

OIL INDIA LIMITED
(A GOVT. OF INDIA ENTERPRISE)
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AMENDMENT NO. 7 DATED 02.09.2025 TO TENDER NO. CDG9298P26 FOR
'HIRING OF SERVICES FOR DRILLING DIRECTIONAL WELLS WITH RSS-
SDMM+MWD-LWD+JAR INCLUDING MUD SERVICES ALONG WITH PERSONNEL
IN THE NORTHEASTERN STATES OF INDIA'.

This amendment to Tender No. CDG9298P26 is issued to notify about the following:

1. Bid Evaluation Criteria stands replaced with Revised Bid Evaluation Criteria (Revised BEC) enclosed herewith vide ENCLOSURE-A1.
2. Technical Specifications Matrix stands replaced with Revised Technical Specifications Matrix enclosed herewith vide Checklist-III*.
3. Bid Security Validity: Minimum up to 31st March' 2026.

All other Terms and Conditions of the Tender/Bid Document (Considering all previous Amendment/Corrigendum, if any) will remain unchanged.

Sd/-
(M. Sonowal)
Sr. Officer – Contracts (G)
For Chief General Manager – Contracts

REVISED BID EVALUATION CRITERIA (Revised BEC)

1.0 GENERAL CONFORMITY:

The bid shall conform generally to the full scope of work, specifications and terms & conditions given in this tender document. Bids shall be rejected in case material and services offered do not conform to the required parameters stipulated in the technical specifications. Notwithstanding the general conformity of the bid to the stipulated specifications, the following requirements will have to be particularly met by the Bidders without which the bid will be considered as non-responsive and rejected. All the documents related to BEC must be submitted along with the techno-commercial Bid.

Note: Bidders are advised not to take any exception/deviation to the Bid Documents. Exceptions/Deviations, if any, should be brought out during the **Pre-Bid Conference** as scheduled against this Tender. After processing such suggestions, Company may communicate the changes, if any, through an addendum to the tender document. Still, if any exceptions/deviations are maintained in the bid, such conditional/nonconforming bids shall not be considered, but shall be rejected.

2.0 TECHNICAL EVALUATION CRITERIA:

2.1 SCOPE OF WORK:

The Bidder shall confirm to provide all the following services:

- (i) One set of Rotary Steerable System + SDMM + Directional Gamma tools + Jar for 17 ½” hole section along with MWD surface Unit.
- (ii) One set of Rotary Steerable System + SDMM + Directional Gamma tools + Jar + APWD tool for 12¼” hole section along with MWD/LWD surface Unit. However, one set of resistivity, neutron-azimuthal Density with imaging and calliper tool for 12¼” hole section will be on call out basis.
- (iii) One set of Rotary Steerable System + SDMM + Directional Gamma tools + Jar for 8½” hole section along with MWD/LWD surface Unit along with One set of resistivity, neutron-azimuthal Density with imaging and calliper & APWD for 8.1/2” hole section. However, one set of Formation Pressure while Drilling for 8.1/2” hole section *will be on call out basis.*
- (iv) One set of Rotary Steerable System + SDMM + Directional Gamma tools + Jar for 6” hole section along with MWD/LWD surface Unit along with One set of resistivity, neutron-azimuthal Density with imaging and calliper & APWD for 6” hole section. However, one set of Formation Pressure while Drilling for 6” hole section *will be on call out basis.*
- (v) Mud Engineering Service

Notes:

- (a) In case the bidder does not have all the services of their own, they can have pre-tender tie-up only for the Mud Engineering Service & Jar. However, the prime bidder has to have the Directional Drilling services of their own.
- (b) In case of pre-tender tie-up, the bidder should execute a legally enforceable MOU/ Agreement valid for entire duration of the contract including extension, if any. Copies of the pre-tender tie-up for each third-party service mentioned under Note (a) above, should be furnished along with the Technical Bid clearly referring to OIL's tender document number & indicating the scope of work for technical partner of the bidder. Notwithstanding the MOU, bidder shall clearly undertake the single point responsibility of completing the project as offered by the bidder.

2.2 EXPERIENCE CRITERIA:

The following minimum criteria should be met by the Bidder failing which their bid/offer will be rejected:

- (A) Bidder should be a Directional Drilling and Logging While Drilling Service Provider Company engaged in providing Rotary Steerable System (RSS) integrated with collar based MWD & LWD tools to E & P Company (Companies involved in Exploration & Production of Oil & Gas) since last 10 (ten) years to be reckoned from the original bid closing date. Bidder should have experience of successfully completing atleast 01(One) Contract of minimum 01(One) year duration using RSS with MWD/LWD tools in last 10 (ten) years reckoned from the original bid closing date.
- (B) The bidder should have also successfully completed minimum 6 (Six) directional wells using RSS - MWD/LWD tools in combination in any E&P company (company involved in exploration & production of Oil & Gas) in the last 10 (ten) years reckoned from the original bid closing date. Each well should have a minimum drift displacement of 2000 m.
- (C) The bidder or its tie-up partner (as per Note (a) of Clause No. 2.1 above) should have experience of providing Mud engineering services to any E&P Company (Company involved in Exploration & Production of Oil & Gas) for minimum 02(Two) years under a single contract and additionally should have completed Mud engineering service in at least 03(Three) wells of minimum 3000m depth in the last 10(ten) years reckoned from the original bid closing date.

- 2.2.1** Bidder must submit necessary documentary evidence as noted below in support of the experience criteria under the Clause No. 2.2 above:

- (a) Towards compliance to Clause No. 2.2 (A) above: Documentary evidence(s) in the form of relevant pages of the contract(s) executed showing detailed address(es) of client(s), scope of work along with completion certificate(s)/payment certificate(s) or any other document(s) issued/certified by the client(s) which substantiate the 10 (ten) years experience and also completion of at least 01(One) Contract for a minimum period of 01 (One) year of drilling Directional Wells using RSS along with MWD/LWD. The same should also be submitted as per **Annexure-AA**.
- (b) Towards compliance to Clause No. 2.2 (B) above: Documentary evidence(s) in the form relevant pages of the contract(s) executed showing detailed address(es) of client(s), scope of work/end of well report(s)/well completion report(s)/directional survey reports/ completion certificate(s) or any other document(s) issued/certified by the client(s) in support of the successful completion of the 06 (Six) nos. of High-Displacement Directional Wells of minimum drift displacement of 2000 m. The same should also be submitted as per **Annexure-BB**.
- (c) Towards compliance to Clause No. 2.2 (C) above: Documentary evidence(s) in the form of relevant pages of the contract(s) executed showing detailed address(es) of client(s), scope of work along with completion certificate(s)/payment certificate(s) or any other document(s) issued/certified by the client(s) which substantiate the completion of at least 01(One) Contract of Mud Engineering Service for a minimum duration of 02 (Two) years to any E & P Company. For 03(Three) wells of minimum depth of 3000m, bidder has to submit the DMR of the particular wells.
- (d) Bidder can also provide self-certified documents duly signed by the authorized signatory of the bid/CEO of the firm confirming execution of required number of High Displacement directional wells with drift displacement of minimum 2000 meters, clearly indicating Contract no., well name and operator's details. However, for Mud engineering Service, the declaration has to be signed by the authorized signatories of the bid/CEO of both the partners of the bid confirming execution of Mud service in 03(Three) wells of minimum 3000m or more.

NOTES:

- (i) In case requisite experience is against OIL's Contract, bidder shall only require to categorically specify OIL's Contract Number and date.
- (ii) Only Letter of Intent (LOI)/Letter of Award (LOA) or Work Order(s)/Client's Feedback Form are not acceptable as evidence of experience.
- (iii) Mere award of contract(s) will not be counted towards experience. Successful completion of the awarded contract(s) to the extent of the

parameter(s), as stipulated under Clause No. 2.2 will only be treated as acceptable experience.

- (iv) Work executed through 'sub-contracting' shall not be considered for evaluation.
- (v) Work executed by a bidder for its own organization/parent subsidiary/co-subsidiary/sister-subsidiary/Joint Venture cannot be considered as experience for the purpose of meeting BEC.
- (vi) Bid will be rejected if not accompanied with adequate documentary proof in support of Work experience as mentioned in Clause 2.2 (A), (B) & (C) above.
- (vii) If the prospective bidder is executing a contract as per Clause No. 2.2 of BEC which is still running and quantity of the jobs executed prior to original bid closing date is equal to or more than the minimum prescribed numbers of jobs as mentioned in Clause 2.2 of BEC, such experience shall qualify for evaluation.
- (viii) Oil India Limited (OIL) reserves the right to contact the Client(s) referred by the Bidder for authentication of the documents submitted by the bidder. OIL may contact the clients/operators under intimation/copy to the respective bidder. OIL will not be responsible for Client(s) not conforming or not replying to OIL's request for information. If OIL does not get an affirmative response within the stipulated time, then such Bidder's technical bid will be considered as non-responsive. It will be the responsibility of the Bidder to take up the matter with his client(s) and arrange for the confirmation as desired by OIL.

2.2.2 Bidders who themselves do not meet the experience criteria as stipulated in Clause No. 2.2 above, can also bid under the categories as listed below:

(I) Eligibility criteria in case bids are submitted based on technical experience of Parent/Subsidiary Company:

Offers of those bidders who themselves do not meet the experience criteria as stipulated in clause no. 2.2 above can also be considered provided the bidder is a subsidiary company of the parent company [supporting company, which holds more than fifty percent of the paid-up equity share capital of the bidder] who fulfils the experience criteria. Similarly, bid from parent company can also be considered on the strength of requisite experience of its subsidiary [supporting company, in which the bidder holds more than fifty percent of the paid-up equity share capital]. However, the parent/subsidiary company (as the case may be) of the bidder should on its own meet the experience as stipulated in the BEC and should not rely for meeting the experience criteria on its sister subsidiary/co-subsidiary company or through any other arrangement like Technical Collaboration agreement etc.

In case of bidder who is a subsidiary company dependent upon the experience of the parent company or vice-versa with a view to ensure commitment and involvement of the parent/subsidiary company (Supporting Company) for successful execution of the contract, the participating bidder should enclose a Parent/Subsidiary Agreement (as per **Annexure-A**) and also a parent/subsidiary Guarantee (as per **Annexure-B**) to OIL for fulfilling the obligation under the Agreement, along with the technical bid.

(II) Eligibility criteria in case bid is submitted based on technical experience of Sister-subsidiary/Co-subsidiary Company:

Offers of those bidders who themselves do not meet the experience criteria as stipulated in Clause No. 2.2 above can also be considered based on the experience of their sister-subsidiary/co-subsidiary company (Supporting Company) within the ultimate parent/holding company subject to meeting the following conditions:

- (i) Provided that the sister-subsidiary/co-subsidiary company and the bidding company are both wholly owned subsidiaries of an ultimate parent/holding company either directly or through intermediate wholly owned subsidiaries of the ultimate parent/holding company or through any other wholly owned subsidiary company within the ultimate/holding parent company. Documentary evidence to this effect to be submitted by the ultimate parent/holding company along with the technical bid.
- (ii) Provided that the sister subsidiary/co-subsidiary company on its own meets the experience criteria stipulated in the BEC and not through any other arrangement like Technical Collaboration agreement etc.
- (iii) Provided that with a view to ensure commitment and involvement of the ultimate parent/holding company for successful execution of the contract, the participating bidder must submit an agreement, as per format furnished vide **Annexure-C**, between them and their ultimate parent/holding company, along with the technical bid.

Notes to Para 2.2.2(I) & 2.2.2(II) above: In the situations mentioned in Paras No. (I) and (II) above, the supporting company shall not be allowed to submit their separate/independent bid against this tender. In such case, all such bids shall be rejected. Also, bids having technical support from the same entity shall be rejected. Further, bidders shall submit/comply the following:

- (a) Undertaking by the Supporting Company to provide an additional Performance Security (as per **Annexure-F**), equivalent to 50% of the value of the Performance Security which is to be submitted by the bidding company in case the bidding company is the successful bidder.
- (b) In cases where the Supporting Company do not have Permanent Establishment in India, the bidding company can furnish this additional Performance Security on behalf of the supporting company

in addition to their own Performance Security as per tender. In such case, bidding company shall furnish an undertaking that their foreign based supporting company / ultimate parent company is not having any Permanent Establishment in India in terms of Income Tax Act of India.

- (c) Undertaking from the supporting company to the effect that in addition to invoking the Performance Security submitted by the Contractor, the additional Performance Security provided by the supporting company shall be invoked by OIL due to non-performance of the Contractor.
- (d) A certificate from the Statutory Auditor of the bidding company to establish the relationship and equity percentage holding between bidding company and the supporting company. The certificate should be duly concurred/endorsed by the Company Secretary or one of the Directors of the company concerned.

The above certificate should not be more than 30 days old as on the original bid closing date.

(III) Bid from Joint Venture Company:

- (i) In case the bidder is Joint Venture Company, they must be registered in India and incorporated under the Companies Act 1956/Companies Act 2013/ Limited Liability Partnership Act 2008 and any amendment thereunder. They should meet the technical qualification requirements as under:
 - A. The JV on its own shall meet the experience criteria as per Clause No. 2.2.
 - or
 - B. Any member of the JV having a stake of at least 26% in the JV, on its own shall meet experience requirement as per Clause No. 2.2.

Notes:

- a) In case of (B) above, an undertaking from the Joint Venture partner, based on whose experience the JV seek qualification, shall be submitted with the techno commercial bid stating that they shall maintain minimum 26% shareholding in the JV till the execution of the contract.
- b) Experience of the JV or its member (as the case may be) relying on the experience of its supporting company/subsidiary/co-subsidiary/ sister-subsidiary/ parent/ holding/ affiliating/ associate company or through any other arrangement like technical collaborator for meeting the technical criteria shall not be considered for evaluation.

- c) Documents showing the existing shareholdings of the JV Partners must be submitted along with the bid.
- (ii) **Constitution of Joint Venture:** The members of the JV should not be more than three. If after submission of bid, a JV leader effects any alterations/changes in the constitution or replacement or inclusion or expulsion of any partner(s)/member(s) of the Joint Venture which had originally submitted the bid, the bid of such a JV shall be liable for rejection.
- (iii) Indian bidders whose proposal for Joint Venture involves foreign equity participation or payment of royalty and / or lump sum for technical know-how and wherever Govt. approval is necessary, **are required to submit their application submitted to SIA/RBI along with the bid** and copy of Govt. approval prior to the date of price bid opening. Confirmation to this effect and declaration on the same should be provided as part of their technical offer.
- (iv) Members of the JV are not allowed to quote separately/independently/or through any other arrangement like part of any other 'JV/Subsidiary/ Parent company/Sister-subsidiary/Co-subsidiary' against this tender. All the bids received in such a case shall be summarily rejected. Further, all bids from parties with technical support from the same Principal shall be rejected.

(IV) Bid from Consortium of Companies:

In case the Bidder is a Consortium of Companies, the following requirement should be complied by the consortium:

- (i) Any member of the consortium on its own shall satisfy the minimum experience requirement as per Clause No. 2.2 above and shall not rely on its consortium partners, subsidiary/parent company/co-subsidiary or through any other arrangement like Technical Collaboration agreement for meeting the experience criteria.
- (ii) Consortium bids shall be submitted with a Memorandum of Understanding (MoU) among the consortium members duly executed by the Authorized Executives of the consortium members and notarized. This MoU must accompany the bid. The MoU must state that the Consortium Member on whose experience/strength the Consortium is bidding, is bound to execute the full part of the contract which falls under/related to the experience submitted by them against Clause No. 2.2 of BEC above. Moreover, the MoU must clearly define the role/scope of work of each partner/member and should clearly define the leader of consortium. Memorandum of Understanding (MOU) must also state that all the members of consortium shall be jointly and severally responsible for discharging all obligations under the contract. However, the leader of the consortium must submit an undertaking along with the technical bid towards unconditional acceptance of full responsibility for executing the 'scope of work' of

this bid document. In case of award, such MOU shall be kept valid through the entire contract period, including extensions, if any.

- (iii) Only the Leader of the consortium should register against the tender in e-Tender portal and submit bid on behalf of the Consortium. The other members of the Consortium shall ratify all the acts and decisions of the Leader of Consortium, which are taken in connection with and/or during the evaluation of the tender and execution of the contract.
- (iv) The Bid Security shall be in the name of the Leader of the consortium on behalf of consortium with specific reference to consortium bid and with name(s) & address(es) of Consortium members. Similarly, the Performance Security shall be in the name of the Leader on behalf of the Consortium.
- (v) The leader of the consortium on behalf of the consortium shall coordinate with OIL during the period the bid is under evaluation as well as during the execution of works in the event contract is awarded and he shall also be responsible for resolving dispute/ misunderstanding/ undefined activities, if any, amongst all the consortium members. If the leader of the consortium changes during execution of the contract (if awarded), the contract shall be liable for termination.
- (vi) Any correspondence exchanged with the leader of consortium shall be binding on all the consortium members.
- (vii) Payment shall be made by OIL only to the leader of the consortium towards fulfilment of contract obligations.
- (viii) In case of consortium bids, the bid shall be signed/digitally signed in line with tender stipulation by the leader of consortium. The power of attorney from each member authorizing the leader for signing and submission of Bid on behalf of individual member must accompany the bid.
- (ix) Documents/details submitted with the bid pertaining to qualification of the bidder must be furnished by each partner/ member of consortium and should be complete in all respects clearly bringing up their experience especially in the form of work in their scope.
- (x) The leader of the consortium must confirm unconditional acceptance of full responsibility of executing the “Scope of Work” of this tender. This confirmation must be submitted along with the technical bid.
- (xi) **Constitution of Consortium**: The members of the consortium should not be more than 03 (Three). If during evaluation of bid, a consortium leader proposes any alterations/changes in the constitution or replacement or inclusion or expulsion of any partner(s)/member(s) of the consortium which had originally submitted the bid, to drive some advantages/benefits based on any development(s) having come to his

knowledge at any time, the bid of such a consortium shall be liable for rejection. Similarly, under such a situation the contract shall be liable for termination, if already awarded.

