

OIL INDIA LIMITED

DULIAJAN

EXPRESSION OF INTEREST

(EOI) NO. EOI/INDIGENOUS/O/344/2020-21

DESCRIPTION: EOI for In-situ bio-remediation and Ex-situ bio-remediation job including emergency response and containment and collection/ picking/lifting and disposal of spilled crude oil, oily sludge, oil contaminated soil both on land / water bodies (stagnant/ floating) in Oil India Limited's Assam and Arunachal Pradesh Fields for a period of 03 (Three) years extendable by another 01 (one) year

1.0 PREAMBLE:

OIL INDIA LIMITED (OIL), a Government of India Enterprise under the Ministry of Petroleum and Natural Gas, is a premier up-stream Oil Company engaged in the business of Exploration, Production & Transportation of Crude Oil & Natural Gas as well as production of LPG. Its Field Head Quarter (FHQ) is at Duliajan Dibrugarh, Assam, India and Corporate office is in Noida, UP, India. OIL has its operating fields in upper Assam. Over last decade OIL has ventured in different parts of globe and currently spanned over nine overseas countries. Its operations are largely based in the north-eastern parts of India particularly in Assam, Arunachal Pradesh and Mizoram etc. but have also extended its activities in different parts of India and abroad.

In connection with its ongoing exploration & production activities in the State of Assam and Arunachal Pradesh Fields, OIL intends to invite Expression of Interests (EOIs) from Vendor(s)/ Service Providers meeting the pre-qualification criteria as mentioned below for empanelment of vendors for In-situ (in the original place) and Ex-situ (not in the original place) bio-remediation job(s) using OIL's Bioremediation Technology / bidder's own bioremediation technology or technology hired from any third party by a bidder including emergency response in case of spillage and containment and collection/picking/ lifting and disposal of spilled crude oil, oily sludge, oil contaminated soil both on land and water bodies (stagnant/ flowing) in its Assam and Arunachal Pradesh Fields.

2.0 TECHNICAL WRITE-UP ABOUT OIL'S BIOREMEDIATION TECHNOLOGY:

OIL's field proven bioremediation technology developed by in-house R&D effort comprises of a novel hydrocarbon degrading bacterial consortia of native non-pathogenic soil micro-organisms optimized to perform in the prevalent field conditions of North-East (NE) region of India. The bacterial consortium is a mass produced in either powder or liquid form in suitable carrier(s) comprising of locally available materials. Application of the novel hydrocarbon degrading bacterial consortia is done in the affected sites in the *in-situ* or *ex-situ* mode depending on the site characteristics, followed by physical land / sludge / water body (stagnant / flowing) conditioning operations to enhance survivability and multiplication of the bacteria in the targeted hydrocarbon contaminated matrix. OIL's field proven bioremediation technology when implemented with proper quality control achieves reduction in the hydrocarbon levels

in the targeted sites to qualify the statutory norms. The expected timeframe for completion of bioremediation of hydrocarbon contamination using OIL's bioremediation technology is around 3-6 months from the time of first application of bio-treatment. Once hydrocarbon levels are brought down to the acceptable limits as per Statutory norms, the site(s) where the technology is applied *in-situ*, eco-restoration by planting of indigenous hydrocarbon tolerant plant species is carried out, keeping in view the pre-existing vegetative cover of the site(s).

Bioremediation being a specialized service involving cultivation of microbes and their subsequent field application to achieve desired results, it is desirable that the prospective bidder(s) have experience in similar jobs and have a dedicated team comprising of at least one personnel having requisite skill set and knowledge of microbiology, biotechnology or microbial biotechnology or life sciences.

Sharing of OIL developed bioremediation technology: Based on the outcome of the EOI to be followed by subsequent tendering process, in case OIL intends to do so, OIL's developed bioremediation technology will be shared only after signing of a Non-Disclosure Agreement (NDA) between the bidder / contractor with OIL.

Note : Bidder(s) quoting with own bioremediation technology or technology hired from any third party (Technical collaborator): Bidder(s) will be allowed to quote with their own 'Bioremediation technology' or Bioremediation technology hired from any third party (Technical collaborator). In case the bidder is quoting other than OIL's 'Bioremediation technology', the 'Bioremediation technology' offered shall be field-proven in the North-Eastern region of India.

