily rejected.

4.Commercial Check-List vide Annexure- III 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 to must be received on or before the deadline given by the company, failing which the offer will be summarily rejected.

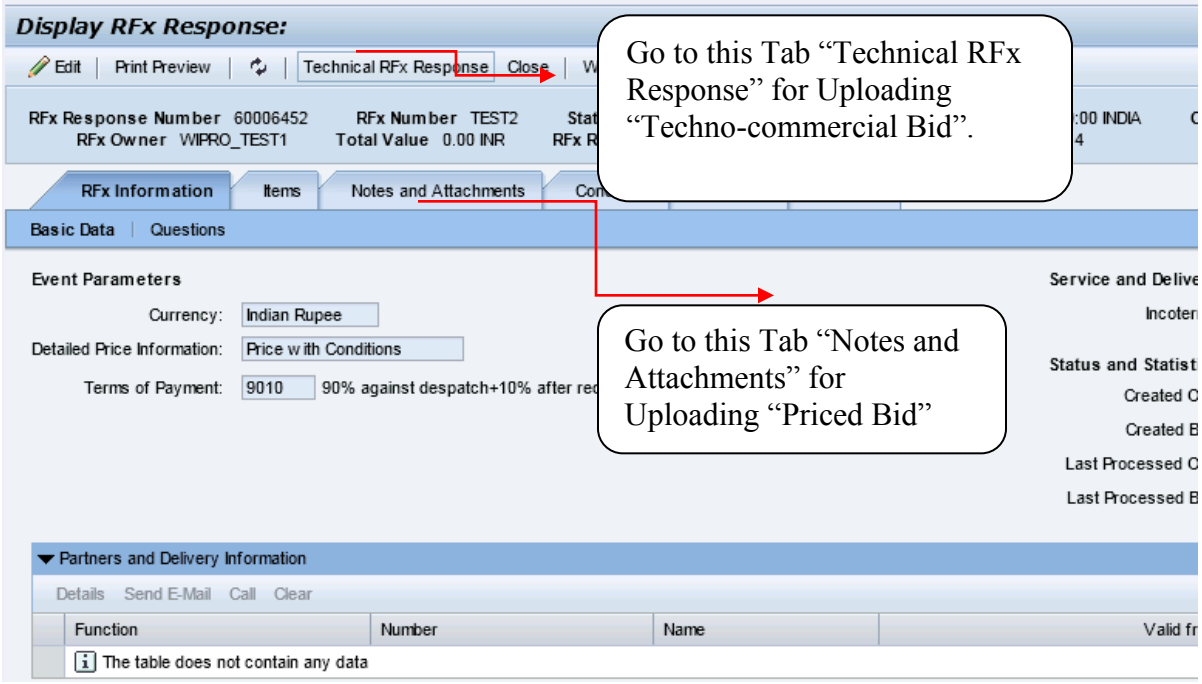
6.Other terms and conditions of the tender shall be as per “General Terms & Conditions” for e- Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders). However, if any of the Clauses of the Bid Rejection Criteria (BRC) / Bid Evaluation Criteria (BEC) mentioned here contradict 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.

7.0 **Nil custom duty shall not be applicable against this tender. Indigenous bidder are requested to quote non Deemed Export prices.**

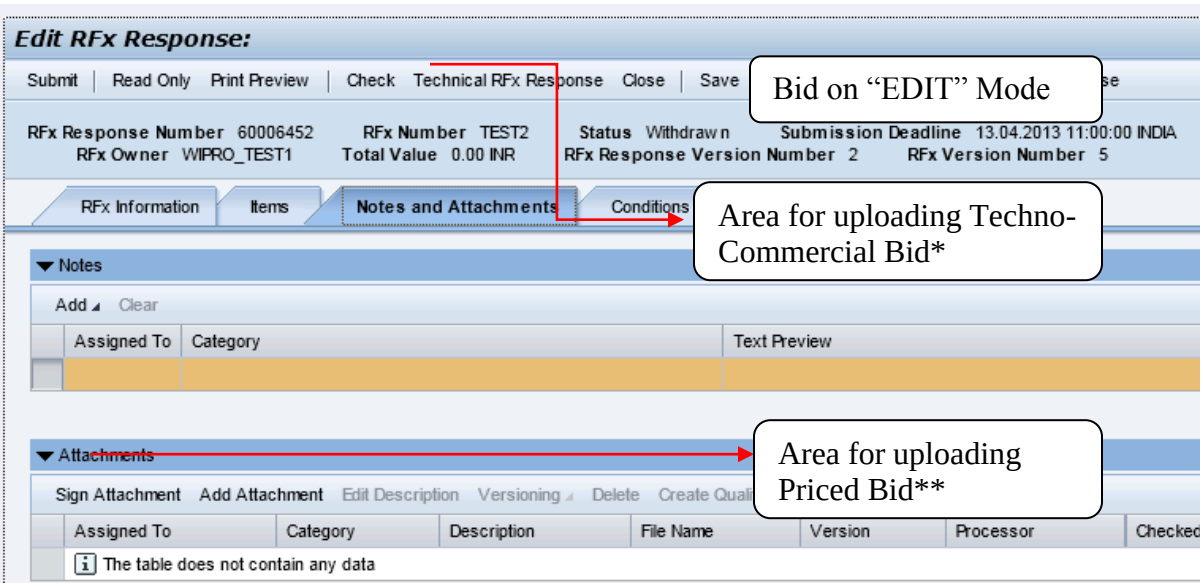
8.0 **Tender Fee and Bid Security can also be paid through payment gateway in the e-tender portal.** Please refer to Vendor User Manual updated in the e-tender portal as well for further details.

9.1 Bidders shall prepare and shall upload 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 Bid" shall contain all technical and commercial details. **Details of prices as per price format in Appendix-I to be uploaded as attachment in the Attachment Tab "Notes and Attachments".**

9.2 A screen shot in this regard is given below.



On "EDIT" Mode- The following screen will appear. Bidders are advised to Upload "Techno-Commercial Unpriced Bid" and "Priced Bid" in the places as indicated above:



10.0 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.

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

12.Any sum of money due and payable to the contractor (including Security Deposit refundable to them) under this or any other contract may be appropriated by Oil India Limited and set-off against any claim of Oil India Limited (or such other person or persons contracting through Oil India Limited) for payment of sum of money arising out of this contract or under any other contract made by the contractor with Oil India Limited (or such other person or persons contracting through Oil India Limited).

13.In the event of receipt of only a single offer against the tender within B.C. date, OIL reserves the right to extend the B.C. date as deemed fit by the Company. During the extended period, the bidders who have already submitted the bids on or before the original B.C. date, shall not be permitted to revise their quotation

14.0 No press advt. will be published regarding amendment to Bidding Document or extension of BC Date. The same will be uploaded in OIL

website and informed to all prospective bidders who have received the bidding documents. Bidders to keep themselves updated.

Yours Faithfully

Sd-
(BIMAL. BORA)
DEPUTY MANAGER MATERIALS (PL)
FOR CHIEF MANAGER MATERIALS (PL)
FOR : GROUP GENERAL MANAGER (PLS)

Annexure - I.

SCOPE OF SUPPLY

TECHNICAL SPECIFICATIONS FOR VALVES.

