

OIL INDIA LIMITED

(A Government of India Enterprise)
Pipeline Head Quarters
P.O. Udayan Vihar, Pin – 781171
Guwahati, Assam

AMENDMENT NO. 4 DATED 12.04.2018
TO TENDER NO SGI6926P18

1.0 This Amendment no. 4 dated 12.04.2018 to tender no. SGI6926P18 is issued –

- (i) To extend the Bid Closing/Technical Bid Opening date and last date of sale of tender document as under –

Bid Closing Date & Time	: 26.04.2018 at 11.00 Hrs. IST
Technical Bid Opening Date & Time	: 26.04.2018 at 14.00 Hrs. IST
Last date of sale of Tender Document	: 19.04.2018 till 15.30 Hrs. IST

- (ii) Annexure – AA – Technical Specification of the tender has been amended. The revised Annexure – AA – Technical Specification is enclosed herewith as Annexure – AA (Revised)

2.0 Replies to Pre Bid queries enclosed.

3.0 All other terms and conditions of the tender will remain unchanged.

Sd/-

(M. B. SINGHA)
SR. MANAGER MATERIALS (PL)
FOR GENERAL MANAGER - MATERIALS (PL)
FOR CHIEF GENERAL MANAGER (PLS)

TECHNICAL SPECIFICATION

Corrosion Inhibitor for Crude Oil Pipeline

- 1.0 The Corrosion Inhibitor shall be film forming type (Fatty acid derivatives alkoxyated phenol type or equivalent). It should be oil soluble and water dispersible type. The CI dosing supplier need to verify the dosing rate (6-12 ppm for Assam Crude, 8-15 ppm for Imported crude) for the optimum results based on testing results (Inhibitor efficiency test) and the same should be within the range of the dosing rate as specified herein.

Physical Properties

- | | |
|----------------------------|-------------------|
| a) Appearance | : Clear Liquid |
| b) Color | : Yellow to Amber |
| c) Specific Gravity @ 20°C | : 1.00 – 1.15 |
| d) Pour Point | : ≤ -18°C |
| e) Flash Point | : ≥ 52°C |
| f) Viscosity @ 40°C | : 55 – 95 cst |

- 2.0 The Inhibitor should pass all quality testing requirements of the various applicable NACE, ASTM, ISO Standards e.g. Inhibition Efficiency, Emulsification Tendency, Solubility & Dispersibility, Shear properties, Flow loop tests, pH, thermal stability, Foaming tendency, partition co-efficient etc (Corroding media line pipe grade API-5LX-46).

- 3.0 Corrosion inhibitor has to be shear stable and effective during flow throughout the pipeline length. During field monitoring, corrosion rate throughout the pipeline shall be less than 1 mpy. The vendor shall provide in laboratory test data and performance certification with details of dosage rate in ppm, achieved corrosion rate in mills per year (mpy) duly certified by manufacturer as per latest addition of the applicable NACE, ASTM & ISO standards (ASTM G170-06, NACE 31215 etc).

- 4.0 Other properties of the CI inhibitor should have –

- It should contain only Oxygen, Hydrogen and Carbon in its formulations and it should be free from Nitrogen, Phosphorus and Sulphur.
- The CI shall be completely soluble with the Crude Oil. It shall not have any emulsifying effect.
- The CI shall be compatible with the materials structure of the pipes, pumps, basket filters, pump strainers, storage tanks, valves, meters, instruments and any other fitting used in the petroleum pipeline.
- The CI shall be compatible with the other additive used in petroleum products like Drag Reducer Additive (DRA) which are polymer based compound.
- It should be suitable for use and storage in the ambient temperature ranging from 5°C to 50°C.
- The CI shall not show any precipitation, layering or either evidence of gross separation or degradation during the shelf life period.

- 5.0 **SHELF LIFE: The Corrosion Inhibitor should have at least 18 months of shelf life at the time of receipt at OIL's site.** Bidder should ensure that the shelf-life of the Corrosion Inhibitor is 18 months at the time of receipt by OIL. Bidder should confirm the same in their bid. Bidder should note that the transportation time for Indian bidders till receipt of goods at OIL's site is approximately 3 (three) months.

- 6.0 **Third Party Inspection (TPI):** Third Party inspection of the material is to be carried out for all LOTs prior to dispatch.