- (xii) **Signing of Contract:** In the event of award of contract to the consortium, the contract to be signed by all the members of the consortium and the liability of each one of them shall be jointly and severally.
- (xiii) Members of the consortium are not allowed to quote separately/ independently/or through any other arrangement like part of any other JV/Consortium against this tender. All the bids received in such case shall be summarily rejected. Further, all bids from parties with technical support from the same Principal shall be rejected.
- (xiv) Certified copies (attested by Director/Company Secretary/Authorised Signatory) of Board resolutions/Partnership resolutions passed by respective Board of Directors of the companies/Partners of the LLP agreeing to enter into such consortium with each other for submission of bid for the NIT and also authorizing designated executives of each company/LLP to sign the MOU, to be provided along with the technical bid.
- (xv) The MOU/Agreement should be legally valid i.e. it should be on a non-judicial stamp paper and notarized. In case of involvement of overseas bidder/consortium partner, the MOU/Agreement need not be on a non-judicial stamp paper, however it should be notarized.

2.2.3 Bidders quoting on the technical strength of Parent/Subsidiary/Sister-Subsidiary/Consortium member/Joint Venture partner Company's experience (who qualifies the technical requirement as per the tender qualifying criteria) should provide the respective services from the identified party (Supporting Company) on whose strength the bidder meets the qualifying criteria including key personnel for a minimum duration of 50% of the initial Contract period during execution of the contract. Declarations in this regard from the bidder as well as the Supporting Company are required to be submitted along with the un-priced techno-commercial bid as per format vide **Annexure-G**.

2.3 MOBILIZATION PERIOD:

Bidder has to confirm mobilization of all the 4 (Four) sets of tools, equipment and personnel within 120 (One Hundred Twenty) days from date of issue of the 1st mobilization notice. However, OIL reserves the right to mobilize each of the sets in a phased manner and in that case separate mobilization notice will be issued. Offers indicating mobilization time more than 120 days from the date of issuance of mobilization notice for the set of tool(s) will be rejected.

For Mud Engineering Services, Bidder has to confirm mobilization of Mud Engineering services along with personnel within 120 (One Hundred Twenty) days from date of issue of the 1st mobilization notice.

In case of call out tools, mobilization notice with 60 (Sixty) days' time will be issued.

3.0 FINANCIAL EVALUATION CRITERIA:

3.1 Annual Financial Turnover from Operations of the Bidder during any of the last three (03) completed financial/accounting years preceding the **Original Bid Closing date** must be at least **INR 46,22,42,000.00 or US\$ 5,355,000.00**

[**Annual Financial Turnover** of the bidder from operations shall mean- "Aggregate value of the realization of amount made from the sale, supply or distribution of goods or on account of services rendered, or both, by the company (bidder) during a financial year" as per the Companies Act, 2013 Section 2 (91).]

3.2 The **Net Worth** of the bidder must be **positive** for the financial/accounting year preceding the original bid closing date.

[**Net worth** shall mean: "Share capital + Reserves created out of profits and securities Premium - Aggregate value of accumulated losses (excluding revaluation reserves) - deferred expenditure - Miscellaneous Expenditure to the extent not written off and carried forward Loss - Reserves created out of write back of depreciation and amalgamation".]

3.3 In case the bidder is a subsidiary company (should be a wholly owned subsidiary of the parent/ultimate parent/holding company) who does not meet financial criteria by itself and submits bid based on the financial strength of its parent/ultimate parent/holding company (supporting company), then documents need to be submitted along with the technical bid in support of the following:

- (i) The parent/ ultimate parent / holding company (supporting company) should meet the Financial Evaluation Criteria stipulated in Clause Nos. 3.1 & 3.2 above.
- (ii) **Corporate Guarantee (Annexure-D)** on parent/ultimate parent/ holding company's (supporting company) letter head signed by an authorized official undertaking that they would financially support their subsidiary company for executing the project/job in case the same is awarded to them.
- (iii) A certificate from the Statutory Auditor of the bidding company to establish the relationship and equity percentage holding between bidding company and the supporting company. The certificate should be duly concurred/endorsed by the Company Secretary or one of the

Directors of the company concerned.

The above certificate should not be more than 30 days old as on the original bid closing date.

3.4 If the Bidder is an Incorporated Joint Venture (JV) and does not meet financial criteria (BEC Clause Nos. **3.1 & 3.2**) by itself, it can submit the bid based on the financial strength of its JV member having more than 50% stake in the JV and the following needs to be complied/submitted:

- (i) The member having more than 50% stake in the JV should meet the Financial Evaluation Criteria stipulated in Clause Nos. **3.1 & 3.2** above.
- (ii) **Corporate Guarantee (Annexure-E)** on the letter head of the member having more than 50% stake in the JV signed by an authorized official undertaking that they would financially support their JV for executing the project / job in case the same is awarded to them.
- (iii) A certificate from the statutory Auditor of the JV on the shareholding pattern of the JV. The certificate should be duly concurred/ endorsed by the Company Secretary or one of the Directors of the company concerned or Managing/Authorised partner of the LLP.

The above certificate should not be more than 30 days old as on the original bid closing date.

- (iv) An undertaking from the Joint Venture partner, based on whose experience the JV seek financial qualification, shall be submitted with the techno commercial bid stating that they shall maintain more than 50% shareholding in the JV till execution of the contract is accomplished.

3.5 In case of bid from Consortium of Companies, any one of the consortium members shall have an annual financial turnover from operation of minimum **INR 46,22,42,000.00 or US\$ 5,355,000.00** and other members of the consortium shall have an annual financial turnover from operation of minimum **INR 23,11,21,000.00 or US\$ 2,677,500.00**, during any of the preceding 03 (Three) financial/accounting years reckoned from the original bid closing date. Net worth of all the members must be Positive for the financial/accounting year preceding the original bid closing date.

All the consortium members shall meet the financial criteria as indicated above on their own and shall not rely on the strength of their parent/ultimate parent/holding company to meet the financial criteria. Otherwise, their bid shall be categorically rejected.

3.6 Notes to Financial Evaluation Criteria:

- a. For proof of Annual Turnover from operation & Net worth, any one of the following documents/photocopies must be submitted along with the bid:

(i) A certificate issued by a practicing Chartered/ Cost Accountant (with Membership Number and Firm Registration Number), certifying the Annual Turnover & Net worth as per format prescribed in **Proforma-L**.

OR

(ii) Financial Statements (Balance Sheet & Profit & Loss account **along with all the schedules/notes forming part of the Balance sheet & Profit and Loss Account**) audited by the auditors appointed under the statute like Companies Act etc. wherever applicable. In cases where the bidding/ supporting company (as applicable) are not required to prepare Audited Financial Statements as per the Law of the Land of the country of the bidding/supporting company as applicable, the bidder shall provide documentary evidence for the same along with a certificate from a practicing Chartered Accountant or equivalent to this effect. The bidder must also submit the financial statement as per the accounting standards of the country of the bidding/supporting company as the case may be, duly certified by the practicing-chartered accountant or equivalent.

Note: Mention of UDIN (Unique Document Identification Number) is mandatory for all Certificates issued w.e.f. February 1, 2019 by Chartered Accountant in Practice.

- b. Considering the time required for preparation of Financial Statements, if the last date of preceding financial/accounting year falls within the preceding six months reckoned from the original bid closing date/within the due date for furnishing of audit report as per Section 139(1) of IT Act, 1961 (read along with latest circulars/notifications issued by CBDT from time to time) and the Financial Statements of the preceding financial/accounting year are not available with the bidder, then the Net worth of the previous financial/ accounting year excluding the preceding financial/accounting year will be considered. However, the bidder has to submit an undertaking in support of the same along with their technical bid as per **Proforma-K**.
- c. In case the bidder is a Central Govt. Organization/PSU/State Govt. Organization/Semi-State Govt. Organization or any other Central/State Govt. Undertaking, where the auditor is appointed only after the approval of Comptroller and Auditor General of India and the Central Government, their certificates may be accepted even though

FRN is not available. However, bidder to provide documentary evidence for the same.

- d. In case the Audited Balance sheet and Profit Loss Account submitted along with the bid are in currencies other than INR or US\$, the bidder shall have to convert the figures in equivalent INR or US\$ considering the prevailing conversion rate on the date on which the Audited Balance Sheet and Profit & Loss Account is signed. A CA Certificate (with Valid UDIN) is to be submitted by the bidder regarding converted figures in equivalent INR or US\$. Else, the Audited Balance Sheet and Profit & Loss Account shall be evaluated by considering the BC selling rate declared by State Bank of India (on the date on which the Audited Balance Sheet and Profit & Loss Account is signed) for conversion to INR.

4.0 COMMERCIAL EVALUATION CRITERIA:

- 4.1 The bids are to be submitted under Single Stage – Two Bid System i.e. Un-priced Techno-Commercial Bid and Price Bid separately in their respective fields in E-portal. The unpriced Techno-commercial Bid is to be uploaded in “Technical RFx Response” Tab and Priced Bid is to be uploaded in the “Notes & Attachments” Tab. Only the Priced Bid as per **Proforma-B** uploaded in the “Notes & Attachments” Tab should contain the quoted price. Bids shall be rejected outright if the price(s) is/are indicated in the technical bids. Bids not conforming to this two-bid system shall be rejected outright.
- 4.2 Bidder shall offer firm prices. The price quoted by the successful bidder must remain firm during the performance of the contract and not subject to variation on any account except as mentioned in the bid document (if any).
- 4.3 Bid security in Original shall be furnished as a part of the Techno Commercial Un-Priced Bid. The amount & validity of bid security should be as specified in the **Forwarding Letter**. Any bid not accompanied by a proper bid security will be rejected.
- 4.4 Bid Documents/User ID & Password for OIL’s E-Tender portal are not transferable. Bid can only be submitted in the name of the bidder in whose name the User ID and Password have been issued. Unsolicited bids will not be considered and will be straightway rejected.
- 4.5 Bids received through the e-procurement portal shall only be accepted. Any bid received in any other form will not be accepted.
- 4.6 Bids shall be typed or written in indelible ink. The Bids and all uploaded documents must be digitally signed using “Class 3” digital certificate [e-commerce application (Certificate with personal verification and

Organization name)] as per Indian IT Act obtained from the licensed Certifying Authorities operating under the Root Certifying Authority of India (RCAI), Controller of Certifying Authorities (CCA) of India [except copies of the documents required in physical form] should invariably be submitted in the 'Technical Attachment Tab' through OIL's e-bidding portal, before the scheduled date and time for the tender closing. All the documents uploaded shall be digitally signed by the authorized signatory of the bidder.

- 4.7** Bid documents shall contain no interlineations, white fluid, erasures or overwriting except as necessary to correct errors made by bidder, in which case such corrections shall be initialed by the person or persons who has/have digitally signed the Bid.
- 4.8** Any bid containing false statement will be rejected and action will be taken by Company as per Bid Document.
- 4.9** Bidders must quote clearly and strictly in accordance with the price schedule outlined in **Price Bidding Format** attached under "Notes and Attachments" tab in the main bidding engine of OIL's E-Tender portal; otherwise, the bid will be rejected. All other techno-commercial documents other than price details to be submitted with Unpriced Techno-Commercial Bid as per tender requirement under "Technical Attachment" Tab Page only.
- 4.10** Bidder must accept and comply with the following provisions as given in the Tender Document in toto, failing which offer will be rejected:
- (i) Firm price
 - (ii) Bid Security/EMD
 - (iii) Period of validity of Bid
 - (iv) Price Schedule
 - (v) Performance Bank Guarantee / Security deposit
 - (vi) Mobilization Schedule
 - (vii) Scope of work
 - (viii) Guarantee of material / work
 - (ix) Liquidated Damages clause
 - (x) Tax liabilities
 - (xi) Arbitration / Resolution of Dispute Clause
 - (xii) Force Majeure
 - (xiii) Applicable Laws
 - (xiv) Specifications
 - (xv) Integrity Pact
- 4.11** There should not be any indication of price in the Un-priced Techno-Commercial Bid. A bid will be straightway rejected if this is given in the Un-priced Techno-Commercial Bid.
- 4.12** Bid received with validity of offer less than **120 (one hundred twenty) days** from Bid Opening Date will be rejected.

- 4.13** The Integrity Pact is applicable against this tender. OIL shall be entering into an Integrity Pact with the bidders as per format enclosed vide **“Proforma-M: Integrity Pact”** the tender document. This Integrity Pact proforma has been duly signed digitally by OIL’s competent signatory. The proforma has to be returned by the bidder (along with the Un-priced Techno-Commercial Bid) duly signed (digitally) by the same signatory who signed the bid, i.e., who is duly authorized to sign the bid. Uploading the Integrity Pact with digital signature will be construed that all pages of the Integrity Pact has been signed by the bidder's authorized signatory who sign the Bid. If any bidder refuses to sign Integrity Pact or declines to submit the Integrity Pact, their bid will be rejected.
- 4.14** **Land Border Sharing:** Bidders should submit an Undertaking that, their bid is compliant to Order No. F.No. 6/18/2019-PPD dated 23.07.2020 issued by Ministry of Finance, Department of Expenditure, Public Procurement Division, Govt. of India (including subsequent amendments thereto, if any), regarding restrictions on procurement from a bidder of a country which shares land border with India.
- 4.15** **Document Authenticity Undertaking:** Bidders should note that Company (OIL) may verify authenticity of all the documents /certificates / information submitted by the bidder(s) against the tender. In case at any stage of tendering process or Contract execution etc., if it is established that bidder has submitted forged documents / certificates / information towards fulfilment of any of the tender / contract conditions, Company shall immediately reject the bid of such bidder(s) or cancel / terminate the contract besides taking action as per OIL’s Banning Policy available in the OIL’s website. Accordingly, service provider/vendor to submit the Undertaking of authenticity of information/documents submitted as per **Proforma-J**.
- 4.16** Bidders should not be under liquidation/bankruptcy/undergoing any insolvency resolution process as on Bid Closing date. Bidders shall submit undertakings towards compliance of above as per **Appendix-1** along with the bid. If any bidder declines to submit the above undertaking, their bid shall be liable for rejection.
- 4.17** The bidder shall submit an undertaking/declaration as per **Appendix-2 (Revised)** confirming that they have read and understood OIL’s Banning Policy and that, neither they nor any of their allied concerns or partners or associates or directors, or proprietors involved in any capacity, are currently on OIL’s Holiday/Banning List. Further, the bidder shall confirm that neither they nor any of their aforementioned entities have, during the last three years, been involved in any transgression with any company conforming to the Transparency International (TI) approach or with any Public Sector Enterprise of India that could justify exclusion from the tender process. The bidder shall also disclose details of all such allied entities, if any, as required under the Banning Policy.

5.0 PRICE EVALUATION CRITERIA:

The bids conforming to the technical specifications, terms and conditions stipulated in the bidding document and considered to be responsive after subjecting to Evaluation Criteria mentioned above will be considered for Price Evaluation as per criteria given below:

- 5.1** Bidders are required to quote for all the items as per **Proforma-B (Price Bid Format)**, otherwise the offer of the bidder will be straightway rejected.
- 5.2** If there is any discrepancy between the unit price and the 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.
- 5.3** The quantities shown against each item in the “Price Bid Format” shall be considered for the purpose of Bid Evaluation. It is, however, to be clearly understood that the assumptions made in respect of the quantities for various operations are only for the purpose of evaluation of the bid and the Contractor will be paid on the basis of the actual number of days/parameters, as the case may be.
- 5.4** The bidders are advised not to offer any discount/rebate separately and to offer their prices in the Price Bid Format after considering discount/rebate, if any.
- 5.5** Conditional and unsolicited discount will not be considered in evaluation. However, if such bidder happens to be the lowest recommended bidder, unsolicited discount without any condition will be considered for computing the contract price.
- 5.6** In case of identical overall lowest offered rate by more than 1(one) bidder, selection will be made by draw of lots between the parties offering the same overall lowest price.
- 5.7** Price Bids shall be evaluated on overall lowest cost to OIL (L-1 offer) basis i.e. considering total quoted price for all services including quoted GST.
- 5.8** While evaluating the bids, the closing rate (B.C. Selling Rate) of exchange declared by State Bank of India on the day prior to price bid opening will be taken into account for conversion of foreign currency into Indian Rupees.
- 5.9** OIL will prefer to deal with registered bidder under GST. Therefore, bidders are requested to get themselves registered under GST, if not registered yet. However, in case any unregistered bidder is submitting their bid, their prices will be loaded with applicable GST while evaluation of bid.

- 5.10** Price Bid uploaded without giving any of the details of the taxes (Including rates and amounts) will be considered as inclusive of all taxes including GST. When a bidder mentions taxes as extra without specifying the rates & amount, the offer will be loaded with maximum value towards taxes received against the tender for comparison purposes. If the bidder emerges as lowest bidder after such loading, in the event of award/order on that bidder, taxes mentioned by OIL on the Purchase Order/Contracts will be binding on the bidder.
- 5.11** Input Tax Credit on GST (Goods & Service Tax) for this service is NOT available to OIL & the bids will be evaluated based on total price including GST.
- 5.12** **CUSTOMS DUTY:** In terms of Sl. No. 404 of the Customs Notification No.50/2017-Cus dated 30.06.2017 (including amendments thereof), imports of the items specified in List 33 of the Notification are subject to levy of concessional rate of customs duty subject to conditions specified therein.

Similarly, the domestic supply of such goods would attract concessional GST on submission of EC in terms of Gazette Notification No. No. 3/2017-Central Tax (Rate) dated 28.06.2017 (and as amended from time to time).

Bidders shall take note of the prevailing customs notifications including the latest amendment vide gazette Notification No. 30/2024-Customs dated 23.07.2024 while quoting their prices. Bidder should consider concessional Customs Duty only for those items appearing in List-33 therein. Items of their import other than those appearing in List-33 of the said gazette notification shall be considered as duty payable on merit basis in their respective bid. OIL shall issue the requisite undertaking/certificate on request from Contractor for availing concessional rate of customs duty only against the items explicitly covered under List-33 of Customs Notification No. 30/2024-Customs dated 23.07.2024 or against any other item(s) subsequently declared by the competent authority during the tenure of the contract to be duty exempted/concessional. However, in the event of refusal/denial by Customs Authority to accord exemption/ concession of Customs Duty against import of items which are explicitly covered under List-33 of Notification No. 30/2024-Customs dated 23.07.2024, such applicable customs duty shall be reimbursed at actual by OIL to the Contractor on submission of documentary evidence.