Sl no.	Material Description	Quantity	Unit
10	SCOPE This specification covers the minimum requirements for design, manufacture, testing and supply of carbon steel lubricated plug valves of size 4", 6" & 8" and ANSI pressure rating Class 600# for use in onshore pipeline systems handling hydrocarbons in liquid phase. 2.0 REFERENCE DOCUMENTS 2.1 All valves shall be manufactured and supplied in accordance with the American Petroleum Institute (API) Specification 6D, Twenty Third edition, April 2008 / ISO 14313:2007, Petroleum and Natural Gas Industries — Pipeline Transportation Systems — Pipeline valves, with additions and modifications as indicated in the following sections of this specification. 2.2 Reference has also been made in this specification to the latest edition (edition enforce at the time of issue of enquiry) of the following Codes, Standards and Specifications. ASME B31.3 Process Piping. ASME B31.4 Pipeline Transportation Systems for Liquid Hydrocarbonsand Other Liquids. ASME B31.8 Gas Transmission and Distribution Piping Systems. ASME B16.5 Steel Pipe Flanges and Flanged Fittings. ASME B 16.10 Face-To-Face and End-To-End Dimensions of Valves. ASME B16.25 Butt-welding Ends ASME B16.34 Valves - Flanged, Threaded and Welding Ends.	2	No

	ASME B16.47 Large Diameter Steel Flanges. API 1104 Welding Pipelines and Related Facilities. ASME Sec VIII Boiler and Pressure Vessel Code - Rules for Construction of Pressure Vessels ASME Sec IX Boiler and Pressure Vessel Code - Welding and Brazing Qualifications ASTM A 370 Standard Test Methods and Definitions for Mechanical Testing of Steel Products. ASTM B733 Auto catalytic Nickel Phosphorous Coating on Metals. MSS-SP-6 Standard Finishes for Contact Faces of Pipe Flanges and Connecting-end Flanges of Valves and Fittings. MSS-SP-44 Steel Pipe Line Flanges. SSPC-VIS-1 Steel Structures Painting Council Visual Standard. 2.3 In case of conflict between the requirements of this specification, API 6D and the Codes, Standards and Specifications referred in clause 2.2 above, the requirements of this specification shall govern. 3.0 MATERIALS 3.1 Material for major components of the valves shall be as indicated in Valve Data Sheet. Other components shall be as per Manufacturer's standard (suitable for the service conditions indicated in Data Sheet) and shall be subject to approval by Company. In addition, the material shall also meet the requirements specified hereinafter. All process-wetted parts, metallic and non-metallic, and lubricants shall be suitable for the service specified by the Company. Manufacturer shall confirm that all wetted parts are suitable for treated water/seawater environment, which may be used during field testing. 3.2 Carbon steel used for the manufacture of valves shall be fully killed. 3.3 The Carbon Equivalent (CE) of valve end connections which are subject to further field welding by Company shall not exceed 0.43 in		

	check analysis for each heat of steel used, as calculated by the following formula: 3.4 For all such valves where Carbon Steel / S.G. Iron is used as plug material, the plug shall have 75 microns (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 REQUIREMENTS 4.1 Valve design shall meet the requirements of API Specification 6D and shall be suitable for the service conditions indicated in the Valve Data Sheet. The ASME Boiler & Pressure vessel code, Section VIII, Division I shall be used to design the valve body. Allowable stress requirements shall comply the provisions of above code. In addition, corrosion allowance indicated in valve Data Sheet shall be considered in valve design. The manufacturer shall have valid license to use API monogram on valves manufactured as per API 6D. 4.2 The valves shall have an inherent feature to ensure that under any pressure, the line pressure cannot cause taper locking of the plug / plug movement into the taper, i.e. valves shall be of "pressure - balanced" design type. 4.3 Cover shall be bolted to the valve body and screwed connections are not acceptable. 4.4 Soft seats to achieve a seal between plug and body are not permitted. 4.5 All valves shall have the provision for sealant injection under full line pressure for seat and stem seals. All sealant injection connections shall be provided with a block valve and internal non-return valve. Valve design shall have a provision (e.g. Ball Type Check Valve/Needle Valve) to replace the sealant injector fitting under full line pressure. Location and arrangement of sealant injection points shall be as per Figure-4.6. 4.6 Valves shall be designed to withstand a sustained internal vacuum of at least 1 (one)		

	milli-bar in both open and closed position. 4.7 Valve design shall ensure repair of gland packing under full line pressure. 4.8 a) Valve ends shall be flanged end. 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. Face-to-face and end-to-end dimensions for valve sizes not specified in API 6D shall be in accordance with ASME B 16.10. Face-to-face and end-to-end dimensions not shown in API 6D or in ASME B 16.10 shall be as per Manufacturer Standard and shall be subject to approval by Company. b) Flanged ends, shall have flanges as per ASME B16.5. Flange face shall be ring joint type (RTJ) for 8" and 4" and Raised Face for 6" as indicated in Valve Data Sheet. Flange face finish shall be serrated or smooth as indicated in Valve Data Sheet. In case of RTJ flanges, the groove hardness shall be minimum 140 BHN. 4.9 Valves shall be provided with plug position indicator and stops of rugged construction at the fully open and fully closed positions. 4.10 When indicated in Material Requisition, valves shall have locking devices to lock the valve either in full open (LO) or full close (LC) position. Locking devices shall be permanently attached to the valve operator and shall not interfere with operation of the valve. 4.11 Valves shall be suitable for either buried or aboveground installation as indicated in Valve Data Sheet. 4.12 Operating Devices a. Valves shall have manual operated, valve sizes DN 100 mm (4") shall be wrench operated and valve sizes 8" and 6" shall be gear operated. Each wrench operated valve shall be supplied with wrench. Valve design shall be such that damage due to malfunctioning of the operator or its controls will only occur in the operator gear train or power cylinder and that damaged parts can be		

	replaced without the valve cover being removed. b. For the manual operator of all valves, the diameter of the hand wheel or the length of operating wrench shall be such that under the maximum differential pressure, the total force required to operate the valve does not exceed 350N. However failing to meet above requirement, vendor shall offer Gear operated valves. Manufacturer shall also indicate the number of turns of hand wheel in case of gear operators (along with their offer) required for operating the valve from MI open to full close position. The number of turns shall not exceed 200 c. Direction of operation of hand wheel or wrench shall be in clock-wise direction while closing the valve. Hand wheels shall not have protruding spokes. d. Gear operators, when provided, shall have a self-locking provision and shall be fully encased in water proof/splash proof enclosure and shall be filled with suitable grease. 4.13 All welds shall be made by welders and welding procedures qualified in accordance with the provisions of ASME Section IX. The procedure qualification shall also include impact test and hardness test when required as per Clause 3.4 and 3.5 of this specification and shall meet the requirements as specified therein. 4.14 Repair by welding is not permitted for fabricated and forged body valves. However repair by welding as per ASME B16.34 is permitted for cast body valves. Such repairs shall be carried out at casting supplier's care only. Repair shall be carried out before any heat treatment of casting is done. Repair welding procedure qualification shall also include impact test and hardness test when required as per Clause 3.4 and 3.5 of this specification and shall meet the requirements as specified therein. Heat treatment and radiography shall be repeated after the weld repair. 4.15 The tolerance on internal diameter and out of roundness at the ends for welded ends valves shall be as per connected pipe specification as indicated in the Valve Data Sheet. 4.16 No casting is permitted for stem and stem		