3.0 SCOPE OF BIO-REMEDICATION AND OIL PICK UP SERVICES:

3.1 Scope of In situ and Ex situ Bio Remediation:

(A) IN SITU- BIOREMEDIATION: (30,000 Cubic Meter):

A1. In-situ bioremediation job shall include, but not limited to the following:

- Site survey
- Supply of Biomaterial
- Application of Biomaterial
- Tilling of contaminated soil at regular intervals
- Arranging fresh soil to mix with sludge during Biomaterial application
- Sample collection as and when required.
- Sample testing.
- Reporting of progress of treatment at regular intervals.
- Bioremediation process would be considered complete when tested samples qualify the parameters as detailed below:

For Soil (On land) treatment: Total Petroleum Hydrocarbon (TPH) or oil concentration is less than 5,000mg/kg (i.e. < 0.5 %). A certificate from the National Accreditation Board for Testing and Calibration Laboratories (NABL) accredited third party laboratory shall be submitted by the contractor as proof.

For water / water bodies: TPH or oil concentration less than 100 ppm. A certificate from the NABL accredited third party laboratory shall be submitted by the contractor as proof.

A2. The contractor shall carry out bioremediation of the oil contaminated soil / oily sludge / Process sludge (oily) / oil contaminated water / oil contaminated drill cuttings by applying biomaterial to restore the site of bioremediation within 06-09 months from the date of first application. The site for Bioremediation may be In-situ or Ex-situ which shall be decided by OIL.

A3. The contractor shall be responsible for:

- Supply of biomaterial having self-life of 18 months at the time of each application. Necessary declaration of each batch recorded with shipment consignment document / e-way bill (if applicable) may have to be submitted by the contractor.
- Bioremediation of oil spill sites (In-situ / Ex-situ, whichever applicable) on land / water bodies (stagnant / flowing), oil contaminated soil / water, oil soaked soil / oily sludge, ETP sludge, oil soaked / SOBMs (synthetic oil based mud) soaked drill cuttings, tank bottom oily sludge.
- Production of Biomaterial at their own facility and application on oil spill sites, oil contaminated soil / water, oil soaked soil / oily sludge, ETP oily sludge, oil soaked / SOBMs (synthetic oil based mud) soaked drill cuttings, tank bottom oily sludge.
- Collect sample jointly with OIL representative(s) and carry out sample analysis either by Assam Pollution Control Board (APCB) / Central Pollution Control Board (CPCB) or NABL accredited third party laboratory in every stages of bioremediation process
- Supply of whole quantity of bioremediation material required for each application.
- Monitoring & supervising the progress of bioremediation job. Daily Progress Report (DPR) of the bioremediation job against each assigned sites from the start of the activity till its completion shall be submitted on daily / monthly basis.
- Arranging Biomaterial application as well as sampling and mechanical tilling of site at regular intervals.
- Arranging for soil required to refill the contaminated land wherever necessary.
- Arranging entry pass to Industrial Areas / Field Installations / other sites of OIL's interest.
- Ensuring quality of treatment as detailed in A1 (For Soil (On land) treatment for water / water bodies), above.
- Grow vegetation suitable to the local environment in the bioremediation area after treatment. The site shall be jointly inspected with OIL representatives.
- Completion of the assigned bioremediation job in all respect.

A4. OIL will arrange for:

- Handing over of OIL's Bioremediation Technology to the successful bidder after issuance of LOA through a Non Disclosure Agreement (NDA) jointly

- signed by the representative of OIL and the bidder/ contractor. The successful bidder / contractor shall produce the biomaterial at their own facility.
- Earmark specific sites for In-situ / Ex-situ bioremediation jobs. The contractor representative shall be present in the joint survey of the site(s) as and when arranged by OIL.
 - Allow the party to take photograph(s) of bioremediation site(s) at every stage of bioremediation process.

A5. Representatives of OIL and the Contractor shall jointly measure the volume of bioremediation of the oil contaminated soil / oily sludge / Process sludge (oily) / oil contaminated water / oil contaminated drill cuttings and oil contaminated water that will be treated using Biomaterial technology. Measurement would be done by accepted techniques of measurement and $\pm 5\%$ variation in quantity of oil soaked soil, sludge is acceptable. In case of variation more than 5% costing will be done appropriately and to be decided mutually by the Contractor's representative and OIL.