Similarly, the items other than those appearing in List-33 of the said gazette notification, if to be imported by the Contractor for the purpose of execution of contract against this tender, the same shall be considered as duty payable on merit basis and the applicable customs duty thereof must be included by the bidder in their respective bid value. OIL will not issue any

Undertaking/Certificate towards customs duty concession/exemption for those items (not included in List-33 of Notification) and the duty payable on merit shall be borne by the Contractor. However, any other item if subsequently notified by the competent authority to be Duty free/concessional during the tenure of the contract, OIL will issue requisite Certificate/Undertaking for Contractor to avail the Customs Duty benefit and the duty benefit must be passed on to OIL. Additionally, for all those items against which the bidder considers the Customs Duty on merit, the list specifying the Customs Duty Rate (percentage) may be furnished, so that subsequent increase/decrease in Customs Duty, if any shall be reimbursed/recovered by OIL as the case may be on documentary evidence.

Bidders should submit the list of items which are to be imported for execution of the contract against this tender (**PROFORMA-A**) prudently along with their bid. Undertaking/Certificate for availing concessional rate of Customs Duty shall be issued by OIL only for the eligible items, provide the same are included in the Proforma-A submitted by the bidder.

6.0 GENERAL NOTES:

- 6.1** In case bidder takes exception to any clause of bidding document not covered under BEC, then the Company has the discretion to load or reject the offer on account of such exception if the bidder does not withdraw/modify the deviation when/as advised by company. The loading so done by the company will be final and binding on the bidders. No deviation will however be accepted in the clauses covered under BEC.
- 6.2** To ascertain the substantial responsiveness of the bid, the Company reserves the right to ask the bidder for clarification in respect of clauses covered under BEC also and such clarifications fulfilling the BEC clauses in toto must be received on or before the deadline given by the company, failing which the offer will be liable for rejection. Since pre-bid meeting is provisioned in this tender, Company is not obligated to seek any post-bid clarification. However, clarifications if decided to be sought at the option of Company, the same shall be limited to the original submissions only and no independent fresh submission shall be called for/permitted. However, mere submission of such clarification shall not make the offer responsive, unless company is satisfied with the substantial responsiveness of the offer.
- 6.3** If any of the clauses in the BEC contradict with other clauses of tender document elsewhere, then the clauses in the BEC shall prevail.
- 6.4** Bidder(s) must note that requisite information(s)/financial values etc. as required in the BEC & Tender are clearly understandable from the supporting documents submitted by the Bidder(s); otherwise, Bids shall be rejected.

- 6.5** The originals of such documents [furnished by bidder(s)] shall have to be produced by bidder(s) to OIL as and when asked for.
- 6.6** OIL will not be responsible for delay, loss or non-receipt of applications for participating in the bid sent by mail and will not entertain any correspondence in this regard.
- 6.7** Bidders shall submit duly filled checklists on BEC & other relevant technical criteria as prescribed in the tender along with their technical bid. If any bidder fails/declines to submit the same, their bid shall not be considered for further evaluation.

7.0 PURCHASE PREFERENCE CLAUSE:

- 7.1 PURCHASE PREFERENCE TO MSE BIDDERS:** Purchase Preference to Micro and Small Enterprises is applicable for this tender.

7.1.1 Documentation required to be submitted by MSEs: Categorization and various criteria applicable to MSE bidders shall be guided by the Gazette Notification No. **CG-DL-E-26062020-220191 dated 26.06.2020** and Amendment vide Gazette Notification No. **CG-DL-E-16062021-227649 dated 16.06.2021** and No. **CG-DLE-19012022-232763 dated 19.01.2022** and **CG-DL-E-06052022-235600 dated 06.05.2022** (and as amended time to time) issued by MINISTRY OF MICRO, SMALL AND MEDIUM ENTERPRISES, and any amendment thereof.

7.1.2 The bidder claiming the MSE status (MSE-General, MSE-SC/ST, MSE-Woman) against this tender has to submit Udyam Registration Number with Udyam Registration Certificate along with the technical bid for availing the benefits applicable to MSEs.

Note: In case bidding MSE is owned by Schedule Caste or Schedule Tribe or Woman entrepreneur, valid documentary evidence issued by the agency who has registered the bidder as MSE owned by SC/ST/Woman entrepreneur should also be enclosed.

7.1.3 Provisions such as seeking support from another company by way of Parent/Subsidiary/Sister-Subsidiary Company's experience/ JV Constituents/ Consortium etc., wherever allowed in the tender document shall be available to all interested bidders including MSEs. In those scenarios, MSEs quoting on the strength of Parent/Subsidiary/Sister-Subsidiary/Co-Subsidiary/JV Partner (whichever applicable) will be eligible for the benefits (Purchase Preference and EMD Exemption) reserved for MSEs, provided the supporting company for technical and financial strength is/are also MSE(s). In case of submission of consortium bids by MSEs, all the members of the consortium including the leader of the

Consortium should be eligible MSE in order to be eligible for the benefits reserved for MSEs.

7.2 **PURCHASE PREFERENCE POLICY (LINKED WITH LOCAL CONTENT) (PP-LC):** Purchase preference under **Public Procurement (Preference to Make in India) Order, 2017 of Department for Promotion of Industry and Internal Trade (DPIIT), Govt. of India as revised vide Order No. P-45021/2/2017-PP (BE-II) dated 16th September 2020 (and as amended time to time) with modifications as notified vide MoPNG Order No. FP-20013/2/2017-FP-PNG-Part (4) (E-41432) dated 26th April 2022**, shall be applicable in this tender. Bidders to check the provisions of the Order for their eligibility to bid and seek benefits for Purchase preference, accordingly.

7.3 Contract shall be awarded for the entire scope of work under this tender subject to concurrent application of Public Procurement Policy for MSE Order 2012 and PP(MII) Order 2017 as per Order No. F.1/4/2021-PPD dated 18.05.2023 issued by Public Procurement Division, Department of Expenditure, Ministry of Finance, Govt. of India and any subsequent amendment thereto.

Notes:

a. The services required under the tender are not splittable.

b. The 'Total Price' shall be matched with that of the L1 bidder by reducing the differential rates proportionately or otherwise against the line items where their rates/prices are found to be higher than that of the L1 bidder.

8.0 VERIFICATION AND CERTIFICATION OF DOCUMENTS BY INDEPENDENT THIRD-PARTY INSPECTION AGENCIES:

8.1 Oil India Limited (OIL) has engaged the following 17 (Seventeen) Independent Inspection Agencies for a period of 04 (four) years with effect from 07.06.2024 to verify and certify various documents required against BEC of the tender:

Sl. No.	Name of Independent Inspection Agency	Contact E-mail ID
i.	M/s. Alfred H Knight India Private Limited.	a. rkjain@ahkgroup.com b. pradeep.mathur@ahkgroup.com c. info@ahkgroup.com
ii.	M/s. TUV India Private Limited	a. noida@tuv-nord.com

ENCLOSURE-A1

		b. mumbai@tuv-nord.com c. salim@tuv-nord.com
iii.	M/s Conformity India International Private Limited	a. mktg@ciindia.in
iv.	M/s Ravi Energic Private Limited	a. baroda@ravienergic.com b. tpia@ravienergic.com
v.	M/s SGS India Private Limited	a. dhaval.vora@sgs.com b. sgs.india@sgs.com
vi.	M/s Assure Quality Management Certification Services Private Limited	a. aqmcs@aqmcs.com
vii.	M/s. IRCLASS Systems and Solutions Private Limited	a. industrial_services@irclass.org b. Bhavesh.satam@irclass.org
viii.	M/s. TÜV Rheinland (India) Pvt. Ltd.	a. Shailesh.deotale@ind.tuv.com b. Kaushal.gohil@ind.tuv.com c. info@ind.tuv.com d. ravi.kumar@ind.tuv.com
ix.	M/s Gulf Lloyds (India) Ltd.	a. contact@gulflloyds.com b. inspection@gulflloyds.com
x.	M/s Baltic Testing India Pvt. Ltd.	a. office@balticcontrolindia.com
xi.	M/s Sanmarg Engineering Validation & Assessment	a. Amitra@sanmargeva.com
xii.	M/s Meenar Global Consultants LLP	a. sales@mgellp.in
xiii.	M/s Rites Limited	a. nrinspn@rites.com b. info@rites.com c. sbu.ninsp@rites.com
xiv.	M/s Bureau Veritas (India) Private Limited	a. bvindia.corporate@bureauveritas.com
xv.	M/s TUV SUD South Asia Private Limited	a. Hemant.chavan@tuvsud.com b. Jayashree.rane@tuvsud.com
xvi.	M/s Adornment Engineers India Private Limited	a. jks@adornmentengineers.com
xvii.	M/s TCRC Inspections Pvt. Ltd.	a. admin@tereinspections.com b. ashismallick@teregroup.com c. tenders@teregroup.com

- 8.2 The Bidders have to get verified and certified the various documents required against BEC of the tender by any one of the above Independent Inspection Agencies and submit the duly certified Inspection Certificate by the Inspection Agencies along with the Technical Bid of the Tender. All Charges of the Third-Party Independent Inspection Agencies towards verification of bidder's documents and certification thereof shall be borne by the respective bidders and payments on account of above inspection, verification and certification shall be made directly by the Bidder to the Inspection Agency(s). OIL will not be responsible for any payment dispute between Bidders and Third-Party Inspection Agencies.
- 8.3 As mentioned above, Bidder(s) have to submit the verified documents along with the Technical Bids. Bid submitted with un-verified supporting documents shall not be considered. However, in case a bidder submits its bid alongwith all relevant supporting documents as per BEC without getting all/some of them verified by the designated Independent Inspection agency, such bid can be provisionally considered provided it is accompanied by an **Undertaking by the Bidder on their official letterhead to submit the duly verified copies/verification certificate within 07 (Seven) days of bid opening**. Company will neither send any reminder nor seek any clarification in this regard from such bidders, and the bid will be rejected outright if the bidder fails to submit the verified copies/verification certificate within 07 (Seven) days of bid opening at its own risk and responsibility.
- 8.4 The methodology of inspection/verification of documents is broadly as under but not limited to:
- (a) It is obligatory on the part of the interested Bidders, who choose to participate against the tender, to understand the tender requirements in entirety and the requisite documents sought for in support of the Bid Evaluation Criteria (BEC) mentioned in the tender in particular. The Bidder must produce all the appropriate documents before any of the OIL's empanelled third-party certifying agencies for verification/certification. Neither OIL nor the third-party certifying agency shall be held accountable in any manner regarding the choice of documents by the bidder for verification. Therefore, getting the appropriate documents inspected/verified by the agency in support of BEC clauses is the sole responsibility of the Bidder.
 - (b) The prospective bidder shall contact any of the empanelled inspection agencies. The agency shall go through the Tender Document, especially the requirements of BEC and list the documents to be verified. They shall depute their qualified/competent inspector to the Bidder's premises to check the original documents and certify the copies which the bidder shall submit along with their bids. OIL will reserve the right to ask the inspection agencies to verify the

documents with source, if required at no extra cost to OIL. Verification of documents by OIL's empanelled third-party agency shall not automatically make the bidder eligible for award of contract.

(c) Verification of documents (but not limited to) are normally categorized as under:

➤ **General Requirement:**

- Check Bidder's PAN Card
- Check Bidder's GST Certificate
- Check ITR of company
- Check Bidder's Certificate of Incorporation – Domestic Bidder.

➤ **Technical Criteria**

- To check Experience Proof- Completion Certificates, Reference contact verification, Original Work Order/Contract Copy and any other document(s), if called for vide BEC of the Tender.

➤ **Financial Criteria**

- To check the Line of Credit, if incorporated in the tender.

Notes:

- (i) Bidder's self-declared undertakings, Audited Balance Sheet & Profit-loss statement and/or CA certificate having UDIN are not required to be verified by the TPI agency. Similarly, if any document like LOI/LOA/Contracts etc. issued by Oil India Limited are submitted towards BEC experience criteria, such documents need not be verified by TPI agency.
- (ii) Undertaking from TPI Agency as per format enclosed should be submitted along with the Bid.

9.0 COMPLIANCE OF THE COMPETITION ACT, 2002: The bidder shall strictly comply with the provisions of the Competition Act, 2002, more particularly, Section-3 of the Act. Any violation the provisions of the Act shall attract penal action under the Act.

*******END*******

Appendix-2 (Revised)

DECLARATION THAT BIDDER IS NOT UNDER HOLIDAY LIST/DELISTED/BLACKLISTED/DEBARRED

**To,
M/s. OIL INDIA LIMITED**

TENDER NO. _____

Tender Description: _____

Sub: Undertaking/Declaration regarding Holiday List, debarment etc.

- a) We, _____ (Name of the bidder) solemnly affirm that we have read and understood OIL's Banning Policy as available at OIL's website <https://www.oil-india.com/banning-policy> and accept the Banning Policy in toto without any demur, protest, reservations and agree to be bound by the said Policy.
- b) We, hereby declare that neither our company nor any of its allied concerns, partners or associates or directors or proprietors involved in any capacity, are currently put on holiday list/banning list by OIL debaring us/them from carrying on business dealings with OIL.
- c) We, also hereby declare that neither our company nor any of its allied concerns, partners or associates or directors or proprietors involved in any capacity, have not been involved in any previous transgressions in the last 3 years with any other company in any country conforming to the TI (Transparency International) approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- d) We, disclose the following allied concerns, partners or associates or directors or proprietors involved in any capacity in terms of the definition of Allied firms given in the "Banning Policy" of Oil India Limited:

Sl. No.	Name	Address	PAN No.	GST No.	OIL Vendor Code

Place: _____

Date: _____

(Name & Signature of the authorised signatory of the bidder)

REVISED TECHNICAL SPECIFICATIONS MATRIX

Bidders to mark Complied/Provided or Not complied/Not Provided along with the Reference File No. and Page No., whichever is applicable

	<u>SCOPE OF WORK (SOW)/TERMS OF REFERENCE (TOR)/TECHNICAL SPECIFICATIONS</u>			
Clause No.	Description	Complied/ Provided	Not complied/ Not Provided	Reference File No. and Page No. of Bidder's Quote
1.0	INTRODUCTION:			
	<p>OIL INDIA LIMITED (OIL), an integrated National E&P Company has been carrying out oil exploration & development activities since early fifties. Also, it is engaged in production & transportation of crude oil & natural gas. OIL has major share of its E&P activities in Assam & Arunachal Pradesh besides activities in rest of India.</p> <p>This section establishes the scope and schedule for the work to be performed by the Contractor and describes references to the specifications, instructions, standards and other documents including specifications for any materials, tools or equipment which the Contractor shall satisfy or adhere to in the performance of the work.</p> <p>In order to boost up production level of crude oil & natural gas through increased & efficient drilling activities, OIL intends to hire:</p> <p>(i) One set of RSS + SDMM + Directional with Gamma Ray tools + Jar for 17½” hole section alongwith MWD surface Unit.</p> <p>(ii) One set of RSS + SDMM + Directional with Gamma Ray tools + Jar, APWD tool alongwith MWD/LWD surface Unit and Mud Engineering Service for 12¼” hole section. Additionally, One set each of resistivity and neutron- azimuthal Density with imaging and calliper for 12¼” hole section <i>will be on call out basis.</i></p>			

	<p>(iii) One set of RSS + SDMM + Directional with Gamma Ray tools + Jar, APWD tool, resistivity, neutron- azimuthal Density with imaging and calliper alongwith MWD/LWD surface Unit and Mud Engineering Service for 8½ ” hole section. Additionally, Formation Pressure while Drilling for 8.1/2 ” hole section <i>will be on call out basis.</i></p> <p>(iv) One set of RSS + SDMM + Directional with Gamma Ray tools + Jar, APWD tool, resistivity, neutron- azimuthal Density with imaging and calliper alongwith MWD/LWD surface Unit and Mud Engineering Service for 6” hole section. Additionally, Formation Pressure while Drilling for 6 ” hole section <i>will be on call out basis.</i></p> <p>All the above services are meant for PEL / ML/ NELP/ OALP/DSF areas for directional drilling activity. OIL will provide necessary recommendatory letter for EC for the tools/equipment, spares & consumables during initial & subsequent import of required materials against the contract. However, the total amount will be limited to the CIF value as declared in the bid as per Proforma-A.</p> <p>Contractors to provide the above services, together with Manpower as per the scope of work.</p>			
2.0	AREA OF OPERATION:			
	<p>The areas of operation will be primarily in OIL’s operational areas under PEL/ML/OALP/NELP/DSF in the states of North East India. However, if the service is required to be mobilized/deployed in other areas across India, the mobilization/transfer of the service shall be at mutually agreed terms & conditions and rates. Payment for all the other items shall be in accordance with the contract rate as per Schedule of Rates (SOR).</p>			
3.0	<u>BROAD SCOPE OF WORK:</u>			