	extension material of all valves. Valve stem shall be capable of withstanding the maximum operating torque required to operate the valve against the maximum differential pressure corresponding to applicable class rating. The combined stress shall not exceed the maximum allowable stresses specified in ASME section VIII, Division 1. For Power Actuated Valves, the valve stem shall be designed for maximum output torque of the selected power actuator (including gear box, if any) at the valve stem. 5.0 INSPECTION AND TESTS 5.1 The Manufacturer shall perform all inspection and tests as per the requirements of this specification and the relevant codes, prior to shipment, at his Works. Such inspection and tests shall be, but not limited to, the following: 5.1.1 All valves shall be visually inspected. The internal and external surfaces of the valves shall be free from any strikes, gouges and other detrimental defects. The surfaces shall be thoroughly cleaned and free from dirt, rust and scales. 5.1.2 Dimensional check on all valves shall be carried out as per the Company approved drawings. 5.1.3 Chemical composition and mechanical properties shall be checked as per this specification and relevant material standards, for each heat of steel used. 5.1.4 Non destructive examination of individual valve material and components consisting of but not limited to castings, forgings, plates and assembly welds shall be carried out by the Manufacturer. a. Body castings of valves shall be radiographically examined as per ASME B16.34. Procedure and acceptance criteria shall be as per ASME 816.34. Radiography shall be performed after the final heat treatment also. All castings shall be wet magnetic particle inspected 100% of the internal surfaces. Method and acceptance shall comply with ASME B16.34. b. All valves made by forgings shall be		

	ultrasonically examined in accordance with the procedure and acceptance standard of Annexure E of ASME B16.34. 5.1.5 Areas, which in Company's opinion cannot be inspected by radiographic methods, shall be checked by ultrasonic or magnetic particle methods and acceptance criteria shall be as per ASME Sec. VIII, Division 1, Appendix 12 and Appendix 6 respectively. 5.1.6 a)Weld ends of all cast valves subject to welding in field shall be 100 % radiographically examined and acceptance criteria shall be as per ASME B16.34. b. After final machining, all bevel surfaces shall be inspected by dye penetrant or wet magnetic particle methods. All defects longer than 6.35 mm are rejected, as are the defects between 6.35 mm and 1.59 mm that are separated by a distance less than 50 times their greatest length. Rejectable defects must be removed. Weld repair of bevel surface is not permitted. c. All finished wrought weld ends subjects to welding in field shall be 100 percent ultrasonically tested for lamination type defects for a distance of 50 mm from the end. Laminations shall not be acceptable. 5.1.7 All valves shall be tested in compliance with the requirements of API 6D. The sealant lines shall be either included in the hydrostatic shell test or tested independently. Test pressure shall be held for at least 30 minutes for both Shell & Seat test. No leakage is permissible during hydrostatic testing. 5.1.8 A supplementary air seat test as per API 6D (Appendix C, Para C.3.3 Type II) shall be carried out for all valves. No leakage is allowed. Test pressure shall be held for at least 15 minutes. 5.2 Company reserves the right to perform stage wise inspection and witness tests at Manufacturer's works prior to shipment. Manufacturer shall give reasonable access and facilities required for inspection to the Company's		

	inspector. Company reserves the right to require additional testing at any time to confirm or further investigate a suspected fault. The cost incurred shall be to Manufacturer's account. In no case shall any action of Company or his inspector shall relieve the Manufacturer of his responsibility for material, design, quality or operation of valves. Inspection and tests performed/witnessed by the Company's inspector shall in no way relieve the Manufacturer's obligation to perform the required inspection and tests. 6.0 TEST CERTIFICATES Manufacturer shall submit the following certificates: a. Mill test certificates relevant to the chemical analysis and mechanical properties of the materials used for the valve construction as per the relevant standards. b. Test certificates of hydrostatic and pneumatic tests complete with records of timing and pressure of each test. c. Test reports of radiography and ultrasonic inspection. d. Test report on operation of valves conforming to clause 5.1.8 and 5.1.9 of this specification. e. All other test reports and certificates as required by API 6D and this specification. The certificates shall be considered valid only when signed by Company's Inspector. Only those valves which have been certified by Company's Inspector shall be dispatched from Manufacturer's works. 7.0 PAINTING, MARKING AND SHIPMENT 7.1 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". For the valves to be installed underground, when indicated in Valve Data Sheet, the external surfaces of buried portion of the valve shall be painted with three coats of		

	suitable coal tar epoxy resin with a minimum dry film thickness of 300 microns. For coastal area, painting shall be suitable for highly corrosive environment. 7.2 All valves shall be marked as per API 6D. The units of marking shall be metric except nominal diameter, which shall be in inches. 7.3 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. Bevel ends shall be protected with metallic or high impact plastic bevel protectors. 7.4 All sealant lines and other cavities of the valve shall be filled with sealant before shipment. 7.5 Packaging and shipping instructions shall be as per API 6D. 7.6 On packages, the following shall be marked legibly with suitable marking ink: a. Order Number b. Manufacturer's Name c. Valve size and rating d. Tag Number. e). Serial Number 8.0 SPARES AND ACCESSORIES 8.1 Manufacturer shall furnish list of recommended spares and accessories for valves required during start-up and commissioning 9.0 DOCUMENTATION Documentation to be submitted by Manufacturer to Company is summarized below. 9.1 At the time of bidding, Manufacturer shall submit the following documents: a) General arrangement/ Sectional drawing. Number of turns for Gear Operated valves shall be indicated in the GA or shall be furnished separately. b. Reference list of similar plug valves manufactured and supplied in last five years indicating all relevant details including project, year, client, location, size, rating, service etc.		

	c. Torque curves for the power actuated valves along with the break torque and maximum allowable stem torque. d. Copy of valid API 6D Certificate. e. Copy of Fire Safe test certificate of qualifying valve as per API 6FA carried out in last 10 years shall be furnished. f. List of recommended spares required during start-up and commissioning & 2 years of normal operation and maintenance. 9.2 After placement of order, the Manufacturer shall submit the following drawings, documents and specifications for Company's approval: a. Detailed sectional drawings showing all parts with reference numbers and materials specification. b. Assembly drawings with overall dimensions and features. 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. Manufacture of valves shall commence only after approval of the above documents. Once, the approval has been given by Company, any changes in design, material and method of manufacture shall be notified to Company whose approval in writing of all changes shall be obtained before the valve is manufactured. 9.3 Within 30 days from the approval date, Manufacturer shall submit to Company the approved drawings, documents and specifications as listed in clause 9.2 above. 9.4 Prior to shipment, Manufacturer shall submit to Company, the following: a. Test certificates as listed in clause 6.0 of this specification. b. Manual for installation, erection, maintenance and operation instructions including a list of recommended spares for the valves. 9.5 All documents shall be in English language only. 10.0 THIRD PARTY INSPECTION: Valve shall be		

	inspected by OIL enlisted Third Party Inspection Agency only.OIL may witness the Test/Inspection. Scope for Third Party Inspection shall be as under. 10.1 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. 10.2 To ensure that valve body castings are procured from foundries as approved by M/s EIL or M/s Lloyds only. 10.3 To ensure that proper technique and procedure as per relevant API standard and Purchase Order are followed by the manufacturer. 10.4 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. 10.5 To ensure and check that valves are tested as per API 6D specifications 10.6 To documents and issue all inspection certificates. 10.7 To ensure that the valves inspected are fully embossed with API monogram and other markings as per API 6D specifications. 10.8 To witness hydraulic, pneumatic test for the body and seat on each specified valve as per API 6D standards. 10.9 To review and check the radiograph films of body and bonnet of all the valves. Certified radiography film shall be submitted along with the supplied valves. PLUG VALVE DATA SHEET ATTACHED		
20	TECHNICAL SPECIFICATIONS FOR PLUG VALVES SCOPE This specification covers the minimum requirements for design, manufacture, testing and supply of carbon steel lubricated plug valves of	4	No