A6. On receipt of job advice from OIL for each individual oil spill sites, the party shall commence the work within 10 days of receipt of the job advice and shall complete the work of individual site as per the stipulated time as mentioned below:

1. Site survey, volume estimation, customization of plan of action and sample collection (to be completed within ONE WEEK from the issuance of job advice).
2. Site Preparation (that includes removal of free floating oil /oily sludge from water bodies and contaminated land, demarcation of the site, provision of approach road etc. and sample analysis prior to start of the treatments for baseline data generation. (To be completed within ONE MONTH from the issuance of initial job advice).
3. Bioremediation of the contaminated environment utilizing the Bioremediation Technology/Biomaterial shall be completed in three applications (within SIX MONTHS from the issuance of initial job advice; Progress report to be submitted at the end of 2nd & 3rd application, site wise).
4. Site Eco-restoration with planation of indigenous vegetation's (to be completed by SEVENTH MONTHS from the issuance of job advice).
5. Final Report Generation and Submission (to be completed by the end of SEVENTH MONTH from initiation of initial job advice).

A7. SAFETY:

- i) The contractor must ensure that all safety norms & other statutory regulations related to Oil Mines are strictly adhered by his workers.
- ii) Work will be done normally during day light hours. However, in case of emergency, work may have to be done beyond normal working hours with due

consent from concerned Installation Manager / Engineer / Site In-charge / Officer.

(B) EX-SITU BIOREMEDIATION: (15,000 Cubic Meter)

B1. For ex-situ bioremediation, in addition to clause no. “(A)” above shall include but not limited to the following:

- (a) Preparation of secured high-density polyethylene (HDPE) lined bioremediation sites.
- (b) Excavation of oil contaminated soil / water from oil contaminated land / water bodies
- (c) Transportation of oil contaminated soil / water to bioremediation site
- (d) Installation of one bore well at the secured bioremediation site. If any existing bore well / tube well is there in nearby area, then the same can also be used for ground water monitoring purpose.
- (e) Spreading of oil contaminated soil in bioremediation site.
- (f) 'Biomaterial' production and application on oily sludge / oil contaminated soil / water.
- (g) Tilling and watering of the bioremediation site.
- (h) Arranging fresh soil to mix with sludge during Biomaterial application.
- (i) Monitoring of Bioremediation by regular sampling.
- (j) Photography of sites (initial, application and final).
- (k) Arrange for site preparation and Biomaterial application.
- (l) Arrange for excavator or mechanical tiller or tractor or manual tilling equipment's for sampling and tilling of site at regular intervals.
- (m) Photography of bioremediation work for final report.
- (n) Preparation of progress report and submission to OIL.
- (o) Grow vegetation in the bioremediation area after treatment, with a final inspection of the site along with the OIL representatives.
- (p) Submit the progress report and final report to OIL along with the photographs & above tested reports for approval and payment.
- (q) A tri-lingual (Assamese, Hindi & English) display board displaying contract number, the volume of sludge handled and necessary safety instruction shall be displayed near the entry gate.
- (r) Necessary approval from CPCB / APCB shall be taken for transportation of hazardous waste.

B2 GENERAL:

B2.1 Objective:

- 1. Preparation of secured impervious high-density polyethylene (HDPE) lined Bioremediation site for ex situ bioremediation.
- 2. Excavation and Transportation of oily sludge / contaminated soil water from contaminated site to secured bioremediation site.
- 3. Refilling of excavated contaminated land by healthy / fertile soil.
- 4. Bioremediation of oil contaminated soil / water / oily sludge at the secured bioremediation site.

B2.2. The work involves ex-situ bio remediation of requisite amount of oily sludge. Methodology to be adopted is given as under:

(a) Measurement of oil contaminated soil / oily sludge for bioremediation:
Measurement of oily sludge / oil contaminated soil / water would be carried out by standard method by measuring the length, breadth and depth of the oil contaminated site. The volume of oily sludge / oil contaminated soil / water would be carried out by multiplying the length, breadth and depth and will be expressed in cubic meter.

(b) Preparation of secured Bioremediation site:

For ex situ bioremediation, preparation of a secured bioremediation site will be required. The contaminated oil / water / oily sludge from the site will be excavated from the site and will be transported to this secured site for treatment. The site will contain impervious high-density polyethylene (HDPE) layer to prevent percolation of hazardous chemicals (if any) during the bioremediation process. A brick boundary wall will be constructed to prevent spillage and contain in the remediation site. All the other necessary precaution like construction of mud bund and alternative arrangement for transfer to prevent overflow will be undertaken as the site may be exposed to heavy rainfall. OIL shall arrange for suitable location for Ex-situ Bioremediation through a survey along with the Installation Manager / Site Engineer / Officer.