<p>OIL intends to hire a total of 04 (Four) sets of directional tools and equipment including the services of personnel with collar based MWD/LWD tools for drilling of Directional/Side-track/Re-entry or any other types of wells from kick-off to target along with stand-by back-up tools for its exploration and development activities in North Eastern States for a period of 04 (four) years. The tools, equipment and services may also be used in vertical wells for performance drilling. Additionally, some of the tools, equipment and services meant for one size of hole section may be used in another size of hole section (if technically feasible) for effective utilization of resources at the discretion of OIL.</p> <p>The Contractor shall provide the services along with all necessary equipment/tools and personnel and carryout directional drilling operations in accordance with the approved directional well plan. The approved well plan may be amended from time to time by reasonable modification as deemed fit by the company. However, the contractor shall be wholly responsible for rendering the services as per scope of work under this contract.</p> <p>Under the service, the contractor shall have to provide the following services with their tools & equipment:</p> <p>3.0 Collar based non- retrievable type MWD / LWD tools (Compatible with RSS/SDMM) with Positive/Continuous Mud Pulse Telemetry system shall be provided under this service. The Contractor should categorically confirm to this effect.</p> <p>3.1 RSS, SDMM, MWD/LWD & Jar to be deputed under the service should comply with the followings:</p> <p>i) All down hole tools including surface units must be of recent version. These tools should either be new or recently refurbished. In case of refurbished tools, the refurbishment should not be more than 06(Six) months old. Contractor must submit relevant documents of the tools in this respect as documentary evidence before mobilization of the tools. However, in case of brand new tools, the same will not be applicable.</p>			
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	<p>In addition to the above, Contractor must submit maintenance schedule and certificates against all tools as per Contractors policy before mobilization of the tools under the Contract for scrutiny by OIL. Bidder to confirm the same.</p> <p>Note: Part no. / Identification no. must be noted in the maintenance records</p> <p>ii) The Contractor should provide the technical literature/catalogue for all the offered tools.</p> <p>iii) The Contractor shall provide Calibration certificate of MWD & LWD tools before mobilization showing Inclination, Azimuth, Tool face & Dip angle accuracies as applicable. Calibration certificates for accuracy of Measurement should not be more than 06 (six) months old. In case, calibration certificates are of 01 (One) year validity, the same will also be acceptable, provided the certificates are valid at the time of mobilization. Bidder to confirm the same.</p> <p>iv) RSS/SDMM/MWD/LWD/Jar/Resistivity & other tools provided by the Contractor shall be supported with spares and service during the duration of the Contract.</p> <p>v) Contractor shall provide relevant test certificates for the drilling jars. Test certificates has to be provided before mobilization.</p> <p>vi) All tools/equipment and consumables deployed by the Contractor should meet OIL's specified requirement.</p> <p>vii) MWD/LWD tools initially mobilized by the Contractor and any replacement thereof, should be accompanied by Calibration sheets, approved by Contractors QA/QC engineers/TPI. Contractors to confirm the same.</p>			
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3.3	<p><u>Tools and Equipment:</u></p> <p>(Tools & Equipment to be provided as specified in the table under this clause in the tender)</p>			
3.3.1	<p><u>TOOLS, EQUIPMENT & SERVICES FOR 17.1/2” HOLE SECTION:</u></p>			
	<ul style="list-style-type: none"> i. RSS-SDMM + directional MWD + Jar are to be provided for drilling 17.1/2" hole as a complete package. System should be capable of building, holding and dropping well angle and direction as per approved well plan trajectory. However, in case of RSS, it should be capable of simultaneously changing azimuth and inclination in rotary drilling mode. The MWD system should be based on positive/Continuous mud pulse telemetry system. It should transmit data from down hole to surface in real time on continuous basis. The Surface unit should be complete with necessary computers, monitors, printers, plotters etc., and other equipment as necessary to execute the job. ii. One set of tools & equipment shall consist of surface unit, RSS, SDMM, directional MWD + Gamma Ray, Drilling jar with related directional tubular and accessories for drilling the 17.1/2” hole section (i.e. NMDC, UBHO, Float Sub, Cross-Over subs etc, as applicable) as per table in 3.3 above. iii. The Directional Drilling equipment will be put in operation from one well to another as per OIL’s requirement. To ensure un-interrupted directional drilling activity considering logistical constraints in the North-Eastern part of India, the Contractor should bring sufficient quantity of back up tools, equipment and spares in addition to the primary set/quantity of tools as defined in table above. Servicing of tools will be allowed at no workload period only. iv. Services of Directional Drillers to operate RSS-SDMM and MWD Engineers are to be provided for execution of drilling program as per well plan of OIL. Minimum 02 (Two) directional driller and minimum 02 (Two) MWD Engineer are required to be provided always during operation at well site. v. 17. ½” section hole will be drilled by the Contractor as per approved OIL’s well plan with the help of RSS-SDMM. Phase length of the 			

	<p>section will be around 2000 M (MD) with displacement around 600m or more.</p> <p>vi. The RSS-SDMM and MWD equipment should be best in class tools of the Contractor that are to be engaged in the business. The complete system should be able to kick-off from vertical and should be efficient to drill high angle high displacement wells of sail angle 55°-85°.</p> <p>vii. The Gamma Ray should be combinable or an integrated part of the MWD tool system and should be compatible with other related equipment.</p>			
3.3.2	<p>TOOLS, EQUIPMENT & SERVICES FOR 12¼” HOLE SECTION:</p>			
	<p>i. RSS-SDMM Tools are to be provided for drilling 12¼" hole having directional MWD and Gamma ray tool, annulus Pressure and Temperature tool with drilling jar in the system as a complete package. Resistivity, neutron-azimuthal Density with imaging and calliper for 12 ¼” hole are on call out basis. System should be capable of building, holding and dropping well angle and direction as per well plan trajectory. However, in case of RSS it should be capable of simultaneously changing azimuth and inclination in rotary drilling mode. The MWD/LWD system should be based on positive/Continuous mud pulse telemetry system. It should transmit data from down hole to surface in real time on continuous basis. The Surface unit should be complete with necessary computers, monitors, printers, plotters etc., and other equipment as necessary to execute the job.</p> <p>ii. One set of tools & equipment shall consist of surface unit, RSS, SDMM, directional MWD + Gamma Ray, annulus Pressure & Temperature, Drilling jar with related directional tubular and accessories for drilling the 12.1/4” hole section (i.e. NMDC, UBHO, Float Sub, Cross-Over subs etc, as applicable) as per table in 3.3 above.</p> <p>Services of LWD tools – (resistivity, neutron- azimuthal Density with imaging and calliper) for 12. ¼” hole section will be on call out basis and will be asked to mobilize as per OIL’s requirement.</p> <p>iii. The Directional Drilling equipment will be put in operation from one well to another as per OIL’s requirement. To ensure un-</p>			

	<p>interrupted directional drilling activity considering logistical constraints in the North-Eastern part of India, the Contractor should bring sufficient quantity of back up tools, equipment and spares in addition to the primary set/quantity of tools as defined in table above. Servicing of tools will be allowed at no workload period only.</p> <p>iv. Services of Directional Drillers to operate RSS-SDMM and MWD/LWD Engineers are to be provided for execution of drilling program as per well plan of OIL. Minimum 02 (Two) directional driller and minimum 02 (Two) MWD/LWD Engineer are required to be provided always during operation at well site.</p> <p>v. 12¼" hole section will be drilled by the Contractor with the help of RSS-SDMM in consultation with OIL. Phase length of the section will be around 2000 M (MD) with a total displacement of around 1500m or more at sectional TD.</p> <p>vi. The RSS-SDMM and MWD/LWD equipment should be best in class tools of the Contractor that are to be engaged in the business. The complete system should be able to kick-off from vertical and should be efficient to drill ERD/HDD wells of sail angle 55°-85°.</p> <p>vii. The Gamma Ray and Resistivity tools for 12¼ " hole section should be combinable or an integrated part of the MWD/LWD tool system and should be compatible with other related equipment. The tools should have provision for real time data transmission as well as for recording of Data in memory mode. Data is also to be recorded while pulling out by back reaming/with pump-on whenever required. The tools should have a temperature rating of not less than 120° C, pressure rating of not less than 18000 psi and tool curvature of not less than 6.5°/100' (Rotary).</p> <p>viii. Annulus Pressure and Temperature Measurement tools: The Annulus Pressure and Temperature tools for 12¼" hole section should be combinable or an integrated part of the MWD/LWD tool system and should be compatible with other related equipment. The tools should have provision of real time data transmission and of recording in memory mode. The tools should work in temperature range of 120° C or more, pressure rating of 18,000psi or more and</p>			
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	tool curvature of 6.5°/100' (Rotary) or better.			
3.3.3	TOOLS, EQUIPMENT & SERVICES FOR 8½" HOLE SECTION:			
	<p>i. RSS-SDMM Tools are to be provided for drilling 8½” hole having directional MWD and Gamma ray tool, annulus Pressure and Temperature tool, Resistivity, neutron-azimuthal Density with imaging and calliper, drilling jar in the system as a complete package. Formation Pressure while Drilling (FPD) for 8½” hole section will be on call out basis. System should be capable of building, holding and dropping well angle and direction as per well plan trajectory. However, in case of RSS it should be capable of simultaneously changing azimuth and inclination in rotary drilling mode. The MWD/LWD system should be based on positive/Continuous mud pulse telemetry system. It should transmit data from down hole to surface in real time on continuous basis. The Surface unit should be complete with necessary computers, monitors, printers, plotters etc., and other equipment as necessary to execute the job.</p> <p>ii) One set of tools & equipment shall consist of surface unit, RSS, SDMM, directional MWD + Gamma Ray, Drilling jar, resistivity, density-neutron porosity with imaging & caliper, annulus Pressure & Temperature tool and related directional tubular for drilling the 8 ½" hole Section (i.e. NMDC, UBHO, Float Sub, Cross-Over subs etc, as applicable) as per table in 3.3 above. Services of Formation Pressure while Drilling (FPD) for 8.½" hole section will be on call out basis and will be asked to mobilize as per OIL's requirement.</p> <p>iii) The Directional Drilling equipment will be put in operation from one well to another as per OIL's requirement. To ensure un-interrupted directional drilling activity considering logistical constraints in the North-Eastern part of India, the Contractor should bring sufficient quantity of back up tools, equipment and spares in addition to the primary set/quantity of tools as defined in table above. Servicing of tools will be allowed at no workload period only.</p> <p>iv) LWD Measurements: Resistivity, Gamma ray, density and neutron logging are required for 8½” hole size and should be combinable or an integrated part of the</p>			

	<p>MWD/LWD tool system and should be compatible with other related equipment. The tools should have provision for real time data transmission as well as for recording of Data in memory mode. Data is also to be recorded while pulling out by back reaming/with pump-on whenever required. Tools should work with temperature of 120° C or more, Pressure rating: 18000 PSI or more, Tool curvature: 6.5° / 100' (Rotary) or better.</p> <p>The Memory Capacity for each downhole LWD tools should be able to sustain drilling activity for not less than 400 circulating hours at highest quality of data capturing.</p> <p>Resistivity Measurement:</p> <ol style="list-style-type: none"> 1. To be recorded in multiple frequencies and in multiple depth of investigations. 2. Bore hole compensated phase & attenuation measurement systems with multiple depths of investigation. 3. Resistivity measurement: 0.2 to 2000 Ohm-m. 4. Invasion Profile with curve separation. <p>Azimuthal Density with Imaging and Neutron Porosity shall be as follows:</p> <ol style="list-style-type: none"> a) Azimuthal Density Range = 1.8 to 2.8 gm/cc b) Pe = 1 to 10 units c) Neutron porosity = -6 to 54 P.U. or 0 to 60 P.U. d) Azimuthal density from four quadrant and images are to be provided as per the operational requirement with 16 BINS measurement and real time transmission at a rate of 4 BINS / 4 Sectors or more. e) Ultra Sonic/ Density derived Calliper Log to be provided. v) Annular Pressure and Temperature Measurement Tools: The Annulus Pressure and Temperature tools for 8.1/2” hole section 			
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	<p>should be combinable or an integrated part of the MWD/LWD tool system and should be compatible with other related equipment. The tools should have provision of real time data transmission and of recording in memory mode. The tools should work in temperature range of 120° C or more, pressure rating of 18,000psi or more and tool curvature of 6.5°/100' (Rotary) or better.</p> <p>vi) Services of Directional Drillers to operate RSS-SDMM and MWD/LWD Engineers are to be provided for execution of drilling program as per well plan of OIL. Minimum 02(Two) directional driller and minimum 02(Two) MWD Engineer are required to be provided always during operation at well site.</p> <p>vii) 8.½” section hole will be drilled by the Contractor with the help of RSS-SDMM in consultation with OIL. Phase length of the section will be around 1500M (MD) with a total displacement of around 2000m or more at sectional TD.</p> <p>viii) The RSS-SDMM and MWD/LWD equipment should be best in class tools of the Contractor that are to be engaged in the business. The complete system should be able to kick-off from vertical and should be efficient to drill high angle high displacement wells of sail angle 55°-85°.</p>			
3.3.4	TOOLS, EQUIPMENT & SERVICES FOR 6" HOLE SECTION:			
	<p>i) RSS-SDMM Tools are to be provided for drilling 6” hole having directional MWD and Gamma ray tool, annulus Pressure and Temperature tool, Resistivity, neutron-azimuthal Density with imaging and calliper, drilling jar in the system as a complete package. Formation Pressure while Drilling (FPD) for 6” hole section will be on call out basis. System should be capable of building, holding and dropping well angle and direction as per well plan trajectory. However, in case of RSS it should be capable of simultaneously changing azimuth and inclination in rotary drilling mode. The MWD/LWD system should be based on positive/Continuous mud pulse telemetry system. It should transmit data from down hole to surface in real time on continuous basis. The Surface unit should be</p>			

	<p>complete with necessary computers, monitors, printers, plotters etc., and other equipment as necessary to execute the job.</p> <p>ii) One set of tools & equipment shall consist of surface unit, RSS, SDMM, directional MWD + Gamma Ray, Drilling jar, resistivity, density-neutron porosity with imaging & caliper, annulus Pressure & Temperature tool and related directional tubular for drilling the 6" hole Section (i.e. NMDC, UBHO, Float Sub, Cross-Over subs etc, as applicable) as per table in 3.3 above.</p> <p>Services of Formation Pressure while Drilling (FPD) for 6" hole section will be on call out basis and will be asked to mobilize as per OIL's requirement.</p> <p>iii) Services of Directional Drillers to operate RSS-SDMM and MWD/LWD Engineers are to be provided for execution of drilling program as per well plan of OIL. Minimum 02(Two) directional driller and minimum 02(Two) MWD Engineer are required to be provided always during operation at well site.</p> <p>iv) The Directional Drilling equipment will be put in operation from one well to another as per OIL's requirement. To ensure un-interrupted directional drilling activity considering logistical constraints in the North-Eastern part of India, the Contractor should bring sufficient quantity of back up tools, equipment and spares in addition to the primary set/quantity of tools as defined in table above. Servicing of tools will be allowed at no workload period only.</p> <p>v) 6" section hole will be drilled by the Contractor as per approved OIL's well plan with the help of RSS/SDMM. Phase length of the section will be around 800 M (MD) with a total displacement of around 2300m or more at sectional TD.</p> <p>vi) The RSS-SDMM and MWD/LWD equipment should be best in class tools of the Contractor that are to be engaged in the business.</p> <p>vii) LWD Measurements:</p>			
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	<p>Resistivity, Gamma ray, density and neutron logging are required for 6” hole size and should be combinable or an integrated part of the MWD/LWD tool system and should be compatible with other related equipment. The tools should have provision for real time data transmission as well as for recording of Data in memory mode. Data is also to be recorded while pulling out by back reaming/with pump-on whenever required. Tools should work with temperature of 120° C or more, Pressure rating: 18000 PSI or more, Tool curvature: 6.5° / 100’ (Rotary) or better.</p> <p>The Memory Capacity for each downhole LWD tools should be able to sustain drilling activity for not less than 250 circulating hours at highest quality of data capturing.</p> <p>Resistivity Measurement:</p> <ol style="list-style-type: none"> 1. To be recorded in multiple frequencies and in multiple depth of investigations. 2. Bore hole compensated phase & attenuation measurement systems with multiple depths of investigation. 3. Resistivity measurement: 0.2 to 2000 Ohm-m. 4. Invasion Profile with curve separation. <p>Azimuthal Density with Imaging and Neutron Porosity shall be as follows:</p> <ol style="list-style-type: none"> a) Azimuthal Density Range = 1.8 to 2.8 gm/cc b) Pe = 1 to 10 units c) Neutron porosity = -6 to 54 P.U. or 0 to 60 P.U. d) Azimuthal density from four quadrant and images are to be provided as per the operational requirement with 16 BINS measurement and real time transmission at a rate of 4 BINS / 4 Sectors or more. e) Ultra Sonic/ Density derived Calliper Log to be provided. <p>viii) Annulus Pressure and Temperature Measurement tools: The Annulus Pressure and Temperature tools for 6” hole section should be combinable or an integrated part of the MWD/LWD tool</p>			
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	<p>system and should be compatible with other related equipment. The tools should have provision of real time data transmission and of recording in memory mode. The tools should have a temperature rating of not less than 120° C and pressure rating of not less than 18000 psi and tool curvature of not less than 6.5°/100' (Rotary).</p> <p><u>NOTE:</u></p> <p>i. Contractors to note that Company (OIL) at its discretion shall have the right to use the tool/tools independently as per the requirement of OIL of the service for a particular section at any point of time during the course of the contract, depending on its requirement as decided by Company.</p> <p>ii. Contractor to ensure that at least 1(one) back-up tool/Equipment in working condition is always available against the main tool/equipment. If, in the event of breakdown of any of the main tool(s)/equipment, it is found that back up tool(s)/equipment in working condition is not available, then Zero rate will be applicable immediately from the moment any tool(s)/equipment failure is detected in operation. Additionally, penalty @ 100% of Operating rate of the faulty tool(s)/equipment will be levied from the start of the waiting period at surface till the replacement/back up tool(s)/equipment is available at site.</p> <p>During the above-mentioned waiting period, the charges for MWD/LWD Surface unit will be reduced to zero rate till a backup tool is made available at site. However, if any other MWD/LWD tool could be run devoid of the faulty tool, only operating rate for the Surface unit will be paid during operating period of these tools.</p>			
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4.0	<p>The contractor is required to comply with following specified requirements:</p> <ul style="list-style-type: none"> i) To provide all X-over subs required between Contractor's BHA to Company's drill string and any other X-over required for Contractors BHA is to be identified and furnished by the Contractor. Drill String available with "OIL" for Drilling in 17. ½”, 12. ¼”, 8. ½” and 6” hole sections are furnished in Annexure-I. ii) To provide the 5”/ 3.1/2” Drill Pipe Screen, backup tools/equipment with sufficient spares & consumables. iii) To provide 02 nos. of lifting subs each for different connections of contractors tools and provision for accommodating strainer against each size of NMDC for conducting Surface test. iv) To provide detailed specification of equipment/sensors along with catalogue and also all the features available in their MWD & LWD system. The Contractor should also indicate the limitations of their tools/sensors such as temperature, pressure and discharge limitations with ability to pump LCM materials in Mud Loss conditions through the tool and accordingly the equipment & sensor must perform. v) The Contractor shall keep fishing tools including spares required for Contractor's non-standard equipment/ tools, if any. vi) The minimum drift diameter of Hydro-Mechanical /Hydraulic Jar for 8.1/2" Hole should not be less than 2.1/2”. vii) To provide X-over from 6000 Psi to 15000 Psi fitting for H-Manifold. viii) Contractor must ensure that all surface equipment including Contractors’ bunk houses must be as per safety guidelines. viii) Any bidder not quoting for all the services as per the Scope of work will be considered non responsive and their bids shall be rejected. 			
5.0	<p><u>DETAILS OF EQUIPMENT & SERVICES REQUIREMENT:</u></p> <p>The Contractor shall provide the following services:</p>			