	size 4", 6" & 8" and ANSI pressure rating Class 600# for use in onshore pipeline systems handling hydrocarbons in liquid phase. 2.0 REFERENCE DOCUMENTS 2.1 All valves shall be manufactured and supplied in accordance with the American Petroleum Institute (API) Specification 6D, Twenty Third edition, April 2008 / ISO 14313:2007, Petroleum and Natural Gas Industries — Pipeline Transportation Systems — Pipeline valves, with additions and modifications as indicated in the following sections of this specification. 2.2 Reference has also been made in this specification to the latest edition (edition enforce at the time of issue of enquiry) of the following Codes, Standards and Specifications. ASME B31.3 Process Piping. ASME B31.4 Pipeline Transportation Systems for Liquid Hydrocarbonsand Other Liquids. ASME B31.8 Gas Transmission and Distribution Piping Systems. ASME B16.5 Steel Pipe Flanges and Flanged Fittings. ASME B 16.10 Face-To-Face and End-To-End Dimensions of Valves. ASME B16.25 Butt-welding Ends ASME B16.34 Valves - Flanged, Threaded and Welding Ends. ASME B16.47 Large Diameter Steel Flanges. API 1104 Welding Pipelines and Related Facilities. ASME Sec VIII Boiler and Pressure Vessel Code - Rules for Construction of Pressure Vessels ASME Sec IX Boiler and Pressure Vessel Code - Welding and Brazing Qualifications ASTM A 370 Standard Test Methods and Definitions for Mechanical Testing of Steel Products. ASTM B733 Auto catalytic Nickel Phosphorous Coating on Metals. MSS-SP-6 Standard Finishes for Contact Faces of Pipe Flanges and Connecting-end Flanges of Valves and Fittings. MSS-SP-44 Steel Pipe Line Flanges. SSPC-VIS-1 Steel Structures Painting Council		

	Visual Standard. 2.3 In case of conflict between the requirements of this specification, API 6D and the Codes, Standards and Specifications referred in clause 2.2 above, the requirements of this specification shall govern. 3.0 MATERIALS 3.1 Material for major components of the valves shall be as indicated in Valve Data Sheet. Other components shall be as per Manufacturer's standard (suitable for the service conditions indicated in Data Sheet) and shall be subject to approval by Company. In addition, the material shall also meet the requirements specified hereinafter. All process-wetted parts, metallic and non-metallic, and lubricants shall be suitable for the service specified by the Company. Manufacturer shall confirm that all wetted parts are suitable for treated water/seawater environment, which may be used during field testing. 3.2 Carbon steel used for the manufacture of valves shall be fully killed. 3.3 The Carbon Equivalent (CE) of valve end connections which are subject to further field welding by Company shall not exceed 0.43 in check analysis for each heat of steel used, as calculated by the following formula: 3.4 For all such valves where Carbon Steel / S.G. Iron is used as plug material, the plug shall have 75 microns (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 REQUIREMENTS 4.1 Valve design shall meet the requirements of		

	API Specification 6D and shall be suitable for the service conditions indicated in the Valve Data Sheet. The ASME Boiler & Pressure vessel code, Section VIII, Division I shall be used to design the valve body. Allowable stress requirements shall comply the provisions of above code. In addition, corrosion allowance indicated in valve Data Sheet shall be considered in valve design. The manufacturer shall have valid license to use API monogram on valves manufactured as per API 6D. 4.2 The valves shall have an inherent feature to ensure that under any pressure, the line pressure cannot cause taper locking of the plug / plug movement into the taper, i.e. valves shall be of "pressure - balanced" design type. 4.3 Cover shall be bolted to the valve body and screwed connections are not acceptable. 4.4 Soft seats to achieve a seal between plug and body are not permitted. 4.5 All valves shall have the provision for sealant injection under full line pressure for seat and stem seals. All sealant injection connections shall be provided with a block valve and internal non-return valve. Valve design shall have a provision (e.g. Ball Type Check Valve/Needle Valve) to replace the sealant injector fitting under full line pressure. Location and arrangement of sealant injection points shall be as per Figure-4.6. 4.6 Valves shall be designed to withstand a sustained internal vacuum of at least 1 (one) milli-bar in both open and closed position. 4.7 Valve design shall ensure repair of gland packing under full line pressure. 4.8 a) Valve ends shall be flanged. Face to face/end to end dimensions shall conform to API 6D. b) Flanged ends, if specified, shall have flanges as per ASME B16.5. Flange face shall be either raised face or ring joint type (RTJ) as indicated in Valve Data Sheet. Flange face finish shall be serrated or smooth as indicated in Valve Data Sheet. In case of RTJ flanges, the groove hardness shall be minimum 140 BHN.		

	4.9 Valves shall be provided with plug position indicator and stops of rugged construction at the fully open and fully closed positions. 4.10 When indicated in Material Requisition, valves shall have locking devices to lock the valve either in full open (LO) or full close (LC) position. Locking devices shall be permanently attached to the valve operator and shall not interfere with operation of the valve. 4.11 Valves shall be suitable for aboveground installation. 4.12 Operating Devices a. Valves shall have manual operated, valve sizes DN 100 mm (4") shall be wrench operated and valve sizes (6") and (8") shall be gear operated. Each wrench operated valve shall be supplied with wrench. Valve design shall be such that damage due to malfunctioning of the operator or its controls will only occur in the operator gear train or power cylinder and that damaged parts can be replaced without the valve cover being removed. b. For the manual operator of all valves, the diameter of the hand wheel or the length of operating wrench shall be such that under the maximum differential pressure, the total force required to operate the valve does not exceed 350N. However failing to meet above requirement, vendor shall offer Gear operated valves. Manufacturer shall also indicate the number of turns of hand wheel in case of gear operators (along with their offer) required for operating the valve from MI open to full close position. The number of turns shall not exceed 200 c. Direction of operation of hand wheel or wrench shall be in clock-wise direction while closing the valve. Hand wheels shall not have protruding spokes. d. Gear operators, when provided, shall have a self-locking provision and shall be fully encased in water proof/splash proof enclosure and shall be filled with suitable grease. 4.13 All welds shall be made by welders and welding procedures qualified in accordance with the provisions of ASME Section IX. The procedure		

	qualification shall also include impact test and hardness test when required as per Clause 3.4 and 3.5 of this specification and shall meet the requirements as specified therein. 4.14 Repair by welding is not permitted for fabricated and forged body valves. However repair by welding as per ASME B16.34 is permitted for cast body valves. Such repairs shall be carried out at casting supplier's care only. Repair shall be carried out before any heat treatment of casting is done. Repair welding procedure qualification shall also include impact test and hardness test when required as per Clause 3.4 and 3.5 of this specification and shall meet the requirements as specified therein. Heat treatment and radiography shall be repeated after the weld repair. 4.15 The tolerance on internal diameter and out of roundness at the ends for welded ends valves shall be as per connected pipe specification as indicated in the Valve Data Sheet. 4.16 No casting is permitted for stem and stem extension material of all valves. Valve stem shall be capable of withstanding the maximum operating torque required to operate the valve against the maximum differential pressure corresponding to applicable class rating. The combined stress shall not exceed the maximum allowable stresses specified in ASME section VIII, Division 1. For Power Actuated Valves, the valve stem shall be designed for maximum output torque of the selected power actuator (including gear box, if any) at the valve stem. 5.0 INSPECTION AND TESTS 5.1 The Manufacturer shall perform all inspection and tests as per the requirements of this specification and the relevant codes, prior to shipment, at his Works. Such inspection and tests shall be, but not limited to, the following: 5.1.1 All valves shall be visually inspected. The internal and external surfaces of the valves shall be free from any strikes, gouges and other detrimental defects. The surfaces shall be thoroughly cleaned and free from dirt, rust and scales.		