- 6.1 TPI shall be carried out by OIL approved TPI agencies as listed below for the the following test as per applicable NACE, ASTM, ISO standards:

- a) Inhibitor Efficiency: The evaluated oil soluble CI chemistry should give min 75% inhibitor efficiency or corrosion protection. ASTM G202-9.
- b) Emulsification Tendency: Emulsion forming tendency shall be carried out for the inhibited sample (CI doped with different dosages like 10, 20, 30 etc.) with defined crude oil + water ratio as stated in ASTM G170. Appearance (clear or Hazy) and the volume of the aqueous and hydrocarbon phases shall be recorded after 5, 15, 30 and 60 mins, as outlined in ASTM G170 (Secondary properties)). The time needed for full separation of two phases should not exceed 30 mins.
- c) Solubility & Dispensability: The solubility of CI in crude oil should be assessed at ambient temperature range of 10 to 50 Deg. C. When the inhibitor mix crude oil is stored for minimum of 1 day as per ASTM G170 (Secondary properties), no change to inhibitor solution should occur i.e no precipitation or phase separation or gunking.
- d) Thermal Stability: The evaluated chemistry shall be thermally stable up to 60 (+/- 2) Deg. C. As per ASTM G170 (Secondary properties).
- e) Foaming Tendency: The foam height is recorded vs time for a blank crude sample and doped with CI.
- f) Partition CO-efficient: As per standards the max allowable CI in the aqueous phase is 300 PPM
- g) Any Other Typical Properties as per specifications

6.2 OIL approved TPI Agencies are - M/s DNV, Lloyds Register, IRS, RITES, Bureau Veritas and Tuboscope Vetco.

6.3 The vendor at his own cost shall arrange for inspection of the material by OIL approved third party inspection agencies for witness/certify the tests in vendor's facility/laboratory as per technical specification provided herein. However, arranging and providing inspection facilities is entirely vendor's responsibility & in no way should affect the delivery schedule.

6.4 Even if the inspection and tests are fully carried out, the supplier shall not be absolved from its responsibilities to ensure that the Material(s) are supplied strictly to conform & comply with all the requirements of the Contract/PO at all stages, whether during manufacture or at the time of delivery as on arrival at site and after its consumption, & during the defect liability period. The inspections & tests are merely intended to prima-facie satisfy OIL that the material(s) comply with the requirements of the Contract/PO. The supplier's responsibility shall also not be anyway reduced or discharged because OIL or OIL's approved TPI shall have examined, commented on the supplier's specifications or shall have witnessed the tests or required any chemical or physical or other tests or shall have stamped or approved or certified any Material(s).

6.5 Although material approved by the Inspector(s), if on testing & inspection after receipt of the Material(s) at the location, any Material(s) are found not to be in strict conformity with the contractual requirements or specifications, OIL shall have the right to reject the same and hold the supplier liable for non-performance of the Contract.

7.0 **PACKING**: The Chemical must be supplied in brand new non-returnable MS cask (drum) which is chemically non-reactive/inert with the supplied chemical.