<p>i)</p>	<p>Well Planning Services:</p> <p>OIL will design the well trajectory and share the same along with other data with the contractor. Contractor shall accept the plan prior to start of directional drilling. However, contractor may suggest anticipated Torque & Drag, hydraulics and anti-collision for such plan. If required, well plan may be re-viewed in consultation with the contractor to sort out any kind of well trajectory issues. In that case, the re-viewed plan must be accepted by the contractor. Thereafter, it shall be the responsibility of the Contractor to maintain the well profile of the hole as per plan till target depth of the particular section is reached.</p> <p>Contractor shall share Torque & Drag, Hydraulics, Anti-collision, proposed BHA for any particular hole section of a directional well during actual drilling with their latest directional software.</p> <p>Contractor shall submit end of Well Report after completion of the assigned Section/Well in hard as well soft copies (pdf format).</p>			
<p>ii)</p>	<p>MWD equipment and Services:</p> <p>a) The contractor shall provide complete set of MWD (Measurement While Drilling) System. MWD tools should be collar specific, i.e. for different collar sizes, outside diameter of sensors are different except of directional sensor. The bore must be empty with no probe except for the directional part. Mud must be able to pass through the inserts (i.e. Battery pack, Gamma pack, Electronics, etc.) at respective flow rates. MWD tools with same size of probe fixed mechanically (fixed collar/collar mounted) for different collar sizes are not to be considered as collar based tools. Probe based tools are not acceptable.</p> <p>b) MWD system should be based on positive/continuous pulse, mud telemetry for drilling (17. ½”, 12.¼”, 8.1/2" & 6”) hole as per requirement of OIL provided in the MWD specifications in Annexure-II, along with cross-over subs, Non Magnetic Drill Collars, Float Subs – if required with all sets of electronic packages, surface computers and other accessories required for continuous real time monitoring of tool face, inclination, direction (azimuth), Gamma and annulus pressure & temperature while drilling (17.½”, 12.¼”, 8.1/2" & 6”). Contractor will maintain sufficient back up tools & spares to meet contingent situation like Lost in Hole / Tool failure etc.</p> <p>c) Contractor shall provide Gamma Ray Tool compatible with the offered</p>			

	<p>MWD system. Contractor shall provide the Company with Gamma Vs True Vertical Depth and Measured Well Depth. Contractor will maintain sufficient back up tools & spares to meet contingent situation like Lost in Hole/Tool failure etc.</p> <p>NOTE:</p> <ol style="list-style-type: none"> 1) Contractor shall provide RSS, SDMM, Directional tools based on positive mud pulse telemetry with MTBF (Mean-time Between Failure) exceeding 1000 hrs. Bidder to submit the MTBF certificate before mobilization. However, in case of brand new (Un-used) tools proposed to be deployed by the Contractor against this contract, the MTBF certificate is not required. 2) All the MWD/LWD tools should be able to interface with each other and facilitate 2-way communication & integration of data and commands. 3) Contractor to provide additional NMDC if required for MWD/LWD survey accuracy. 			
<p>iii)</p>	<p>SURFACE MWD/LWD UNIT:</p> <p>Surface MWD/ LWD unit with computers/printers accessories to record and print real time data with necessary transducers and connections to work with rig power supply 220 volts, 50 Hz. / 415V AC, 3 Phase, 3 wire AC as per requirement of OIL as stated in Annexure-XI (Contractor to fill up the Annexure). System should also have following features:</p> <ol style="list-style-type: none"> a) Record data like angle, azimuth and tool face and transmit it to surface with rig floor display. System should have features for dynamic tool face recording when drilling with motors. b) System should be able to record stand pipe pressure, weight on bit (if feasible), Rate of penetration and rotary RPM (if feasible) also with depth counter facility. c) Record bottom hole annulus pressure measurements, temperature, stick slip, shock and vibrations. d) Record resistivity, neutron porosity and display real time azimuthal density with imaging calliper. 			

	<p>e) Record and print real time API Gamma & LWD measurement with measured depth. f) Record and print real time API Gamma & LWD measurement with TVD.</p> <p>NOTE: The Work station should come with minimum 150 m of 3- Phase power cables for cluster locations. Contractors are required to give an Electrical Test Certificate for the Surface unit & Bunks prior to powering of the unit by OIL. Contractors to confirm to provide the same.</p>			
<p>iv)</p>	<p>LWD Equipment along with Services for (12.¼”, 8.½” & 6” Hole):</p> <p>Contractor shall confirm to provide Resistivity Tool, Density-Porosity tool, Formation Pressure while Drilling tool compatible with the offered MWD. The surface system for Resistivity, Density-Porosity, Formation Pressure while Drilling and MWD with Gamma should be same. The Resistivity & Density-Porosity services will be used along with MWD for accuracy. Further, LWD may be used for recording real-time data in the other wells also as per OIL’s requirement and the service provider will be compensated as per the quoted rates. Contractor shall provide the Company with Resistivity, Gamma, Density-Porosity (including density images) Log Vs True Vertical Depth and Measured Well Depth for reservoir boundary identification. The Resistivity measurement shall be as per requirement of OIL provided in Annexure-VII. The Density-Porosity (including density images) shall be as per requirement of OIL provided in Annexure-IX. The Formation Pressure while Drilling tool shall be as per requirement of OIL provided in Annexure-X. Contractor will maintain sufficient back up tools & spares to meet contingent situation like Lost in Hole / Tool failure etc.</p> <p>NOTE: The MWD & LWD tools should be able to interface with Rotary Steerable System and facilitate 2-way communication & integration of data and commands.</p>			
<p>v)</p>	<p>SDMM equipment along with Services:</p> <p>The Contractor shall provide Steerable Downhole Positive Displacement Mud motors with all accessories e.g. stabilizers etc. as</p>			

	<p>per Annexure-III for 17.½”, 12.¼”, 8.1/2” & 6” hole sizes. SDMMs should be high torque, low to medium speed & stabilized positive displacement steerable multi-lobe mud motor for high angle drilling. The directional drillers are required to operate these motors and drill the hole as per plan trajectory. The motors should have API rotary shoulder connections with built-in/screw-on bearing Stabilizer housing & adjustable bent housing. SDMM should be suitable for build up rates & straight drilling in rotary mode. The steerable downhole mud motors should be with mud lubricated bearing/ Oil sealed bearing assembly and equipped with rotor catcher feature.</p> <p>Note: SDMM should be from any of the reputed manufacturers as given in the list under clause 7.0 only.</p>			
vi)	<p>Different sizes of String Stabilizer:</p> <ol style="list-style-type: none"> 1. Stabilizers for 17½” Hole section: 2 (two) nos. each of 17¼” and 17” string stabilizer with 6⁵/₈” API Reg box-pin connection, 8” - 9⁵/₈” OD fishing neck and 213/16”/3” ID. 2. Stabilizers for 12¼” Hole section: 2 (two) nos. each of 12” and 11¾” string stabilizer with 6⁵/₈” API Reg box - pin connection, 7¾”/8”/8.1/4” OD fishing neck and 213/16”/3” ID. 1. Stabilizers for 8½” Hole section: 2 (two) nos. each of 8” and 7.3/4” string stabilizer with 4”IF/4½”IF box - pin connection, 6½”/6¾” OD fishing neck and 2.13/16”/3” ID. 4. Stabilizers for 6” Hole section : 2(two) nos. each of 5¾” and 5½” string stabilizer with 3½”IF box-pin connection, 4¾” OD fishing neck and 2¼” ID. <p>NOTE:</p> <ul style="list-style-type: none"> • All the above stabilizers must be 3/4 slight spiral blades of integral and sufficient blade length of double tapered at both leading and trailing ends. Stabilizers should have sufficient opening / annular clearance with taper blade on stabilizer body. • Above stabilizers may be used independently for making rotary assemblies for drilling/ cleanout trips in case of requirement. 			

	<ul style="list-style-type: none"> •The Service provider may decide to deploy additional sizes of stabilizers over and above the minimum required sizes based on operational requirement upon approval by OIL. 			
vii)	<p>Drilling Jars and Services:</p> <p>The Contractor shall provide Hydro-mechanical/Hydraulic Drilling jars to withstand the rugged abuse and demanding application with up/down stroke mechanism, minimum stroke length as per requirement of OIL provided in Annexure-IV, for (17½”, 12 ¼”, 8 ½” & 6” hole sizes).</p> <p>Note: Drilling Jars should be from any of the reputed manufacturers as given in the list under clause 7.0 only.</p>			
viii)	<p>ROTARY STEERABLE SYSTEM along with Services:</p> <p>The Contractor shall provide ROTARY STEERABLE SYSTEM with all accessories as per Annexure-VI for 17.½”, 12.¼”, 8.1/2" & 6” hole sizes. The directional drillers are required to operate the RSS and drill the hole as per Company’s approved well plan. The RSS should have API rotary shoulder connections. RSS should be capable of simultaneously changing azimuth and inclination in rotary drilling mode.</p> <p>Note: RSS should be from any of the reputed manufacturers as given in the list under clause 7.0 only.</p>			
ix)	<p>Real Time Data:</p> <p>OIL has a real-time Drilling Operational Monitoring Centre (eRTMAC) at FHQ, Duliajan for 24x7 monitoring. The surface system must be compatible with and capable of transmitting data to eRTMAC using, at a minimum, WITS0 and WITSML (version 1.3 and above) in both depth-based and time-based formats.</p> <p>The following data must be made available and accessible for eRTMAC:</p>			

CHECKLIST-III*

	<p>a) Drilling mechanics data including axial, lateral vibrations, torsional, and stick-slip data.</p> <p>b) All MWD/LWD data related to formation evaluation, including gamma ray, resistivity, neutron, density, caliper, and any other special formation evaluation data.</p> <p>c) All downhole data including toolface, surveys, equivalent circulating density (ECD), annular pressure (if available), downhole temperature (if available), and downhole RPM (if available).</p>			
x)	<p>Annulus Pressure Measurement: APWD should be Combinable or integrated part of MWD & Induction Resistivity tools. Separate rates are to be quoted in both cases. If integrated with induction tool then for APWD sensors charges should not be built in main tools. Contractor has to mention whether APWD is independent or integrated with resistivity/MWD tool. If integrated with resistivity/MWD, the CIF value of APWD portion only to be quoted in Proforma-A.</p> <p>Note: The Contractor shall provide Annulus Pressure and Temperature Measurement tools as per requirement of OIL provided in Annexure-VIII for 12.¼", 8.1/2" & 6" hole sizes.</p>			
6.0	<p>KEY PERSONNEL :</p> <p>Bidder shall confirm to provide qualified and experienced personnel under the following categories for running the well operation of OIL on round the clock basis:</p> <p>i) Directional Driller: Minimum 2 (two) nos. per set. ii) MWD/LWD Engineer: Minimum 2 (two) nos. per set. iii) Base Co-ordinator: Minimum 1 (one) no.</p> <p>NOTE: a) Maximum age for Directional Driller, MWD/LWD Engineer and Base Co-ordinator should not exceed 56 years as on the original bid closing date of this Tender.</p>			

	<p>b) The Directional Drillers and MWD/LWD Engineers should have an overall experience of at least 03 years for Graduate Engineer/Post Graduate in Geo-Science Discipline, or 04 years for Diploma Engineer in relevant field.</p> <p>d) Bidder has to submit an undertaking to provide the required experienced manpower in the prescribed format in Annexure – E.</p> <p>The details of Personnel are given below:</p> <p>i) DIRECTIONAL DRILLER : Contractors should provide minimum 02 no. of qualified Directional Driller having minimum required years of relevant experience and have drilled at least 06 (six) no. of directional wells with RSS-SDMM to be deputed per set and will be working independently (12- hour shift) on a suitable ON/OFF day rotation basis at the Rig site. Directional Drillers should be able to execute the job of high angle-high displacement/side track wells or any other well from kick off to target on continuous basis. They should have complete knowledge of the job from planning to execution along with associated calculations and decision making so that they can perform the job independently. However, in case of operational problems, OIL's decision will be final. The Directional Drillers will work in close liaison with OIL Engineers on the Rig/base. They should be fluent in speaking and writing English language. Directional drillers should be conversant with the job assigned and should have complete knowledge of the tools. Directional drillers of the Contractor shall assist OIL technically during round trip and clean out trips after completion of sectional TD. However, OIL reserves the right to modify its requirement of on-site Directional Drillers anytime. NOTE: Particulars of directional driller must be submitted in the format Annexure-XIII to OIL for approval prior to deployment at wellsite.</p> <p>(ii) MWD/ LWD ENGINEER : Contractors to provide minimum 02 no. of qualified and experienced MWD/ LWD Engineers having minimum required years of relevant field experience and have drilled at least 06 (six) no. of directional wells to be deputed per set and will be working independently (12-</p>			
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	<p>hour shift) on a suitable ON/OFF day rotation basis at the Rig site. The engineers must be fluent in written and spoken English. The MWD/LWD Engineers will be responsible including but not limited to the following:</p> <p>a) Prepare Logging plan and program, timely delivery of quality data logs, LAS, DLIS as per SOW. OIL reserves the right to use the resistivity tool in the sail angle or pilot hole option also.</p> <p>b) Run, maintain and manage the MWD/LWD tools and unit.</p> <p>c) Prepare daily reports of major real time observations and annotation of markers as defined by Company Geologist.</p> <p>Note: Particulars of MWD/LWD engineers must be submitted in the format Annexure-XIII to OIL for approval prior to deployment at wellsite.</p> <p>(iii) BASE COORDINATOR :</p> <p>The Contractor shall depute an experienced Base Coordinator at the Company's base in Duliajan, having minimum 5 (five) years of relevant field experience in Directional Drilling for the entire duration of the Contract for smooth execution of the project. The personnel should have good knowledge of the tools, equipment and services being offered by the Contractor and should visit the Company's office regularly. The Base Manager should be capable of instructing the field Directional Drilling/ MWD-LWD teams on drilling operations in a practical drilling environment. Suitable replacement should be provided if he is absent for more than 3 (three) days. Base coordinator shall be well informed about status of contractor's equipment and any other subject relevant to agreement of the Contract. Company may seek for replacement in short notice if any deficiency is observed on his part. The Base Coordinator shall be responsible including but not limited to the following:</p> <p>i) Supervise and coordinate all operations throughout the duration of the Contract.</p> <p>ii) Interact with Company's Drilling Engineers and Geo-Scientist.</p> <p>iii) Conceptualize subsurface objectives and issues.</p>			
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	<p>iv) Conversant in Drilling Engineering and Directional well planning areas and act as an effective interface with the broader drilling discipline.</p> <p>v) Responsible for Logistics management of tools, equipment, materials and personnel related to the Contract, including customs and immigration clearance, transport and inspection.</p> <p>vi) Responsible for keeping Contractor's tools and equipment in good working condition with regular maintenance with the help of his other office/ repair facilities.</p> <p>vii) Administration of the Contractor's day to day affairs under the Contract.</p> <p>viii) Responsible for preparing, checking and submitting the invoices to the Company.</p> <p>ix) Shall be available for consultation at all times for the entire duration of the contract period.</p> <p>Note:</p> <p>Base coordinator shall be nominated with CV in the format Annexure-XIII for approval from OIL before commencement of contract and subsequent replacement shall be informed in advance. Any temporary replacement against Base Coordinator should also have the same experience as of the Base Coordinator and CV of that personnel should be approved from the Company prior to deployment.</p> <p>SPECIFIC POINTS FOR PERSONNEL :</p> <p>a) Company reserves the right to instruct for removal of any Contractor's personnel who in the opinion of Company is technically not competent or not rendering the services faithfully, or due to other reasons. The replacement of such personnel will also be fully at cost of the Contractor and the Contractor shall have to replace this/these personnel within Ten (10) days of such instruction. The replacement personnel must have the requisite qualification and experience as indicated in the contract and their credentials along with recent photographs must be submitted to Company for approval prior to their engagement.</p>			
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	<p>b) All charges for personnel are included in Tool Operating & Stand by charges. No separate charges shall be payable for the personnel being deployed.</p> <p>c) The Contractor will have to submit the Bio-Data of personnel proposed to be deployed for all the services mentioned under scope of work prior to deployment for OIL's approval. The following documents should accompany the Bio Data for approval:</p> <ul style="list-style-type: none">• Educational Qualification certificate• Service Tickets of prior deployment with signature of Operator to be provided (if available).• Proof of work experience for 03/04 years, as applicable (salary slip/appointment letter/Release letter/Experience certificate etc)• Valid Police Verification certificate• Insurance documents as per applicable clause• Form "O"• Any other documents as per contract clauses <p>d) MWD/LWD Engineers, Directional Drillers and Base Coordinator should be an employee/consultant appointed by the Contractor. Necessary documents in this regard to be submitted prior to deployment for OIL's approval. In case, the personnel is newly recruited in the organisation, necessary documents including appointment letters supporting the previous experience criteria should have to be submitted for approval. In case, the personnel is newly recruited in the organisation, at least 02(Two) no. of personnel reference with email id, Mobile no. etc. of the previous employer to be provided in the CV for his previous experience.</p> <p>e) MWD/LWD engineers should have the competency for handling and supervision of radioactive tools.</p> <p>f) In case of non-availability of Directional Driller or MWD/LWD engineer during operation, penalty will be levied at the rate of 10% of the Operating Day rate of the RSS for the respective section (for</p>			
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	<p>each non-available person) till suitable replacement duly approved by Oil India Ltd. arrives.</p> <p>In case of non-availability of Base Coordinator during operation, there will be no deduction for 03 days against prior approval. Beyond 03 days, penalty will be levied at the rate of 10% of the Operating Day rate of the RSS- whichever is higher of all the four sections till suitable replacement duly approved by Oil India Ltd. arrives.</p> <p>ORGANISATIONAL STRUCTURE:</p> <p>Contractor shall provide the organizational structure for executing the project. Composition of the team & number of personnel will be reviewed by OIL and modified as per requirement.</p>			
7.0	<p>Approved list for Tools / Equipment & Services:</p> <p>The Contractor should provide Tools / Equipment & Services (mentioned above) from the approved list as shown in the table below:</p> <p><u>APPROVED LIST:</u></p> <p>A. Mud Motor:</p> <ul style="list-style-type: none">i) Schlumbergerii) Halliburtoniii) Weatherfordiv) Baker Hughesv) National Oilwell Varco <p>B. RSS:</p> <ul style="list-style-type: none">i) Schlumbergerii) Halliburtoniii) Weatherfordiv) Baker Hughes			