	5.1.2 Dimensional check on all valves shall be carried out as per the Company approved drawings. 5.1.3 Chemical composition and mechanical properties shall be checked as per this specification and relevant material standards, for each heat of steel used. 5.1.4 Non destructive examination of individual valve material and components consisting of but not limited to castings, forgings, plates and assembly welds shall be carried out by the Manufacturer. a. Body castings of valves shall be radiographically examined as per ASME B16.34. Procedure and acceptance criteria shall be as per ASME 816.34. Radiography shall be performed after the final heat treatment also. All castings shall be wet magnetic particle inspected 100% of the internal surfaces. Method and acceptance shall comply with ASME B16.34. b. All valves made by forgings shall be ultrasonically examined in accordance with the procedure and acceptance standard of Annexure E of ASME B16.34. 5.1.5 Areas, which in Company's opinion cannot be inspected by radiographic methods, shall be checked by ultrasonic or magnetic particle methods and acceptance criteria shall be as per ASME Sec. VIII, Division 1, Appendix 12 and Appendix 6 respectively. 5.1.6 a)Weld ends of all cast valves subject to welding in field shall be 100 % radiographically examined and acceptance criteria shall be as per ASME B16.34. b. After final machining, all bevel surfaces shall be inspected by dye penetrant or wet magnetic particle methods. All defects longer than 6.35 mm are rejected, as are the defects between 6.35 mm and 1.59 mm that are separated by a distance less than 50 times their greatest length. Rejectable defects must be removed. Weld repair of bevel surface is not permitted. c. All finished wrought weld ends subjects to welding in field shall be 100 percent ultrasonically		

	tested for lamination type defects for a distance of 50 mm from the end. Laminations shall not be acceptable. 5.1.7 All valves shall be tested in compliance with the requirements of API 6D. The sealant lines shall be either included in the hydrostatic shell test or tested independently. Test pressure shall be held for at least 30 minutes for both Shell & Seat test. No leakage is permissible during hydrostatic testing. 5.1.8 A supplementary air seat test as per API 6D (Appendix C, Para C.3.3 Type II) shall be carried out for all valves. No leakage is allowed. Test pressure shall be held for at least 15 minutes. 5.2 Company reserves the right to perform stage wise inspection and witness tests at Manufacturer's works prior to shipment. Manufacturer shall give reasonable access and facilities required for inspection to the Company's inspector. Company reserves the right to require additional testing at any time to confirm or further investigate a suspected fault. The cost incurred shall be to Manufacturer's account. In no case shall any action of Company or his inspector shall relieve the Manufacturer of his responsibility for material, design, quality or operation of valves. Inspection and tests performed/witnessed by the Company's inspector shall in no way relieve the Manufacturer's obligation to perform the required inspection and tests. 6.0 TEST CERTIFICATES Manufacturer shall submit the following certificates: a. Mill test certificates relevant to the chemical analysis and mechanical properties of the materials used for the valve construction as per the relevant standards. b. Test certificates of hydrostatic and pneumatic tests complete with records of timing and pressure of each test. c. Test reports of radiography and ultrasonic		

	inspection. d. Test report on operation of valves conforming to clause 5.1.8 and 5.1.9 of this specification. e. All other test reports and certificates as required by API 6D and this specification. The certificates shall be considered valid only when signed by Company's Inspector. Only those valves which have been certified by Company's Inspector shall be dispatched from Manufacturer's works. 7.0 PAINTING, MARKING AND SHIPMENT 7.1 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". For the valves to be installed underground, when indicated in Valve Data Sheet, the external surfaces of buried portion of the valve shall be painted with three coats of suitable coal tar epoxy resin with a minimum dry film thickness of 300 microns. For coastal area, painting shall be suitable for highly corrosive environment. 7.2 All valves shall be marked as per API 6D. The units of marking shall be metric except nominal diameter, which shall be in inches. 7.3 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. Bevel ends shall be protected with metallic or high impact plastic bevel protectors. 7.4 All sealant lines and other cavities of the valve shall be filled with sealant before shipment. 7.5 Packaging and shipping instructions shall be as per API 6D. 7.6 On packages, the following shall be marked legibly with suitable marking ink: a. Order Number b. Manufacturer's Name c. Valve size and rating		

	d. Tag Number. e). Serial Number 8.0 SPARES AND ACCESSORIES 8.1 Manufacturer shall furnish list of recommended spares and accessories for valves required during start-up and commissioning 9.0 DOCUMENTATION Documentation to be submitted by Manufacturer to Company is summarized below. 9.1 At the time of bidding, Manufacturer shall submit the following documents: a) General arrangement/ Sectional drawing. Number of turns for Gear Operated valves shall be indicated in the GA or shall be furnished separately. b. Reference list of similar plug valves manufactured and supplied in last five years indicating all relevant details including project, year, client, location, size, rating, service etc. c. Torque curves for the power actuated valves along with the break torque and maximum allowable stem torque. d. Copy of valid API 6D Certificate. e. Copy of Fire Safe test certificate of qualifying valve as per API 6FA carried out in last 10 years shall be furnished. f. List of recommended spares required during start-up and commissioning & 2 years of normal operation and maintenance. 9.2 After placement of order, the Manufacturer shall submit the following drawings, documents and specifications for Company's approval: a. Detailed sectional drawings showing all parts with reference numbers and materials specification. b. Assembly drawings with overall dimensions and features. 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. Manufacture of valves shall commence only after approval of the above documents. Once, the		

	approval has been given by Company, any changes in design, material and method of manufacture shall be notified to Company whose approval in writing of all changes shall be obtained before the valve is manufactured. 9.3 Within 30 days from the approval date, Manufacturer shall submit to Company the approved drawings, documents and specifications as listed in clause 9.2 above. 9.4 Prior to shipment, Manufacturer shall submit to Company, the following: a. Test certificates as listed in clause 6.0 of this specification. b. Manual for installation, erection, maintenance and operation instructions including a list of recommended spares for the valves. 9.5 All documents shall be in English language only. 10.0 THIRD PARTY INSPECTION: Valve shall be inspected by OIL enlisted Third Party Inspection Agency only.OIL may witness the Test/Inspection. Scope for Third Party Inspection shall be as under. 10.1 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. 10.2 To ensure that valve body castings are procured from foundries as approved by M/s EIL or M/s Lloyds only. 10.3 To ensure that proper technique and procedure as per relevant API standard and Purchase Order are followed by the manufacturer. 10.4 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. 10.5 To ensure and check that valves are tested as per API 6D specifications 10.6 To documents and issue all inspection certificates. 10.7 To ensure that the valves inspected are fully		

	embossed with API monogram and other markings as per API 6D specifications. 10.8 To witness hydraulic, pneumatic test for the body and seat on each specified valve as per API 6D standards. 10.9 To review and check the radiograph films of body and bonnet of all the valves. Certified radiography film shall be submitted along with the supplied valves.		
30	TECHNICAL SPECIFICATIONS FOR PLUG VALVES SCOPE This specification covers the minimum requirements for design, manufacture, testing and supply of carbon steel lubricated plug valves of size 4", 6" & 8" and ANSI pressure rating Class 600# for use in onshore pipeline systems handling hydrocarbons in liquid phase. 2.0 REFERENCE DOCUMENTS 2.1 All valves shall be manufactured and supplied in accordance with the American Petroleum Institute (API) Specification 6D, Twenty Third edition, April 2008 / ISO 14313:2007, Petroleum and Natural Gas Industries — Pipeline Transportation Systems — Pipeline valves, with additions and modifications as indicated in the following sections of this specification. 2.2 Reference has also been made in this specification to the latest edition (edition enforce at the time of issue of enquiry) of the following Codes, Standards and Specifications. ASME B31.3 Process Piping. ASME B31.4 Pipeline Transportation Systems for Liquid Hydrocarbonsand Other Liquids. ASME B31.8 Gas Transmission and Distribution Piping Systems. ASME B16.5 Steel Pipe Flanges and Flanged Fittings. ASME B 16.10 Face-To-Face and End-To-End	4	NO