(c) The secured bioremediation site preparation would be done as follows:

i. To Select an open land for preparation of the secured bioremediation site of specific dimensions depending upon site availability.

ii. The soil up to 2 feet (approximately 0.6 meter) depth will be excavated from the selected area before layering of the HDPE lining. The HDPE lining shall be leak proof and wherever any joint appears, that shall be sealed to prevent leakage with suitable sealing material.

iii. The HDPE lining will be layered at the bottom (500-micron thickness of HDPE lining with continuous spreading over the bioremediation) of the excavated pit.

iv. The excavated soil will be layered back on the site to over the HDPE liner. This will prevent damage of the liner during the various operations during the bioremediation process.

v. A brick boundary wall of 0.6 meter (thickness not less than 12 inch) below the surface and 1.5 meter (thickness not less than 9 inch) above the surface (total height of the wall will be 2.1 meter) will be prepared in the perimeter of the site with RCC posts at 5 m apart and RCC beam at the ground level. The contractor shall bear all the costs related to the construction

of ex-situ pit including the brick boundary wall & laying of HDPE lined sheets etc.

vi. One entry point with Iron Gate with locking arrangement for JCB / tractors needs to be prepared at the bioremediation site and the same shall be under the control of contractor till the bioremediation site is handed over back to concerned department.

vii. After site preparation the oily sludge to be spread uniformly throughout the bioremediation site for proper tilling by tractor / JCB.

viii. One bore well will be installed in each centralized bioremediation site for monitoring the ground water quality from time to time. However, If any existing bore well / tube well is present nearby, then the same can also be used for ground water monitoring purpose.

(d) Excavation and Transportation of Oil contaminated soil / water from contaminated site to bioremediation site. Contaminated soil / water oily sludge will be dug out (excavated) and transported to secure bioremediation site for ex situ bioremediation. In case of high water content necessary arrangement will be made by the contractor.

(e) Refilling of excavated portion of contaminated site wherever required/ instructed will be immediately refilled with fresh fertile top soil by the contractor to the satisfaction of the Site Engineer / Installation Manager / Officer.

(f) Bioremediation of oil contaminated soil / water.

B3. On receipt of job advice from OIL for each individual oil spills sites, the party shall commence the work within 10 days of receipt of the job advice and shall complete the work of individual site as per the stipulated time as mentioned below:

1. Site survey, volume estimation, customization of plan of action and sample collection (to be completed within ONE WEEK from the issuance of job advice).

2. Site Preparation (that includes removal / evacuation / transportation of free floating oil / oily sludge from water bodies and contaminated land, demarcation of the site, provision of approach road etc. and sample analysis prior to start of the treatments for baseline data generation. (to be completed within FIVE WEEKS from the issuance of initial job advice).

3. Bioremediation of the contaminated environment utilizing the Bioremediation Technology / Biomaterial in three applications including the preparation of Bioremediation pit as specified in point no. B1 (within SIX MONTHS from the issuance of initial job advice; Progress report to be submitted at the end of 2nd & 3rd application, site wise).

4. Site Eco-restoration with planation of indigenous vegetation's to restore the biodiversity of the area (to be completed by SEVENTH MONTH from the issuance of job advice).

5. Final Report Generation and Submission (to be completed by the end of SEVENTH MONTH from initiation of initial job advice).

C. WORK MONITORING BODY: Contractor will appoint their experts and trained field workers for execution of job and a coordinator for monitoring of work. Likewise, OIL will also arrange coordinator(s) and Installation Manager(s) / Field Managers / Safety Officers to monitor the work.

D. All the associated costs related to the said contract viz. accommodation, lighting arrangement, logistics, fooding, tools & tackles, PPE's, water pumps, Excavator(s), any expert etc. are to be borne by the contractor.

E. The contractor / his / her authorized representative shall have to report to the OIL's Office / site within 12 hours' notice or whenever there is instruction through phone calls for job related issues.

F. OIL may visit to the incubation facility of the bidder whenever OIL feels to visit after the award of the contract or during the currency of the contract. The same will be notified to the contractor in advance. They should facilitate OIL to their incubation facility with proper briefing of the process and necessary certification / documents as desired by OIL to be provided by the contractor during the visit.

3.2 SCOPE OF OIL PICK UP SERVICES:

3.2.1 Containment, cleaning / picking / lifting of spilled crude oil both on land / water bodies (stagnant/ floating) from Installations, Fields and water bodies both stagnant and flowing in Assam and Arunachal Pradesh Fields and either carry out Bio Remediation or disposal of the same at specified location as advised by OIL whichever necessary. The job may involve collection of floating oil / oily sludge using other logistics along with cleaning of the water shore. The containment of the same shall be carried out by using spill control sorbent boom, spill control sorbent pillow, spill control sorbent roll whichever applicable. The scope also includes emergency responses / deployment in case of spillage and containment and collection/picking/lifting and disposal of spilled crude oil, oily sludge, oil contaminated soil both on land and water bodies (stagnant/ flowing) as advised by OIL. The same shall be supervised by the concerned Department / respective Installation Manager. The costs for the same shall be borne by the Contractor.