	<p>C. Drilling Jar:</p> <ul style="list-style-type: none"> i) Houston Engineers ii) Weatherford iii) National Oilwell Varco iv) Bowen v) Schlumberger vi) OSCL vii) Halliburton viii) ITS ix) Any other OIL approved manufacturer for the approved size <p>NOTE: During the currency of the contract, in the event of obsolescence, technological upgradation, or availability issues beyond the contractor's control, the contractor may provide alternate tools and equipment not originally proposed in the bid, provided they conform to the make and specifications (same or superior) as stipulated in the contract and are supplied under the same rates, terms and conditions.</p>			
8.0	<p>HIRING OF ADDITIONAL SETS OF TOOLS/EQUIPMENT & SERVICES:</p> <p>During the currency of the contract OIL may decide to hire additional set/sets of tools and equipment including personnel as per requirement under the same terms and conditions stipulated in this tender/ contract with mutually agreed rates, but with a rate not higher than the originally quoted rate. Under such condition, successful Bidder will be bound to provide the desired services.</p> <p>Mobilization of additional set/sets of tools and equipment including personnel will be as per "Special Conditions of Contract" in Section - III, Clause No. 2.0.</p> <p>Liquidated Damages for default in timely mobilization of additional set/sets of tools and equipment including personnel will be as per "Special Conditions of Contract" in Section - III, Clause No. 5.0.</p>			
9.0	<p>Projection Parameters:</p> <p>Reference spheroid for local projection = WGS 84</p>			

	Projection system: Lambert Tangential.			
10.0	MUD ENGINEERING SERVICES: The contractor to provide the following services during the contract period with OIL.			
10.1	MUD SERVICES: Mud engineering services will be required from contractor in drilling the well from Kick-off point or as per the requirement of OIL either from 12.25” Hole size / 8.5” Hole size. Mud engineering services for top vertical section shall be done by Oil India Limited (OIL). The contractor is required to provide Mud Engineering services in totality during the drilling of the wells in 12.25”, 8.5” and 6” section on advice of OIL. Note: 1.0 The Contractor should be able to provide Mud Engineering Services in two Drilling wells simultaneously as per the requirement of OIL under this Contract. 2.0 OIL at its discretion may use the Mud Engineering service independent of the Directional Drilling Services or vice versa as per the requirement.			
10.2	SCOPE OF WORK: The Contractor is required to provide mud engineering service in totality. The scope of work includes but not limited to, <ul style="list-style-type: none"> • Mud Engineering service • Designing and formulation of mud program. • Supply of all mud chemicals and additives except those provided by OIL. • Relevant technical back-up support of software and laboratory studies. • Centrifuge Services. Detailed specifications as spelt out under clause no. 10.3 Contractor to provide Mud engineering services with following key personnel: ❖ Mud Engineer: Contractor will provide minimum 02 no. on-site			

	<p>mud engineers on 12-hour shift basis. The engineers will be required to work on a suitable ON/OFF-day rotation. OIL reserves the right to modify its requirement of on-site mud engineers anytime.</p> <p>Mud engineers should have adequate appropriate knowledge in working with the contractor's materials, equipment and procedures for the services provided by the contractor. Both the mud engineers should have a minimum of 5 years relevant experience & should have performed mud engineering on at least 5 wells with similar mud systems.</p> <p>The Mud Engineers should hold bachelor's degree in science with Chemistry as one of the subject or B.E/ B. Tech from any recognized university.</p> <p>Both on -site mud engineers should be able to read, write and speak in English fluently.</p> <p>The Mud Engineers should be in sound health and fit to work in different Environment. The maximum age of the Mud Engineers should not be more than 56 years as on the original bid closing date of this Tender.</p> <p>The on-site mud engineers will communicate their work plan with OIL Chemist/Drilling Engineer/Installation Manager/Company Man at site and ensure all operations and activities are conducted in compliance with OIL's well program.</p> <p>The on-site mud engineers will be competent to take suitable measures during borehole instability, mud loss, stuck up or any other borehole complications.</p> <p>The on-site mud engineers shall be fully conversant with the QA/QC procedures in accordance with contractor's policies.</p> <p>The on-site mud engineers will provide OIL with daily mud reports as per IADC format incorporating drilling operations, complete mud parameters, volume of mud prepared and consumed, operation of solid control equipment and consumption of additives and chemicals.</p>			
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	<p>The contractor will have to submit personnel resume in respect of all the on-site mud engineers for OIL approval prior to start of operation along with other supporting documents.</p> <p>Suitable substitution/replacement of any mud engineer of the contractor due to any valid reasons will be with prior approval of OIL.</p> <p>Contractor is to furnish a list of Mud engineers (at least 04 personnel) and their bio-data for prior approval by the Company.</p> <p>The mud engineer should have adequate knowledge in working with Contractor's materials, equipment and procedures for the services provided by the contractor.</p> <p>The mud engineer should be competent enough/should have sufficient experience in solving down hole complications including but not limited to cement contamination, mud loss, stuck pipe, caving, high pressure kick etc.</p> <p>Note: Bidder has to submit an undertaking to provide the required experienced manpower in the prescribed format in Annexure – EE.</p>			
10.3	<p>CERTRIFUGE SERVICES:</p> <p>Operation / maintenance of Centrifuge shall be provided by the Contractor along with the power requirement and motor HP for running this facility. OIL will provide electrical power having specification of 415V, 3-Phase, 50Hz without Neutral. All Electrical equipment such as Motor, Starter, Remote push button switch, Junction box, Plug-Socket, Cable glands etc. used with the Centrifuge unit and not placed at safe distance, shall be suitable for use in oilfield hazardous area of Zone-I or Zone-II and Gas group II-A & II-B of oil mines and shall confirm to IS/IEC/EN: 60079 standard. Details of certification / test reports confirming to the above relevant standard from an Indian government laboratory or NABL accredited laboratory or IECEX accredited</p>			

	<p>laboratory or ATEX notified body shall be submitted. [Ref: Oil Mines Regulation, 2017, Regulation no.96 and CEA (Measures relating to safety and electric supply) Regulations, 2010, regulation no.110].</p> <p>OIL will only provide necessary assistance of Crane Services for installation (rig-up) of Centrifuge and Dismantling (rig-down) of same in each location. However, the Contractor will have sole responsibility for operation & maintenance of the Centrifuge. The Contractor shall provide/ bring necessary platform for mounting the Centrifuge along with all required pipings.</p> <p style="text-align: center;"><u>SPECIFICATION OF CENTRIFUGE</u></p> <p>MAKE: Brandt - NOV / MI- Swaco / CSI(Centrisys) / Halliburton / Derrick / Kemtron</p> <p>MODEL: As per the above manufacturer DESCRIPTION: High Speed Decanter with Variable Speed Hydraulic Drive / VFD (The centrifuge package should include all control and accessories) Capacity: 185 GPM Progressive Cavity Pump Motor H.P for running Centrifuge: 60 Motor H.P for running Feed Pump: Should be capable of meeting 185 gpm flow rate criteria Centrifugal “G” force: 1900 or higher</p> <p>❖ Centrifuge Operator: Contractor will provide minimum 02 no. experienced on-site Centrifuge operators on 12-hour shift basis. The operators will be required to work on a suitable ON/OFF-day rotation. OIL reserves the right to modify its requirement of on-site Centrifuge operators anytime during the currency of the Contract.</p> <p>The Centrifuge Operators qualification should be HS/ITI/or equivalent and should have minimum of 3 years experience of operation & maintenance of centrifuge in drilling rigs.</p> <p>Note:</p>			
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	<p>1. Personnel resume of mud engineer should specifically include but not limited to: Length of experience in drilling wells, Area/ field where and for whom worked, Type of mud systems worked with, experience in solving down hole problems. Personnel resume of Centrifuge Operators should include Length of experience in drilling rigs, for whom worked etc.</p> <p>2. In case of non-availability of Mud Engineer during operation, penalty will be levied at the rate of 10% of the Operating Day rate of the RSS- whichever is higher of all the four sections (for each non-available person) till suitable replacement duly approved by Oil India Ltd. arrives.</p> <p>In case of non-availability of Centrifuge operator during operation, penalty will be levied at the rate of 10% of the Operating Day rate of the Centrifuge (for each non-available person) till suitable replacement duly approved by Oil India Ltd. arrives.</p> <p>3. Mud Engineer/Centrifuge can be mobilized/demobilized independently.</p> <p>4. The Contractor should be able to provide 02 nos of Centrifuges in two Drilling wells simultaneously as per the requirement of OIL.</p> <p>5. Particulars of Mud Engineers & Centrifuge Operators must be submitted in the format Annexure-XIII to OIL for approval prior to deployment at wellsite.</p>			
10.4	<p>MUD AND MATERIAL MANAGEMENT SERVICES:</p> <p>Contractor will provide the following services but not limited to:</p> <p>i) The Contractor shall supply all special chemicals/additives conforming to relevant API / BIS/ OIL specifications required for drilling of 12 ¼”, 8.1/2” and 6” hole section. The contractor shall maintain adequate stock of all chemicals at their Duliajan warehouse as per Annexure-XV. Mobilization of Chemicals will be considered to be completed when Chemicals under the contract will be mobilized to their Duliajan warehouse as per Annexure-XVI. Contractor to ensure timely supply as per operational requirement of the well. However, the payment will be made on actual consumption basis duly certified by OIL chemist/company representative. OIL will provide temporary storage space at site to store chemicals brought in by the contractor. Housekeeping /</p>			