	Dimensions of Valves. ASME B16.25 Butt-welding Ends ASME B16.34 Valves - Flanged, Threaded and Welding Ends. ASME B16.47 Large Diameter Steel Flanges. API 1104 Welding Pipelines and Related Facilities. ASME Sec VIII Boiler and Pressure Vessel Code - Rules for Construction of Pressure Vessels ASME Sec IX Boiler and Pressure Vessel Code - Welding and Brazing Qualifications ASTM A 370 Standard Test Methods and Definitions for Mechanical Testing of Steel Products. ASTM B733 Auto catalytic Nickel Phosphorous Coating on Metals. MSS-SP-6 Standard Finishes for Contact Faces of Pipe Flanges and Connecting-end Flanges of Valves and Fittings. MSS-SP-44 Steel Pipe Line Flanges. SSPC-VIS-1 Steel Structures Painting Council Visual Standard. 2.3 In case of conflict between the requirements of this specification, API 6D and the Codes, Standards and Specifications referred in clause 2.2 above, the requirements of this specification shall govern. 3.0 MATERIALS 3.1 Material for major components of the valves shall be as indicated in Valve Data Sheet. Other components shall be as per Manufacturer's standard (suitable for the service conditions indicated in Data Sheet) and shall be subject to approval by Company. In addition, the material shall also meet the requirements specified hereinafter. All process-wetted parts, metallic and non-metallic, and lubricants shall be suitable for the service specified by the Company. Manufacturer shall confirm that all wetted parts are suitable for treated water/seawater environment, which may be used during field testing. 3.2 Carbon steel used for the manufacture of		

	valves shall be fully killed. 3.3 The Carbon Equivalent (CE) of valve end connections which are subject to further field welding by Company shall not exceed 0.43 in check analysis for each heat of steel used, as calculated by the following formula: 3.4 For all such valves where Carbon Steel / S.G. Iron is used as plug material, the plug shall have 75 microns (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 REQUIREMENTS 4.1 Valve design shall meet the requirements of API Specification 6D and shall be suitable for the service conditions indicated in the Valve Data Sheet. The ASME Boiler & Pressure vessel code, Section VIII, Division I shall be used to design the valve body. Allowable stress requirements shall comply the provisions of above code. In addition, corrosion allowance indicated in valve Data Sheet shall be considered in valve design. The manufacturer shall have valid license to use API monogram on valves manufactured as per API 6D. 4.2 The valves shall have an inherent feature to ensure that under any pressure, the line pressure cannot cause taper locking of the plug / plug movement into the taper, i.e. valves shall be of "pressure - balanced" design type. 4.3 Cover shall be bolted to the valve body and screwed connections are not acceptable. 4.4 Soft seats to achieve a seal between plug and body are not permitted. 4.5 All valves shall have the provision for sealant injection under full line pressure for seat and stem seals. All sealant injection connections shall be provided with a block valve and internal non-return valve. Valve design shall have a provision (e.g. Ball Type Check Valve/Needle Valve) to replace the sealant injector fitting under full line		

	pressure. Location and arrangement of sealant injection points shall be as per Figure-4.6. 4.6 Valves shall be designed to withstand a sustained internal vacuum of at least 1 (one) milli-bar in both open and closed position. 4.7 Valve design shall ensure repair of gland packing under full line pressure. 4.8 a) Valve ends shall be flanged end. 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. Face-to-face and end-to-end dimensions for valve sizes not specified in API 6D shall be in accordance with ASME B 16.10. Face-to-face and end-to-end dimensions not shown in API 6D or in ASME B 16.10 shall be as per Manufacturer Standard and shall be subject to approval by Company. b) Flanged ends, shall have flanges as per ASME B16.5. Flange face shall be ring joint type (RTJ) for 8" and 4" and Raised Face for 6" as indicated in Valve Data Sheet. Flange face finish shall be serrated or smooth as indicated in Valve Data Sheet. In case of RTJ flanges, the groove hardness shall be minimum 140 BHN. 4.9 Valves shall be provided with plug position indicator and stops of rugged construction at the fully open and fully closed positions. 4.10 When indicated in Material Requisition, valves shall have locking devices to lock the valve either in full open (LO) or full close (LC) position. Locking devices shall be permanently attached to the valve operator and shall not interfere with operation of the valve. 4.11 Valves shall be suitable for either buried or aboveground installation as indicated in Valve Data Sheet. 4.12 Operating Devices a. Valves shall have manual operated, valve sizes DN 100 mm (4") shall be wrench operated and valve sizes 8" and 6" shall be gear operated. Each wrench operated valve shall be supplied with		

	wrench. Valve design shall be such that damage due to malfunctioning of the operator or its controls will only occur in the operator gear train or power cylinder and that damaged parts can be replaced without the valve cover being removed. b. For the manual operator of all valves, the diameter of the hand wheel or the length of operating wrench shall be such that under the maximum differential pressure, the total force required to operate the valve does not exceed 350N. However failing to meet above requirement, vendor shall offer Gear operated valves. Manufacturer shall also indicate the number of turns of hand wheel in case of gear operators (along with their offer) required for operating the valve from MI open to full close position. The number of turns shall not exceed 200 c. Direction of operation of hand wheel or wrench shall be in clock-wise direction while closing the valve. Hand wheels shall not have protruding spokes. d. Gear operators, when provided, shall have a self-locking provision and shall be fully encased in water proof/splash proof enclosure and shall be filled with suitable grease. 4.13 All welds shall be made by welders and welding procedures qualified in accordance with the provisions of ASME Section IX. The procedure qualification shall also include impact test and hardness test when required as per Clause 3.4 and 3.5 of this specification and shall meet the requirements as specified therein. 4.14 Repair by welding is not permitted for fabricated and forged body valves. However repair by welding as per ASME B16.34 is permitted for cast body valves. Such repairs shall be carried out at casting supplier's care only. Repair shall be carried out before any heat treatment of casting is done. Repair welding procedure qualification shall also include impact test and hardness test when required as per Clause 3.4 and 3.5 of this specification and shall meet the requirements as specified therein. Heat treatment and radiography shall be repeated after the weld repair. 4.15 The tolerance on internal diameter and out		

	of roundness at the ends for welded ends valves shall be as per connected pipe specification as indicated in the Valve Data Sheet. 4.16 No casting is permitted for stem and stem extension material of all valves. Valve stem shall be capable of withstanding the maximum operating torque required to operate the valve against the maximum differential pressure corresponding to applicable class rating. The combined stress shall not exceed the maximum allowable stresses specified in ASME section VIII, Division 1. For Power Actuated Valves, the valve stem shall be designed for maximum output torque of the selected power actuator (including gear box, if any) at the valve stem. 5.0 INSPECTION AND TESTS 5.1 The Manufacturer shall perform all inspection and tests as per the requirements of this specification and the relevant codes, prior to shipment, at his Works. Such inspection and tests shall be, but not limited to, the following: 5.1.1 All valves shall be visually inspected. The internal and external surfaces of the valves shall be free from any strikes, gouges and other detrimental defects. The surfaces shall be thoroughly cleaned and free from dirt, rust and scales. 5.1.2 Dimensional check on all valves shall be carried out as per the Company approved drawings. 5.1.3 Chemical composition and mechanical properties shall be checked as per this specification and relevant material standards, for each heat of steel used. 5.1.4 Non destructive examination of individual valve material and components consisting of but not limited to castings, forgings, plates and assembly welds shall be carried out by the Manufacturer. a. Body castings of valves shall be radiographically examined as per ASME B16.34. Procedure and acceptance criteria shall be as per ASME 816.34. Radiography shall be performed after the final heat treatment also. All castings		