REPLY TO BIDDER'S PRE-BID QUERIES		Owner - Oil India Ltd. (OIL)	
SUPPLY OF CORROSION INHIBITOR FOR CRUDE OIL PIPELINE		Pre-bid meeting held on 06.02.2018	
OIL TENDER NO. - SGI6926P18 DATED 13.01.2018		Venue: Guwahati	
Sl. No.	Subject / Clause No.	Bidder's Query/Clarification	OIL Reply
Bidder No.1			
1	Technical specification	You have mentioned The Corrosion Inhibitor shall be film forming type (Fatty acid derivatives or equivalent). Please confirm if Amine based CI will be ok or not.	Film forming (Fatty acid-alkoxylated phenol type) or equivalent. Please refer Amendment no. 4
2	Physical Properties	Temp for Spec gravity is not mentioned. Irrespective of that high specific gravity indicates that you require water soluble CI? Please confirm	Temperature of specific gravity is 20 deg centigrade. Please refer Amendment no. 4
3	Physical Properties	Flash Point you have mentioned 52 Deg C Max.. Please confirm if you are looking for lower Flash Point or it should be 52 Deg C Min. Please confirm	Flash point should be equal or more than 52 deg. Centigrade. Please refer Amendment no. 4
4	Third Party Inspection (TPI)	You have mentioned TPI shall be carried out by OIL approved TPI agencies as listed below for the the following test as per applicable NACE, ASTM, ISO standards; we need the numbers i.e what is the criteria limit. a) Inhibitor Efficiency b) Emulsification Tendency c) Solubility & Dispersibility d) Shear Properties e) Flow Loop Test f) pH g) Thermal Stability h) Foaming Tendency i) Partition CO-efficient j) Other Typical Properties as per specifications	Please refer Amendment no. 4
Bidder No.2			
5	Annexure AA Sr. No 1.0 Line 3	Upper limit of dosing rate is not mentioned in this tender	6-12 ppm for Assam Crude 8-15 ppm for Imported crude Please refer Amendment no. 4
6	Annexure AA Sr. No 1.0 (c)	Specific gravity range needs confirmation being oil soluble product	specific gravity at 20 °C: 1.00-1.15 Please refer Amendment no. 4
7	Annexure AA Sr. No 1.0(d)	Pour Point needs reconfirmation	Pour point: to be less than (-)18°C. Please refer Amendment no. 4
8	Annexure AA Sr. No 1.0 (e)	Flash Point needs reconfirmation	Flash point should be equal or more than 52 deg. Centigrade. Please refer Amendment no. 4
9	Annexure AA Sr. No. 2.0	Corrodent media not mentioned in the tender Exact Specification of NACE, ASTM, ISO standards for detail qualifying parameters i.e. exact media for testing and limits for results for Emulsification Tendency, Water dispersibility, Shear properties, Flow loop test, pH, thermal stability, Foaming tendency, and Partition coefficient not mentioned in the tender.	Corrodent media line pipe grade API-5LX-46. For exact specification of testing, please refer the standard ASTM G170-06 or NACE 31215. Please refer Amendment no. 4
10	ANNEXURE AA Sr. No 6.0	Out of Six TPI Agencies only two M/S Bureau Veritas and M/S RITES responded. M/S DNV refused to discuss TPI terms without Purchase Order from Client. They also did not give us in writing. M/S Lloyds Register did not respond even after our reminder. Could not contact M/S Tuboscope Vecto. OIL, please confirm whether M/S Tuboscope Vecto is still a TPI for Oil India Limited. M/S Bureau Veritas clarified that they can only witness and certify lab test done as per NACE, ASTM, and other Standards from the NABL approved laboratory. M/S Bureau Veritas does not carry lab tests. M/S RITES raise following technical queries before responding to TPI terms which were not mentioned in the TPI Clause 6.0 in Annexure AA of Tender Document: M/S RITES'S Comments on Annexure AA are as under: QUOTE:..... Gone through your trail mail. Following points needs to be clarified by you which are required for assessment the case. Physical Properties of Corrosion Inhibitor (Sr. No.1) Physical properties may be tested but you have to specify name of Specification.	Testing to be carried out as per NACE 31215. Please refer Amendment no. 4
11	ANNEXURE AA Sr. No 6.0	Quality Testing Parameter Requirement (Sr. No.2) Name of specification, test method and specified values for various parameters are to be provided. What is the test plan? Testing is to be done as per ASTM or BIS or which specification? Shear Stability and Performance data (Sr. No. 3) It is performance related properties, TPI can not undertake it. Other Properties of corrosion inhibitor (Sr. No.4) 4.0 (a): Specification & test method are required. 4.0 (b) to (f): How to ascertain compatibility? Any tests specified? If yes, please share. Shelf Life of Corrosion Inhibitor (Sr. No. 5) No comments on shelf life. Third Party Inspection for All LOTS (Sr. No. 6) Same as point No.2. How many samples has to be tested per LOT What do you mean by LOT You also please intimate us whether testing has to be done at Manufacturer's premises or at some other external lab. Awaiting for your response. With Regards RITES Ltd GST No.- 27AAACR0830Q1Z6 Note: Firm is requested to provide GST No. H.S.Prasad Sr. Dy. General Manager (M&C) RITES LTD. /LAB Mumbai. Mob no: 8600017719 UNQUOTED.....	Testing to be carried out as per NACE 31215. Please refer Amendment no. 4
12	ANNEXURE DD TPI Charges	It appears from Clause 6.0 Annexure AA of the Tender Document that TPI agencies will only witness and certify the test done as per NACE, ASTM Standard by Approved Labs. This means two agencies need to be contacted and collect their price and terms for completing Clause 6.0. This requires considerable time and therefore requested to extend bid closing time.	As per clause 6.3, The vendor shall arrange for inspection of the material by OIL approved third party inspection agencies for witness/certify the tests in vendor's facility/laboratory as per technical specification provided herein. However, arranging and providing inspection facilities is entirely vendor's responsibility & in no way should affect the delivery schedule. Tender Conditions prevail.
13	PACKING	What does mean MS cask.	MS CASK means drum. Please refer Amendment no. 4
14	Commercial	1. Experience Clause on previous Supply: Since OIL is procuring 1 st time Corrosion Inhibitor with this specification, therefore experience of supply of any kind of Corrosion Inhibitor should be considered. 2. Also, since the tender for Corrosion Inhibitor is floated 1 st time by OIL, there will not be any proven supplier and hence, all bidders should be treated as unproven supplier for development / trial order. After the successful trial, the lowest quoted bidder shall be placed for regular order. 3. Minimum quantity for the development / trial order shall be mentioned. 4. New entrance opportunity: As per the other tender floated by OIL India Limited, A new product conforming to the laboratory specification will be considered for a trial order for field-testing on OIL's Main Pipeline. The successful bidder of field trial will be considered for bulk procurement. And request you to put this clause to promote a new vendor.	Experience Clause shall be as per the tender. Trial order is not applicable as per the tender. Trial order is not applicable as per the tender. Trial order is not applicable as per the tender.