	<p>maintenance of the storage space allotted to Contractor for storing Contractor's chemicals at well site is solely contractor's responsibility.</p> <p>Contractor must feed the requisite chemicals in optimum quantity to Rig site through their own arrangement/expenses by engaging trucks to ensure un-interrupted drilling up to the well completion stage. Considering the limited storage facility at Rig site as stated above, Contractor must select their supply base/main warehouse/bulk storage facility in the vicinity of OIL's operational area and make all necessary arrangements for continuous supply of chemicals, Mud testing equipment, tools and spares etc. so that the materials can be delivered to drilling locations within short notice without fail.</p> <p>ii) During the preparation / maintenance of the mud system, addition of their chemicals to the mud system is to be done under the supervision of the contractor.</p> <p>iii) Contractor has to supply statutory safety gears for their employees.</p> <p>iv) The contractor shall provide product datasheet for each chemical including but not limited to brand name, unit of packing, specification and Material Safety Data Sheet (MSDS).</p> <p>The certificate of analysis of each chemical should reflect the relevant parameters of that particular additive and indicate its performance.</p> <p>v) Contractor has to take back the left-over chemicals, if any after completion of the project/expiry of the contract.</p> <p>vi) Since the mud system will be used in environmentally sensitive areas, the chemicals supplied by the contractor shall be biodegradable, eco-friendly and within tolerable toxicity limit.</p> <p>vii) During the Mud Engineering service, if any foul smell emanates in the mud system due to addition of any of the additives, contractors will be solely responsible for immediate replacement of</p>			
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	<p>the chemicals / additives and additionally necessary corrective measures should be taken by the Contractor to control the smell as per standard practices. Service provider has to ensure that the replaced chemicals supplied are of equivalent / better make or quality and this should be done without any operational interruption.</p> <p>viii) Inter location movement of contractor's personnel, accommodation bunk , lab equipment & Chemicals will be Contractor's responsibility. However, OIL will provide the Crane service for loading/offloading of materials, as per requirement.</p> <p>ix) Specification of Some Chemicals</p> <p>Contractor has to maintain as per API/BIS/ OIL specification for all chemicals. However, for better understanding of the standard of quality control measures to be followed during the course of operation, technical specification of some important chemicals is given below:</p> <p>A. BENTONITE: Specification:</p> <ol style="list-style-type: none"> 1. Physical Properties: The material as received should be in the form of fine light to greyish yellow buff or cream colored powder, free from dirt and foreign matter. 2. Moisture Content, measured by: 12.00 drying at 105 +/- 2DegC to constant weight, % by mass, maximum. 3. Sand Content, % by mass, max.: 2.00(retention on 200 B.S.S. mesh sieve or equivalent, by wet method). 4. Dry Screen Analysis, % by: 98.00 mass, min. (passing through 100 B.S.S. mesh or equivalent by dry method). 5. Performance Test: Prepare a Bentonite suspension by mixing 7.5 gms of Bentonite per 100 ml distilled water. Stir the suspension in a multimixer for 15 minutes so that no lumps are 			
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	<p>left in the suspension after the stirring period. Age the suspension for 24hrs at 26 +/- 2 deg C. After lapse of the aging period, stir the suspension for 15 minutes in a multimixer and then determine apparent viscosity, plastic viscosity and API fluid loss of the suspension at 26 +/- 2 deg C which should be as follows.</p> <p>(i) Apparent viscosity, cp, min. : 15 (ii) Plastic viscosity, cp, min. : 6 (iii) API fluid loss, ml, maximum : 20</p> <p>6. Packing: The material should be packed in new HDPE bags or moisture proof polythene lined (100 gauge) D.W. jute bags (9 oz) strong enough to withstand rigorous of transit and storage. Capacity 50 Kgs. net per bag.</p> <p>7. Markings: Each bag should have clear legible markings as given bellow: i) Name of the product. ii) Name of the supplier/manufacturer. iii) Date/Month/Year of manufacture.</p> <p>B. BARYTES:</p> <p>Specification:</p> <p>1. Physical Properties: The material as received shall be white/light greyish white/light pinkish white free flowing powder, free from dirt and foreign matter.</p> <p>2. Specific Gravity of material: 4.15 as received, at 26 +/- 2 deg C minimum.</p> <p>3. Fineness: (a) Wet Screen Analysis - Passing through 75 micron sieve, (ISS 6/BSS 200/ASTM 200), %by mass, minimum: 97.00 (b) Passing through 53 micron sieve, (ISS 5/ BSS 300/ASTM 270, % by mass: 90 +/-5</p>			
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	<p>4. Insoluble Minus Silica % by mass, minimum.: 90.00</p> <p>5. Water Soluble Content: 0.02% by mass, maximum.</p> <p>6. Performance Test: Prepare a Bentonite suspension by mixing 7.5 gm of OIL / API approved Bentonite per 100 ml distilled water, Stir the suspension in a multimixer for 15 minutes so that no lumps are left in the suspension after the stirring period. Age the suspension for 24 hrs at 26 +/- 2 deg C. After the lapse of the aging period, adjust the apparent viscosity of the suspension in the range of 15-20 cps with distilled water if necessary. Load the suspension with the Barytes sample as received, to 1.60 sp. gravity weight and stir in multimixer for 10 minutes. Measure apparent viscosity of mud so prepared at 26 +/- 2 deg C.</p> <p>This should be as follows. Apparent Viscosity, cp, maximum: 60. N.B. Apparent viscosity to be measured by a Fann VG meter.</p> <p>7. Packing: The material should be packed in brand new Double-Walled (DW) jute bags with single polythene lining or brand new HDPE bags strong enough to with stand rigorous of transit and storage. Capacity: 50 Kilogram (new) per bag.</p> <p>8. Markings: Each bag should have clear legible markings as given below:</p> <ul style="list-style-type: none"> i) Name of the product. ii) Name of the supplier/manufacturer. iii) Date/Month/Year of manufacture. <p>C. SODIUM HYDROXIDE (Caustic Soda)</p> <p>Specification:</p> <p>1. Physical properties: The material, as received, should be in the form of flakes and should be free from dirt and foreign matter.</p>			
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	<p>2. Purity as NaOH, as received, 95.00 % by mass, minimum.</p> <p>3. Packing: The material should be packed in moisture proof HDPE bag with an insert of 300 gauge polythene bag and strong enough to with stand rigors of transit and storage.</p> <p>4. The material should be supplied in the original packing of manufacturer. Capacity 25 kgs / 50 kgs net per bag.</p> <p>5. Marking: Each bag should have clear legible markings as given below:</p> <ul style="list-style-type: none"> i) Name of the product. ii) Name of the supplier. iii) Date/month/year of manufacture. iv) Supply order number against which the supply is made. <p>D. ENCAPSULATING POLYMER (PHPA - Partially Hydrolysed Polyacryl Amide)</p> <p>Specification:</p> <p>1. Physical Properties: The material, as received, should be a free-flowing white powder free from lumps and other impurities.</p> <p>2. Moisture Content, measured by drying at 105 +/- 2 deg C, % by mass, maximum: 7.00</p> <p>3. Ionic character: Anionic</p> <p>4. Relative CST value (capillary suction test)</p> <ul style="list-style-type: none"> (i) At 0.1% (w/v) polymer conc., min: 100 (ii) At 0.2% (w/v) polymer conc., min: 200 <p>5. Relative dispersibility at 0.2% (w/v) polymer conc. at 60+/- 5 deg C., max.: 175</p> <p>6. Degree of hydrolysis: 20-40% (electrometric titration)</p>			
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	<p>7. Apparent viscosity of 0.2% (w/v) polymer solution in distilled water.</p> <p>(i) At 26 +/- 2 deg C, cp, and minimum: 9</p> <p>(ii) After aging at 110 deg C for 18 hrs.: Should not decrease more than 20% of (i)</p> <p>8. Effect on 4 cp bentonite suspension: Prepare a 7.5% (w/v) bentonite suspension in distilled water and stir in a multimixer for 15 minutes so that no lumps are left after the stirring period. Age the suspension at 26 +/- 2 deg C for 24 hrs. Prepare a 4 cp bentonite suspension from it by dilution with distilled water. Add to it 0.2% (w/v) of powdered PHPA sample and stir for 30 minutes in multimixer. Adjust pH of the suspension to 9.0 using caustic soda solution. Measure apparent viscosity at 26 +/- 2 deg C.</p> <p>(i) Apparent viscosity should be 15 cp minimum Age the suspension at 110 deg C for 24 hrs in rolling condition. After the ageing period cool and stir for 15 minutes in multimixer. Measure apparent viscosity of the suspension at 26 +/- 2 deg C.</p> <p>(ii) Decrease of apparent viscosity 20% max. of 8(i).</p> <p>9. Calcium tolerance: Prepare a 0.4% (w/v) suspension of the PHPA sample in distilled water by stirring in a multimixer for 15 min.</p> <p>(i) Record apparent viscosity of the PHPA solution. Prepare again a 0.4% (w/v) suspension of the PHPA sample in 100 ppm Calcium solution by mixing in a multimixer. Measure apparent viscosity of the solution.</p> <p>(ii) Apparent viscosity should be 60% minimum of 9(i)</p> <p>10. Packing:</p> <p>(i) The material should be packed in multiwall paper bags with at least two innermost layers suitably water proofed, strong enough to with stand rigours of transit and storage. Capacity 25 kgs net per bag.</p> <p>(ii) PELLETIZATION:-If supply is from foreign source, the supply should be in suitably pelletized forms.</p>			
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	<p>11. Markings - Each bag should have clear legible markings as given below :</p> <ul style="list-style-type: none"> (i) Name of the product (ii) Name of the supplier (iii) Date/month/year of manufacture (iv) Supply order number against which the supply is made. <p>E. "POLYANIONIC CELLULOSE REGULAR GRADE (PAC-R)"</p> <p>Specification:</p> <p>1. Physical Properties: The material, as received, should be a free flowing white to creamish / brownish white powder free from foreign matter and visible impurities.</p> <p>2. Moisture Content at 105 +/- 2 Deg C, % by mass, maximum: 15.00.</p> <p>3. Apparent viscosity of 1.0 % (w/v) suspension of the material as received in fresh water and 4 % salt water, Prepare a 1 % (w/v) suspension of the sample by stirring in multimixer for 30 minutes in distilled water and 4 % salt water (prepared by dissolving 4 gms of LR grade NaCl in 100 ml distilled water) and measure apparent viscosity at 26 +/- 2 Deg C by Fann VG meter.</p> <ul style="list-style-type: none"> (i) Apparent viscosity in fresh water, cp : 75-100 (ii) Apparent viscosity in salt water, cp : 65-85 <p>4. Yield of 15 cp Apparent viscosity suspension: Prepare a 15 cp apparent viscosity suspension of the sample by stirring in a multimixer for 30 minutes in distilled water and 4 % salt water (prepared by dissolving 4 gms of LR grade NaCl in 100ml distilled water) and calculate the yield of the sample which should be as follows:</p> <ul style="list-style-type: none"> (i) Yield in distilled water, KL/MT, min.: 250 (ii) Yield in 4 % salt water KL/MT, min.: 200 <p>5. Sodium Carboxy Methyl Cellulose Content, % by mass (dry basis) min: 85.00.</p>			
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	<p>6. Degree of Substitution, minimum: 1.00</p> <p>7. Performance Test:</p> <p>A. In Fresh Water mud.</p> <p>(i) Preparation of base mud:</p> <p>Prepare a 10 % (w/v) suspension of OIL approved bentonite in distilled water and stir the suspension for 15 minutes in a multimixer so that no lumps are left after the stirring period. Age the bentonite suspension for 72 Hrs. at 90 +/- 2 Deg C. After the lapse of the aging period, cool and adjust apparent viscosity in the range 15-20 cp with distilled water. Also adjust pH in the range 9.0-9.5 with 10 % NaOH solution, if necessary. Stir the suspension for 15 minutes in multimixer and determine apparent viscosity, yield value and API fluid loss of the suspension at 26 +/- 2 Deg C which should be as follows:</p> <ul style="list-style-type: none"> (a) Apparent viscosity, cp: 15 - 20 cp. (b) Yield value, lbs/100 ftsq: To determine (c) API fluid loss, ml: To determine <p>(ii) Preparation of treated mud:</p> <p>Treat the base 7A(i) with 0.5% polyanionic cellulose (R) sample. Stir in a multimixer for 30 minutes and divide the mud into two parts.</p> <p>Performance at 26 +/- 2 DegC. :</p> <p>Measure apparent viscosity, yield value and API fluid loss of one part of treated mud 7A (ii) at 26 +/- 2 DegC which should be as follows.</p> <ul style="list-style-type: none"> (a) Apparent viscosity, cp minimum: 4 times of 7A (i,a) (b)Yield value, lb/ 100 ftsq. minimum: 4 times of 7A (i,b) (c) API fluid loss, ml maximum: 40 % of 7A (i,c) <p>Performance at 120 +/- 2 DegC.:</p>			
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	<p>Age second part of treated mud 7A (ii) at 120 +/- 2 DegC in rolling condition for 24 hrs. After aging, cool to 26 +/- 2DegC and stir in a multimixer for 15 minutes and determine apparent viscosity,</p> <p>Yield value and API fluid loss of the mud at 26 +/- 2 Deg C which should be as follows:</p> <ul style="list-style-type: none">(i) Apparent viscosity, cp minimum. : 3 times of 7A (i,a)(ii) Yield value, lb/100 sq.ft minimum. : 3 times of 7A (i,b)(iii) API fluid loss, ml, maximum. : 40 % of 7A (i,c) <p>B. In Salt Water Mud:</p> <p>(i) Preparation of base mud:</p> <p>Prepare 10 % (w/v) bentonite suspension of OIL approved bentonite in distilled water and stir the suspension for 15 minutes in a multimixer so that no lumps are left after the stirring period. Age the suspension for 72 hrs at 90 +/- 2 Deg C After the lapse of aging period, cool and add 4% (w/v) NaCl (LR grade) and age for 24 hrs. at 26 +/- 2 Deg C. Dilute the suspension with 4 % NaCl solution and adjust apparent viscosity in the range 15-20 cp. Adjust pH in the range 9.0-9.5 with 10 % NaOH solution if necessary. Determine apparent viscosity, yield value and API fluid loss of the suspension at 26 +/- 2 Deg C which should be as follows:</p> <ul style="list-style-type: none">(a) Apparent viscosity, cp: 15 - 20(b) Yield value, lbs/100 ftsq. : To determine(c) API fluid loss, ml: To determine <p>Treat the base mud prepared as per the 7B(i) with 0.5%(w/v) polyanionic cellulose (R) sample and stir in a multi-mixer for 30 minutes.</p> <p>Performance at 26 +/- 2 Deg C.</p> <p>Determine apparent viscosity, yield value and API fluid loss of mud 7B (ii) above at 26 +/- 2 Deg C which should be as follows:</p>			
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	<p>(a) Apparent viscosity, cp minimum: 2 times of 7B (i,a) (b) Yield value, lb/100 ftsq minimum: 1.5 times of 7B(i,b) (c) API fluid loss, ml maximum: 15 % of 7B(i,c)</p> <p>8. Packing:</p> <p>(i) The material should be packed in multi-walled paper bags with at least two innermost layers suitably water-proofed, strong enough to withstand rigours of transit and storage. The material should be supplied in the original packing of the manufacture. Capacity 25 Kg net per bag.</p> <p>(ii) PELLETIZATION: If supply is from foreign source, the supply should be in suitably pelletized forms.</p> <p>9. Marking: Each bag should have clearly legible markings as given below:</p> <p>(i) Name of the product. (ii) Name of the supplier / manufacturer. (iii) Date/Month/Year of manufacture. (iv) Supply order number against the supply made.</p> <p>N.B: 1) Apparent viscosity and yield point shall be determined in a Fann VG meter and fluid loss by standard API low pressure fluid loss apparatus using compressed air or nitrogen as the pressure source. 2) The Supplied Materials must meet OIL's specifications in all respect.</p> <p>F. HP EP MUD LUBRICANT (HP EP)</p> <p>1. Physical State: The material shall be a free-flowing liquid at 24±2 deg C, free from visible impurities.</p> <p>2. Lubricity coefficient of the treated NDDF: Composition: Distilled water + KCl 5 % (Mixing time 5 min) + Biocide-1000 ppm (Mixing time 5 min) + Xanthan Gum -0.45% w/v (Mixing time 20</p>			
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	<p>min) + Pre-gelatinised Starch -3 % (w/v) (Mixing time 10 min) + Micronised Calcium carbonate – 6% (w/v) (Mixing time 10 min) : pH- 8.5-9.0 + add 2.0% w/v of the material, stir in a Hamilton Beach Mixer for 10 min by using lubricity tester.: 0.10 (Max)</p> <p>3. Extreme pressure film strength at 300 inch/lb load and 1000 RPM of the treated NDDF, psi 12000 (Minimum)</p> <p>4. Lubricity coefficient after hot rolled: (100±2 deg C, 16 hrs) treated 2.0% (w/v), NDDF Should not be more than 0.02 unit of the value at SL No. 2</p> <p>5. Film strength of the hot rolled (100 ± 2 deg C, 16 hrs) treated 2.0% (w/v), NDDF Film strength of the treated NDDF should be not less than 25000 psi</p> <p>6. Foam test: Specific Gravity of the treated fresh water mud 0.8 (minimum)</p> <p>G. XC POLYMER- DISPERSIBLE (XCD)</p> <p>Specification:</p> <p>1. Physical Properties: The material, as received, should be a free flowing white to creamish / brownish white powder free from foreign matter and visible impurities.</p> <p>2. Moisture Content, measured by drying at 105 +/- 2 degC, % by mass, maximum: 15.00.</p> <p>3. Dispersibility / Solubility Test: The material should be quickly and easily dispersible in water when sprayed in water taken in a breaker and should not remain floating. 1.00% (w/v) solution of the product in distilled water after mixing in multimixer for 30 minutes should give clean solution without turbidity.</p> <p>4. Rheological properties: Prepare a 0.5% (w/v) solution of the sample in distilled water containing 1% (w/v) NaCl (LR grade) by stirring in a multimixer for 30 minutes. Adjust pH of the solution in the range 8 - 9 by</p>			
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	<p>addition of 1N NaOH solution while stirring. Determine the rheological properties of the suspension at 26 +/- 2 deg C which should be as follows:</p> <ul style="list-style-type: none"> (i) Apparent viscosity, cp : 15 - 25 (ii) "0" minute gel, lbs/100 ftsq, minimum: 8 iii)"N" value at 200 & 100 rpm of Fann VG meter or equivalent, maximum.: 0.40 <p>To 500 ml of distilled water, add 5 ml of 3% (w/v) solution of calcium chloride (fused and analar grade) and to this solution, add 0.5% (w/v) of the sample while stirring in a multimixer. Stir the suspension further for 30 minutes in a multimixer. To this add 0.2% (w/v) chrome alum powder (LR grade) and stir for additional 10 min. Adjust the PH in the range 8-9 by 1N NaOH solution while stirring. Determine the rheological properties of the suspension at 26 +/- 2 deg C which should be as under:</p> <ul style="list-style-type: none"> (i) Apparent viscosity, cp, minimum: 40 (ii) Yield value, lbs/100 ftsq, minimum: 40 (iii) "0" minute gel, lbs/100 ftsq, minimum : 20 (iv) "15" minute gel, lbs/100 ftsq, minimum : 100 <p>5. Performance Test: Prepare a 0.5% (w/v) solution of the sample in distilled water by stirring in a multimixer for 30 minutes. Adjust the pH to 8 - 9 with 1N NaOH solution. Add to it 3% of the OIL approved bentonite powder and stir for 30 minutes. Determine apparent viscosity; yield value and API fluid loss of the mud at 26 +/- 2 deg C. Age the treated mud at 100 +/- 2 deg C for 18 hrs in rolling condition. Cool and stir for 15 minutes in a multimixer. Determine apparent viscosity, yield value and API fluid loss at 26 +/- 2 deg C which should be as under:</p> <ul style="list-style-type: none"> (i) Apparent viscosity, cp : should not decrease (ii) Yield value, lbs/100 ftsq : should not decrease (iii) API fluid loss, ml : should not increase <p>6. Temperature stability: Prepare 0.5% (w/v) solution of the sample in saturated salt water (prepared by dissolving analar grade NaCl in distilled water) by</p>			
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	<p>stirring in a multimixer for 30 minutes. Adjust pH to 8 - 9 by 1N NaOH solution. Record apparent viscosity and yield value of suspension at 26 +/- 2 deg C.</p> <p>Age the solution in a roller oven in rolling condition at 120 +/- 2 deg C for 18 hrs. Cool and stir for 5 minutes. Measure apparent viscosity and yield value of the solution at 26 +/- 2 deg C which should be as under:</p> <ul style="list-style-type: none">(i) Apparent viscosity, cp : should not decrease(ii) Yield value, lbs/100 ftsq : should not decrease <p>7. Borate Sensitivity Test:</p> <p>Prepare a 0.5% (w/v) solution of the sample in distilled water by stirring in a multimixer for 30 minutes. Add to it 5 ml of 20% (w/v) hot solution of borax and stir for 5 minutes. No stiff gel formation should take place.</p> <p>8. Packing:</p> <ul style="list-style-type: none">(i) The material should be packed in multiwalled paper bags with at least two innermost layers are suitably water proofed strong enough to withstand rigours of transit and storage. Pack Size: 25KG net per bag.(ii) PELLETISATION: If supply is from foreign source, the supply should be in suitably pelletized forms. <p>9. Markings:</p> <p>Each bag should have clear legible markings as given below:</p> <ul style="list-style-type: none">(i) Name of the product/brand name(ii) Name of the supplier/manufacturer (Name of manufacturer must be marked on the bags in case the product is not branded).(iii) Date/month/year of manufacture(iv) Supply order number against which the supply is made.			
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	<p>N.B. 1) Apparent viscosity and yield value will be measured by a Fann VG meter or equivalent and API fluid loss will be measured in standard API fluid loss apparatus using compressed air or nitrogen as pressure source. 2) The Supplied Materials must meet OIL's specifications in all respect.</p> <p>H. Non-Invasive Fluid Additives (NIFA):</p> <p>Specification:</p> <p>(i) Physical Properties: The material, as received, should be a free flowing creamish / white powder free from foreign matter and visible impurities. The material shall be in the form of powder, free from lumps Should be determined visually.</p> <p>(ii) Moisture Content, @ 105 ± 2 Deg C % by mass, : 12.0 maximum.</p> <p>(iii) pH of 5 % solution in distilled water: 10.0 minimum.</p> <p>(iv) Performance test:</p> <p>* To be tested in sand bed test cell</p> <p>* Make a sand bed of 20/40 mesh frac sand of 15 cm height in the test cell.</p> <p><u>Fresh Water Mud:</u></p> <p>i. <u>Base mud:</u> Freshly prepare a bentonite suspension of 10 to 15 cp and Add 0.4% XCP, 1.2% PAC(L), 0.3% PAC (R) and maintain pH 9.5 to 10.0 by adding KOH. Add 0.2% magnesium oxide. Hot roll at 100 deg C for 24 hrs. Perform invasion test in sand bed test cell at 100 psi and record the invasion.</p> <p>ii. Treated Mud: In the above base mud (A) add 2% NIF additive. Mix thoroughly. Hot roll at 100 oC for 24 hours. Perform invasion test in sand bed test cell at 100 psi and record the invasion: Should not be more than 8.0 cm.</p>			
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	<p><u>Salt Water Mud:</u></p> <p>A) <u>Base Mud:</u> In fresh water add 5% KCL, 0.45% XCD, 1.2% PAC (SL), 0.3% PAC(R) & 6% OIL approved micronized CaCO₃, maintained pH to 9.5 - 10 by KOH. Add 0.2% MgO. Hot roll at 100 deg C for 24 hrs. Perform invasion test in sand bed test cell at 100 psi and record the invasion.</p> <p>B) <u>Treated Mud:</u> In the above salt water base mud (A) add 2% NIF additive, hot roll at 100 degC for 24 hours. Perform invasion test in sand bed test cell at 100 psi and record the invasion.: Should not be more than 8.0 cm</p> <p>I. CALCIUM CARBONATE Physical properties:</p> <ol style="list-style-type: none"> 1. Physical State-Fine Powder free from dirt & foreign matter. 2. Water soluble content-0.35 %(by weight) max. 3. Specific gravity at 24+/-2degC -2.69(min). 4. Purity as Calcium Carbonate-96% by weight min. 5. Solubility in 15% wt/wt HCl-96% by weight min. 6. Particle size distribution % by volume as measured by light scattering technology- D10- < 4 micron; D50- 4-15 micron; D90- 15-60 micron. Particle retain on 200 meshes ASTM- 2% by weight max. <p>Packing: Moisture proof HDPE/Jute bag with polythene inner lining (100 gauge) strong enough to withstand rigours of transit and storage, capacity 50 kg net per bag.</p> <p>Marking: Each bag shall have clearly legible marking as given below:</p> <p>a) Name of Product b) Name of Supplier</p>			
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	<p>c) Date/Month/Year of manufacture d) Supply order number against which supplies are made</p> <p>J. POLYAMINE</p> <p>Specification:</p> <p>1. Physical Properties: The material as received shall be in the form of colourless/pale yellow liquid and shall be free from visible impurities. Should be determined visually.</p> <p>2. Miscibility with Water at 24 ± 2 Deg C: Prepare a 2% (v/v) of the sample solution in distilled water, which gives a clear single phase solution. Miscibility with Water at 24 ± 2 Deg C should be completely miscible.</p> <p>3. Miscibility with 3% KCL solution at 24 ± 2 Deg C: Prepare a 2% (v/v) of the sample solution in 3%kcl solution, which gives a clear single phase solution. Miscibility with 3% KCL solution at 24 ± 2 Deg C should be completely miscible.</p> <p>4. Specific Gravity at 24 ± 2 Deg C: It should be between 1.01-1.1.</p> <p>5. Qualitatively determine Na⁺, K⁺ and Ca⁺⁺ in 2% CHS/Polyamine in distilled water: All three elements absent.</p> <p>6. Chemical assay (Reinecke salt gravimetric method): < = 20.0 % By mass.</p> <p>7. Swelling test: 2% (w/v) solution of the sample by Linear Swell Meter against Bentonite pellets compressed to 10,000 psi in a 2 hrs test: < =24.0 %.</p> <p>8. Clay Hydration Suppression</p>			
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	<p>a) Base Mud Take 450ml of distilled water and add 45 g of bentonite powder and stir the mixture in silverson High Shear mixture for 30 minutes at medium speed. Determine apparent viscosity at 24 +/- 2 degC which should be as follows.</p> <p>Specification: Apparent Viscosity, cp: To determine.</p> <p>b) Treated Mud: Take 450ml of distilled water and add 45 g of bentonite powder, and stir the mixture in silverson High Shear mixture, and add 2% (w/v) of the sample and stir for 30 minutes at medium speed. Determine apparent viscosity at 24 +/- 2 degC which should be as follows.</p> <p>Specification: Apparent Viscosity, cp: Should not be more than 15% of the base mud.</p> <p>9. Methylene Blue Capacity</p> <p>a) Base Mud Hydrate 20g/350ml bentonite in distilled water for 24 hours at room temperature. Take 2 ml of the slurry add 5ml of Distilled water and stir in mixer for 30 min. Record the methylene blue capacity with the help of methylene blue solution.</p> <p>Specification: Methylene blue Capacity, ml: to determine</p> <p>b) Treated Mud Hydrate 20g/350ml bentonite in distilled water for 24 hours at room temperature. Take 2 ml of the slurry add 5ml of Distilled water, add 5ml of 2% amine solution in distilled water and stir in mixer for 30 min. Record the methylene blue capacity with the help of methylene blue solution (as mentioned in sub procedure ChemLab/Mud/sub/MBC/06.</p> <p>Specification: Methylene blue Capacity, ml: 65% (max) of bentonite slurry.</p>			
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	<p>Packing: The material should be packed in 200 Kg plastic Jar/Drum strong enough to withstand rigors of transportation and storage.</p> <p>Marking: Each drum shall have clear legible marking as given below:</p> <ul style="list-style-type: none"> a) Name of the product: b) Name of the supplier: c) Date/Month/ year of manufacture. d) Supply order number against which supplies are made: <p>K <u>Potassium Sulphate:</u></p> <ol style="list-style-type: none"> 1. Physical Properties: The material shall be in the form of crystalline solid or powder, free from visible impurities. 2. Moisture Content at 105 +/-2 deg C, % by mass: 2.00(Maximum) 3. Matter Insoluble in Water on Dry Basis, percent by mass: 0.5(Maximum) 4. Calcium as Ca++ on Dry Basis, ppm: 2000 (Maximum) 5. Purity as Potassium Sulphate on Dry Basis, percent by mass: 96.0 (Minimum) 6. Packing: The material should be packed in polythene bag (100 gauge) which in turn should be packed in HDPE bag strong enough to withstand rigorous of transit and storage. The material should be supplied in the original packing of the manufacturer Capacity 50 kg net per bag. 7. Marking: Each bag shall have clear legible markings as given below: <ul style="list-style-type: none"> (i) Name of the product (ii) Name of the supplier (iii) Date/Month/Year of manufacture <p>x) <u>Quality Control:</u></p> <ol style="list-style-type: none"> a. Contractor shall have effective QC procedures to ensure that all chemicals and materials meet the design requirements and also comply with the relevant API/BIS/OIL standards as 			
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	<p>appropriate, and Company reserves the right to audit Contractor's QC operation. All chemicals should be free of any hazardous components. The supplied chemicals will have to meet the specification as declared at the time of bidding.</p> <p>b. Service Provider shall also perform the QC tests on mud samples and all mud related products on request.</p> <p>c. Service Provider shall perform laboratory testing of formulations to ascertain the performance of the fluid. After testing, a report summarizing the test and test results along with formulations must be submitted before commencement of the operation.</p> <p>d. Service Provider shall submit a toxicity test report from an NABL accredited laboratory of all individual chemicals / composite mud sample prior to commencement of operation.</p> <p>e. After issuing LOA, the Service Provider shall submit minimum 1kg/1L of each chemical as a Pre-despatch sample for performance evaluation as per API/BIS/OIL specifications at Chemical Laboratory, Duliajan. Bidder to take a note that only after successful evaluation of the supplied sample, they will be allowed to bring the chemicals for mobilization. It is to be noted that performance evaluation of the samples will take minimum 30 days, hence bidder's are requested to plan accordingly for on time mobilization.</p> <p>f. Random joint sampling shall be carried out during the entirety of the contract and whenever felt necessary. Contractor has to send those samples collected at well site to Chemical Department, Duliajan for laboratory testing. In case of non-conformity with respect to specification/performance of the chemical, Contractor has to replace the chemical immediately without any extra cost to OIL.</p>			
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	<p>g. If during the operations, any chemical is found to be substandard, Contractor shall replace the materials immediately without any extra cost to Company. All expenditure including transportation of rejected materials will be borne by the Contractor.</p>																																											
<p>10.5</p>	<p>DESIGNING OF MUD PROGRAM:</p> <p>Mud parameters at 45° ± 2° C after hot rolling at 120° ± 2° C for 24 hrs:</p> <table border="1" data-bbox="320 483 1341 1023"> <thead> <tr> <th>Properties</th> <th>12-1/4"</th> <th>8-1/2"</th> <th>6"</th> </tr> </thead> <tbody> <tr> <td>Density (ppg)</td> <td>10.5</td> <td>13.5</td> <td>13.5</td> </tr> <tr> <td>Yield Point (lbs/100 ft2)</td> <td>15 – 30</td> <td>25 – 40</td> <td>30-40</td> </tr> <tr> <td>pH</td> <td>9.0 – 10</td> <td>9.0 – 10</td> <td>9.0-9.5</td> </tr> <tr> <td>API Filtrate (cc)</td> <td>8.0 – 6.0</td> <td>6.0 – 4.0</td> <td>5.0-4.0</td> </tr> <tr> <td>HTHP Filtrate (cc) at 200°F/500 psi</td> <td><20.0</td> <td><20.0</td> <td><20</td> </tr> <tr> <td>Sand % by vol</td> <td><0.5</td> <td><0.5</td> <td><0.5</td> </tr> <tr> <td>Lubricity coefficient</td> <td>0.1 – 0.2</td> <td>0.1 – 0.15</td> <td>0.1-0.15</td> </tr> <tr> <td>Plastic viscosity (lbs/100 ft2)</td> <td>25 (max)</td> <td>40 (max)</td> <td>40 (max)</td> </tr> <tr> <td>Gel Strengths 0'/10' (lbs/100 ft2)</td> <td>6-12 / 10-35</td> <td>6-12 / 10-35</td> <td>6-10 / 10-25</td> </tr> </tbody> </table> <p>Based on geological data provided by OIL and well engineering, contractor shall design/formulate suitable mud and hydraulic system for each phase. Contractor will provide the mud engineering services for the mud system approved by OIL.</p> <p>i) Contractor should submit a detailed mud program for each proposed well in advance. The designed mud/hydraulics program should be supported by software for analysis and to make reports.</p> <p>ii) Contractor will also plan for contingency treatment for problems like cement contamination, carvings, hole pack off, differential sticking, mud loss, hole erosion and /or any other down hole problems.</p>	Properties	12-1/4"	8-1/2"	6"	Density (ppg)	10.5	13.5	13.5	Yield Point (lbs/100 ft2)	15 – 30	25 – 40	30-40	pH	9.0 – 10	9.0 – 10	9.0-9.5	API Filtrate (cc)	8.0 – 6.0	6.0 – 4.0	5.0-4.0	HTHP Filtrate (cc) at 200°F/500 psi	<20.0	<20.0	<20	Sand % by vol	<0.5	<0.5	<0.5	Lubricity coefficient	0.1 – 0.2	0.1 – 0.15	0.1-0.15	Plastic viscosity (lbs/100 ft2)	25 (max)	40 (max)	40 (max)	Gel Strengths 0'/10' (lbs/100 ft2)	6-12 / 10-35	6-12 / 10-35	6-10 / 10-25			
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	<p>iii) Contractor will prepare contingency plan to meet any unexpected problems, anticipated contaminations etc.</p> <p>iv) Contractor should ensure that entire composite mud system fulfils regulatory requirements of environment/safety etc.</p>									
10.6	<p><u>EXPECTED FORMATION TOPS</u></p> <p><u>(as per table in the tender)</u></p> <p>NOTE: Formation depths are tentative and may have difference of about +/-100 m in actual and very well to well.</p>									
10.7	<p><u>MUD PARAMETES FOR OFFSET WELL</u></p> <p><u>TYPE-I:</u> Mud parameters of 12.¼” sections of S-bend/J-bend/Vertical Wells of Barekuri, Baghjan, Chabua, Nadua, Makum, Moran, Shalmari, Balimara</p> <p><u>(as per table in the tender)</u></p> <p><u>TYPE-II:</u> Mud Parameters of 8.5” stage for different mud systems used for drilling of S-bend/J-bend/Vertical Wells of Barekuri, Baghjan, Chabua, Nadua, Makum, Moran, Shalmari, Balimara areas</p> <p><u>(as per table in the tender)</u></p>									
10.8	<p><u>MUD HYDRAULICS FOR 6”, 8½”, 12¼” & 17½” HOLE</u></p> <p><u>(as per table in the tender)</u></p>									
10.9	<p>Chemicals to be supplied by OIL</p> <p style="text-align: center;"><u>TABLE - I</u></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td colspan="2" style="text-align: center;">Chemicals to be supplied by OIL</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">Barite</td> <td></td> </tr> </table>		Chemicals to be supplied by OIL		1	Barite				
	Chemicals to be supplied by OIL									
1	Barite									