	shall be wet magnetic particle inspected 100% of the internal surfaces. Method and acceptance shall comply with ASME B16.34. b. All valves made by forgings shall be ultrasonically examined in accordance with the procedure and acceptance standard of Annexure E of ASME B16.34. 5.1.5 Areas, which in Company's opinion cannot be inspected by radiographic methods, shall be checked by ultrasonic or magnetic particle methods and acceptance criteria shall be as per ASME Sec. VIII, Division 1, Appendix 12 and Appendix 6 respectively. 5.1.6 a)Weld ends of all cast valves subject to welding in field shall be 100 % radiographically examined and acceptance criteria shall be as per ASME B16.34. b. After final machining, all bevel surfaces shall be inspected by dye penetrant or wet magnetic particle methods. All defects longer than 6.35 mm are rejected, as are the defects between 6.35 mm and 1.59 mm that are separated by a distance less than 50 times their greatest length. Rejectable defects must be removed. Weld repair of bevel surface is not permitted. c. All finished wrought weld ends subjects to welding in field shall be 100 percent ultrasonically tested for lamination type defects for a distance of 50 mm from the end. Laminations shall not be acceptable. 5.1.7 All valves shall be tested in compliance with the requirements of API 6D. The sealant lines shall be either included in the hydrostatic shell test or tested independently. Test pressure shall be held for at least 30 minutes for both Shell & Seat test. No leakage is permissible during hydrostatic testing. 5.1.8 A supplementary air seat test as per API 6D (Appendix C, Para C.3.3 Type II) shall be carried out for all valves. No leakage is allowed. Test pressure shall be held for at least 15 minutes. 5.2 Company reserves the right to perform stage		

	wise inspection and witness tests at Manufacturer's works prior to shipment. Manufacturer shall give reasonable access and facilities required for inspection to the Company's inspector. Company reserves the right to require additional testing at any time to confirm or further investigate a suspected fault. The cost incurred shall be to Manufacturer's account. In no case shall any action of Company or his inspector shall relieve the Manufacturer of his responsibility for material, design, quality or operation of valves. Inspection and tests performed/witnessed by the Company's inspector shall in no way relieve the Manufacturer's obligation to perform the required inspection and tests. 6.0 TEST CERTIFICATES Manufacturer shall submit the following certificates: a. Mill test certificates relevant to the chemical analysis and mechanical properties of the materials used for the valve construction as per the relevant standards. b. Test certificates of hydrostatic and pneumatic tests complete with records of timing and pressure of each test. c. Test reports of radiography and ultrasonic inspection. d. Test report on operation of valves conforming to clause 5.1.8 and 5.1.9 of this specification. e. All other test reports and certificates as required by API 6D and this specification. The certificates shall be considered valid only when signed by Company's Inspector. Only those valves which have been certified by Company's Inspector shall be dispatched from Manufacturer's works. 7.0 PAINTING, MARKING AND SHIPMENT 7.1 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". For the valves to be installed underground, when indicated in Valve Data Sheet, the external surfaces of buried portion of the valve shall be painted with three coats of suitable coal tar epoxy resin with a minimum dry film thickness of 300 microns. For coastal area, painting shall be suitable for highly corrosive environment. 7.2 All valves shall be marked as per API 6D. The units of marking shall be metric except nominal diameter, which shall be in inches. 7.3 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. Bevel ends shall be protected with metallic or high impact plastic bevel protectors. 7.4 All sealant lines and other cavities of the valve shall be filled with sealant before shipment. 7.5 Packaging and shipping instructions shall be as per API 6D. 7.6 On packages, the following shall be marked legibly with suitable marking ink: a. Order Number b. Manufacturer's Name c. Valve size and rating d. Tag Number. e). Serial Number 8.0 SPARES AND ACCESSORIES 8.1 Manufacturer shall furnish list of recommended spares and accessories for valves required during start-up and commissioning 9.0 DOCUMENTATION Documentation to be submitted by Manufacturer to Company is summarized below. 9.1 At the time of bidding, Manufacturer shall submit the following documents: a) General arrangement/ Sectional drawing. Number of turns for Gear Operated valves shall be indicated in the GA or shall be furnished separately.		

	b. Reference list of similar plug valves manufactured and supplied in last five years indicating all relevant details including project, year, client, location, size, rating, service etc. c. Torque curves for the power actuated valves along with the break torque and maximum allowable stem torque. d. Copy of valid API 6D Certificate. e. Copy of Fire Safe test certificate of qualifying valve as per API 6FA carried out in last 10 years shall be furnished. f. List of recommended spares required during start-up and commissioning & 2 years of normal operation and maintenance. 9.2 After placement of order, the Manufacturer shall submit the following drawings, documents and specifications for Company's approval: a. Detailed sectional drawings showing all parts with reference numbers and materials specification. b. Assembly drawings with overall dimensions and features. 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. Manufacture of valves shall commence only after approval of the above documents. Once, the approval has been given by Company, any changes in design, material and method of manufacture shall be notified to Company whose approval in writing of all changes shall be obtained before the valve is manufactured. 9.3 Within 30 days from the approval date, Manufacturer shall submit to Company the approved drawings, documents and specifications as listed in clause 9.2 above. 9.4 Prior to shipment, Manufacturer shall submit to Company, the following: a. Test certificates as listed in clause 6.0 of this specification. b. Manual for installation, erection, maintenance and operation instructions including a list of recommended spares for the valves.		

	9.5 All documents shall be in English language only. 10.0 THIRD PARTY INSPECTION: Valve shall be inspected by OIL enlisted Third Party Inspection Agency only.OIL may witness the Test/Inspection. Scope for Third Party Inspection shall be as under. 10.1 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. 10.2 To ensure that valve body castings are procured from foundries as approved by M/s EIL or M/s Lloyds only. 10.3 To ensure that proper technique and procedure as per relevant API standard and Purchase Order are followed by the manufacturer. 10.4 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. 10.5 To ensure and check that valves are tested as per API 6D specifications 10.6 To documents and issue all inspection certificates. 10.7 To ensure that the valves inspected are fully embossed with API monogram and other markings as per API 6D specifications. 10.8 To witness hydraulic, pneumatic test for the body and seat on each specified valve as per API 6D standards. 10.9 To review and check the radiograph films of body and bonnet of all the valves. Certified radiography film shall be submitted along with the supplied valves. PLUG VALVE DATA SHEET ATTACHED		

ANNEXURE- A

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

1.0 BID EVALUATION CRITERIA

Agencies intending to participate shall meet the following qualification criteria:

1.1 **Technical Criteria:**

1.1.1 Bidder shall be a manufacturer of Plug valves as per API Specification 6D and shall have a valid license to use API monogram for the proposed manufacturing plant.

1.1.2 Bidder shall be a regular manufacturer of Plug valve for hydrocarbon industry for the past 15 years which shall be authenticated by documentary evidence submitted along with the bid.