		2	Bentonite									
		3	Spotting Fluid									
		4	Loss Circulating Materials (Mica, Saw dust, Gel flakes, Walnut shell)									
		5	H2S scavenger									
		6	Sodium Bicarbonate									
		7	Soda Ash									
10.10	<p><u>MUD TESTING EQUIPMENT/ LABORATORY:</u></p> <p>All the necessary drilling fluid testing equipment/ glass wares, chemicals/ reagents and consumables for testing of mud as per API / AIDC standards including any special tests for estimation of glycol, amine, PHPA, HPHT fluid loss, lubricity coefficient, shall be provided by the contractor as per Table-II. OIL will provide a skid mounted laboratory bunk house at rig site with the facilities like water connection and electrical power supply for setting up the same.</p> <p style="text-align: center;"><u>TABLE - II</u></p> <p style="text-align: center;">LIST OF LABORATORY EQUIPMENTS PER SERVICE</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">Sl. No.</th> <th style="text-align: center;">Items</th> <th style="text-align: center;">Quantity</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>Fann VG Meter 6 speed</td> <td style="text-align: center;">1</td> </tr> </tbody> </table>			Sl. No.	Items	Quantity	1	Fann VG Meter 6 speed	1			
Sl. No.	Items	Quantity										
1	Fann VG Meter 6 speed	1										

CHECKLIST-III*

2	API Filter Press	1
3	Marsh Funnel with cup	1
4	API Mud Balance	1
5	API Sand Content Apparatus	1
6	Hamilton Beach Mixer	1
7	Oil Water Retort Kit	1
8	pH Meter	1
9	Methylene blue Test Kit	1
10	Thermometer	1
11	Lubricity Tester	1
12	Hot Plate	1
13	Magnetic Stirrer	1
14	HPHT Filter press	1
15	Any Other necessary equipment for testing of mud.	

Note: The contractor to provide valid Calibration certificate of all the laboratory equipment (for each set separately) failing which mobilization will not be considered complete. During the contract if any instrument is found to be defective or substandard, the item is to be replaced immediately without any extra cost to OIL.

10.11

Healthy Stock to be maintained at warehouse in Duliajan :**Table III:**

	Name of Chemical	Unit	Quantity
1.	Caustic Soda	KG	15,000
2.	CP Glycol	L	30,000
3.	ROP enhancer	L	60,000
4.	Encapsulating polymer	KG	9,000
5.	PAC-R	KG	18,000
6.	HP Fluid loss reducer	KG	35,000
7.	XCD	KG	15,000
8.	Biocide	L	6,000
9.	CaCO ₃ (M)	KG	40,000
10.	CaCO ₃ (F)	KG	40,000
11.	Defoamer	L	15,000
12.	Polyamine-Chloride free	L	60,000
13.	Polymeric Sealing agent	L	45,000
14.	HP Lubricant	KG	45,000
15.	Oxygen Scavenger	L	6,000
16.	NIF (500 psi)	KG	30,000
17.	Potassium Sulphate	KG	70,000

10.12	<p><u>Stock required for Completion of Mobilization :</u></p> <p style="text-align: center;"><u>Table IV</u></p> <table border="1" data-bbox="340 242 1003 1109"> <thead> <tr> <th></th> <th>Name of Chemical</th> <th>Unit</th> <th>Quantity</th> </tr> </thead> <tbody> <tr><td>1.</td><td>Caustic Soda</td><td>KG</td><td>20000</td></tr> <tr><td>2.</td><td>CP Glycol</td><td>L</td><td>50000</td></tr> <tr><td>3.</td><td>ROP enhancer</td><td>L</td><td>75000</td></tr> <tr><td>4.</td><td>Encapsulating polymer</td><td>KG</td><td>15000</td></tr> <tr><td>5.</td><td>PAC-R</td><td>KG</td><td>25000</td></tr> <tr><td>6.</td><td>HP Fluid loss reducer</td><td>KG</td><td>50000</td></tr> <tr><td>7.</td><td>XCD</td><td>KG</td><td>20000</td></tr> <tr><td>8.</td><td>Biocide</td><td>L</td><td>8000</td></tr> <tr><td>9.</td><td>CaCO₃ (M)</td><td>KG</td><td>50000</td></tr> <tr><td>10.</td><td>CaCO₃ (F)</td><td>KG</td><td>50000</td></tr> <tr><td>11.</td><td>Defoamer</td><td>L</td><td>20000</td></tr> <tr><td>12.</td><td>Polyamine-Chloride free</td><td>L</td><td>70000</td></tr> <tr><td>13.</td><td>Polymeric Sealing agent</td><td>L</td><td>60000</td></tr> <tr><td>14.</td><td>HP Lubricant</td><td>KG</td><td>50000</td></tr> <tr><td>15.</td><td>Oxygen Scavenger</td><td>L</td><td>5000</td></tr> <tr><td>16.</td><td>NIF (500 psi)</td><td>KG</td><td>40000</td></tr> <tr><td>17.</td><td>Potassium Sulphate</td><td>KG</td><td>90000</td></tr> </tbody> </table>		Name of Chemical	Unit	Quantity	1.	Caustic Soda	KG	20000	2.	CP Glycol	L	50000	3.	ROP enhancer	L	75000	4.	Encapsulating polymer	KG	15000	5.	PAC-R	KG	25000	6.	HP Fluid loss reducer	KG	50000	7.	XCD	KG	20000	8.	Biocide	L	8000	9.	CaCO ₃ (M)	KG	50000	10.	CaCO ₃ (F)	KG	50000	11.	Defoamer	L	20000	12.	Polyamine-Chloride free	L	70000	13.	Polymeric Sealing agent	L	60000	14.	HP Lubricant	KG	50000	15.	Oxygen Scavenger	L	5000	16.	NIF (500 psi)	KG	40000	17.	Potassium Sulphate	KG	90000			
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10.13	<p><u>PENALTY CLAUSE:</u></p> <p>Materials required under this contract have to be mobilized initially as indicated in the above list (Table-IV) to avoid any shortage while execution of contract. OIL will not issue separate notice for mobilization of remaining materials to continue the operation and its transportation to next location. Successful bidder has to ensure availability of materials throughout the contract period so that work</p>																																																																											

	<p>does not suffer. In case of short supply of mud chemicals, one or many, following clauses shall be applicable.</p> <p>a) In case of non-availability of the chemicals (One or many) as indicated in (Table-III) which amounts to suspension of operation, ZERO rate and applicable penalty will be levied on directional services and mud services till the stock is replenished.</p> <p>b) If during the operations, any chemical as indicated in (Table-III) is found to be substandard after testing or stock out situation of any chemical, contractor shall replace / replenish the materials within 21 days without any extra cost to OIL. All expenditure including transportation of rejected materials will be borne by the Contractor. It is to be noted that due to rejection of chemicals after nonconformity of laboratory testing or arising out of any stock out situation due to unplanned supply chain, ZERO rate to mud engineering services will be applicable with immediate effect till the replenishment of stock. Contractor should take enough measures for maintaining quality/quantity of chemicals to avoid such type of situations.</p> <p>c) In case of non-availability of the chemicals as indicated in (Table-III) (One or many), and for continuity of operation, OIL is required to provide the support subject to availability, then 1.5 times of OIL's latest PO rate or quoted rate of the contractor whichever is higher will be recovered from the contractor on actual consumption under those circumstances.</p> <p>d) Zero Rate for Centrifuge shall be applicable during operational time against non-functional Centrifuge beyond 24 hours.</p>			
<p>10.14</p>	<p><u>SAFETY, HEALTH AND ENVIRONMENT:</u></p> <p>i) Contractor shall comply with applicable environmental laws, statutory regulations mines act applicable to oil mines etc.</p> <p>ii) The mud engineer should have approved PPE as per international practice and perform duty in accordance with Contractor's own SHE policy. In addition to above the mud engineer and other contractor personnel at well site must comply with OIL's internal SHE policy if needed.</p>			

10.15	<p><u>POLLUTION AND CONTAMINATION:</u></p> <p>The Contractor shall be liable for all the surface pollution to the extent caused by Contractor and resulting from spillage of additives / substances which the Contractor brings to the site for use in connection with work to be performed under this Contract. However, in the event of such spillage by the Contractor, Contractor shall immediately assume all responsibility at their cost for the removal of items, substances. OIL will dispose Contractor's empty sacks & drums from well site.</p>			

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