1.1.3 The Bidder shall have designed, manufactured, tested and supplied, from the proposed manufacturing plant, at least one (1) number plug valve, identical in terms of design and equal or higher in terms of size and rating, as quoted for, in the last three (3) years reckoned from the bid due date.

1.1.4 The criteria as stated in 3.1.3 shall be independently applicable for each item quoted by the bidder.

1.2 **General:**

1.2.1 A job executed by a bidder for its own plant/projects cannot be considered as experience for the purpose of meeting requirement of BEC of the tender. However, jobs executed for Subsidiary/Fellow subsidiary/ Holding company will be considered as experience for the purpose of meeting BEC subject to submission of tax paid invoice(s) duly certified by Statutory auditor of the bidder towards payments of statutory tax in support of the job executed for Subsidiary/ Fellow subsidiary/Holding

company. Such bidders shall submit these documents in addition to the documents specified in the bidding documents to meet BEC.
1.2.2 A job completed by a bidder as a sub-contractor shall be considered for the purpose of meeting the experience criteria of BEC subject to submission of following documents in support of meeting the "Bidder Qualification Criteria":
a) Copy of work order along with SOR issued by main contractor.
b) Copies of Completion Certificates from the end User/ Owner and also from the main Contractor. The Completion Certificates shall have details like work order no. /date, brief scope of work, ordered & executed value of the job, completion date etc.

1.3 **Documentation:**
1.3.1 The Bidder shall furnish documentary evidence along with the bid, to establish the above technical qualification criteria as per cl. no. 3.1 above such as copies of purchase order, inspection release note, end user approved cross section drawings with blow up seat details of relevant previous supplies of valves, API 6D Licence to use API monogram.
1.3.2 Submission of authentic documents is the prime responsibility of the Bidder. Wherever OIL has concern or apprehension regarding the authenticity/ correctness of any document, OIL reserves a right of getting the document cross verified from the document issuing authority.
1.3.3 In absence of requisite document, OIL reserves the right to reject the bid without making any reference to the bidder.

1.4 LANGUAGE OF BID

1.4.1. The Bid prepared by the bidder, all correspondence/drawings and documents relating to the bid exchanged by the bidder with the Owner/Consultant shall be in English Language alone provided that any printed literature furnished by the bidder may be written in another language so long as accompanied by an English translation, in which case, for the purpose of interpretation of the bid, the English translation shall govern.

1.4.2 In the event of submission of any document/ certificate by the Bidder in a language other than English, the English translation of the same duly authenticated by Chamber of Commerce of Bidder's country shall be submitted by the Bidder.

.COMMERCIAL:

1.Bids are invited under Single Stage Composite Bid System. Bidders shall quote accordingly under Single Stage Composite Bid System.

2.0Bid security of US $ 750.00 or Rs. 45000.00 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)). A bid shall be rejected straightway if Original Bid Security is not received within the stipulated date & time mentioned in the Tender and/or if the Bid Security validity is shorter than the validity indicated in Tender and/or if the Bid Security amount is lesser than the amount indicated in the Tender.

2.1For 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).

2.2The Bank Guarantee towards Bid Security shall be valid upto 8.12.2016.

3.Validity of the bid shall be minimum 120 days from the date of Bid Closing Date. Bids with lesser validity will be straightway 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 months from the date of shipment/dispatch or twelve(12) months from the date of receipt of the items at site, 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 one year from the date of successful installation and commissioning of the item. 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 :

Appendix-I

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

Priced Bid Format (SUMMARY):

Sl. No.	Material Description & Material code No.	Qty.	Unit	Unit Price	Total Price
10	SUPPLY OF API 6D PLUG VALVE 200 MM (8")DIAMETER 600 CLASS RTJ FLANGE (BOTH ENDS) HAND OPERATION FOR CRUDE OIL PIPELINE.	2	No.		
20	API 6D PLUG VALVE 150 MM (6")DIAMETER 600 CLASS RAISED FACE FLANGE (BOTH ENDS) HAND OPERATION FOR PRODUCT PIPELINE.	4	No.		
30	API 6D PLUG VALVE 100 MM (4")DIAMETER 600 CLASS RTJ FLANGE (BOTH ENDS) HAND OPERATION FOR CRUDE OIL PIPELINE.	2	No		

(i) Commercial Bid Format (SUMMARY) for Foreign Bidders :

(A) Total material cost (as in Serial no. 10, 20, 30 above)
(B) Packing & FOB/FCA Charges
(C) Total FOB /FCA value, (A+B) above
(D) Ocean / Air 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) above
(H) Total value in words :
(I) Gross Weight :
(J) Gross Volume :

(ii) Commercial Bid Format (SUMMARY) for Indigenous Bidders :

(A) Total material value (as in Serial no. 10,20,30 above)
(B) Packing and Forwarding Charges

(C) Total Ex-works value (A+B)
(D) Excise Duty including Cess, (Please indicate applicable rate of Duty)
(E) Total Ex-works value including Excise Duty & Cess (C+D)
(F) Sales Tax, (Please indicate applicable rate of Tax)
(G) Total FOR Despatching station value (E+F)
(H) Transportation charges to PHQ, Guwahati :
(I) Transit Insurance Charges
(J) Assam Entry tax
(K) Total FOR Guwahati value (G+H+I+J)
(L) Total value in words :
(M) Gross Weight :
(N) Gross Volume :

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

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 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.

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.

ANNEXURE-III

(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 ORIGINAL Bid Bond (not copy of Bid Bond) enclosed with the offer? If YES, provide details (a) Amount : (b) Name of issuing Bank : (c) Validity of Bid Bond :	YES/NO	
8.	Whether offered firm prices?	YES/NO	
9.	Whether quoted offer validity of 120 days from the date of closing of tender?	YES/NO	
10.	Whether quoted a firm delivery period?	YES/NO	
11.	Whether quoted as per NIT (without any deviations)?	YES/NO	
12.	Whether any deviation is there in the offer?	YES/NO	
13.	Whether deviation separately highlighted?	YES/NO	
14.	Whether agreed to the NIT Warranty clause?	YES/NO	
15.	Whether Price Bid submitted as per Price Schedule?	YES/NO	
16.	Whether indicated the country of origin for the items quoted?	YES/NO	

17.	Whether all the items of tender quoted?	YES/NO
18.	Whether technical literature/catalogue/drawings enclosed?	YES/NO
19.	For Foreign Bidders - Whether offered FOB/FCA port of dispatch including sea/air worthy packing & forwarding?	YES/NO
20.	For Foreign Bidders – Whether port of shipment indicated? [To specify]	YES/NO
21.	For Foreign Bidders only - Whether indicated ocean freight up to C&F Kolkata port (Excluding marine insurance)?	YES/NO
22.	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
23.	Whether weight & volume of items offered indicated?	YES/NO
24.	Whether confirmed to submit PBG as asked for in NIT?	YES/NO
25.	Whether agreed to submit PBG within 30 days of placement of order?	YES/NO
26.	For Indian bidders – Whether place of dispatch indicated in the offer? [To specify]	YES/NO
27.	For Indian bidders – Whether road transportation charges up to Guwahati quoted?	YES/NO
28.	For Indian Bidders only - Whether offered Ex-works price including packing/forwarding charges?	YES/NO
29.	Whether quoted prices are exclusive of Excise duty?	YES/NO
30.	For Indian bidders only – whether import content indicated in the offer?	YES/NO
31.	For Indian Bidders only - whether all Taxes have been indicated categorically?	YES/NO
32.	Whether all BRC/BEC clauses accepted?	YES/NO