3.2.2 Transportation of filled crude oil cask to specified location from various field locations of Assam Field. The costs for the same shall be borne by the Contractor.

3.2.3 Scraping / removing of oil soaked earth and transporting the same to a safe location. The exact location will be shown by the Installation manager / site engineer. The costs for the same shall be borne by the Contractor.

3.2.4 Supply and spreading of sand at the various locations situated in the area as shown by the Installation manager / site engineer. The cost for supply and spreading of sand shall be borne by the Contractor.

3.2.5 The contractor and / or his / her authorized representative / supervisor must have sufficient practical knowledge of the job given above and must know about the safety of the operations. The contractor and / or his / her authorized representative / supervisor will be responsible for coordinate and liaison with appropriate authority to carry out the job. The contractor shall provide the company minimum 03 (three) nos. of transportation trucks of Model Tata 1613 or equivalent every day during the contractual period to meet company's daily requirement. The costs for providing the trucks during the contract tenure shall be borne by the Contractor.

3.2.6 ADDITIONAL TRUCK(S): Company, depending upon the exigencies of work, may require the services of additional transportation Truck(s) of Model Tata 1613 or its equivalent. As and when required by the Company, the contractor shall place these additional Truck(s) at the same rate, terms and conditions of this contract. On being intimated about the requirement of truck(s), the contractor shall mobilize these additional Trucks within the shortest period.

3.2.7 Bidder shall offer all the trucks having vintage (year of manufacture) not earlier than 01.01.2016.

3.2.8 Collection of floating oil / oily sludge in stagnant and flowing water bodies using other logistics like boats etc. along with cleaning of the water shore shall be required to be carried out wherever required as per direction of OIL. All personal protective equipments for the said job shall be provided by the Contractor at no extra cost to the Company.

3.2.9 Boat and other logistics if required during collection of oil from water bodies (Stagnant / Flowing) are to be provided by the contractor. The costs for the same shall be borne by the Contractor.

3.2.10 CONVEYANCE: The contractor must arrange conveyance (transportation) of empty casks required for the job, his / her equipment and workmen to the place of work and back at the contractor's cost.

3.2.11 GENERAL:

3.2.11.1 Spilled oil transportation from the area of collection must be made using truck with 25 nos. of 200 litres capacity sealed casks / drums. The contractor may require other suitable containers for collecting the oil and then collecting in the 200 litres capacity sealed casks. Empty casks / drums and other containers shall be supplied by the contractor. The contractor shall arrange for supply and transportation of the empty casks to sites and back at no additional cost to the Company.

3.2.11.2 The casks / drums must be securely sealed during transportation of crude oil.

3.2.11.3 The contractor must ensure that all safety norms & other statutory regulations related to Oil Mines are strictly adhered to by his workers.

4.0 PRE QUALIFYING CRITERIA: Service providers interested to participate in the EOI should fulfill the following condition:

i. The service provider shall have the experience of completing cumulative Bio Remediation jobs of spilled crude oil / crude oil sludge / crude oil contaminated soil / crude oil contaminated water of minimum 7500 Cu Meter of In Situ Bio remediation and Ex Situ Bio remediation during the last 07 (seven) years to be reckoned from the date of publication of the EOI.

OR

ii. The prospective bidders who will be using OIL's Bio Remediation Technology have to submit documentary evidence that they are working towards innovation, development, deployment or commercialization of new products, processes or services driven by technology or intellectual property and makes it scalable for achieving commercial success during the last 07 (seven) years to be reckoned from the date of publication of the EOI.

5.0 DOCUMENTS TO BE SUBMITTED: The following documents shall be submitted with the EOI in support of experience:

- i) Resume of the service provider.
- ii) For Pre Qualifying Criteria 4.0 i) Detail of works (Bio Remediation Services) carried out till date and jobs in hand. Contract documents and completion certificates for each job carried out are to be submitted in support of experience.
- iii) For Pre Qualifying Criteria 4.0 ii) Documentary proof as stated in the clause.

Failure to provide any of the listed documents or information with requisite proof(s) shall negatively affect the qualification to participate in the EOI. Notwithstanding the submission of this documentation, OIL is neither committed nor obliged to include any party in the tender list or award any form of contract to any participant.

6.0 After review of the EOI, parties will be short listed and those short listed parties will be invited to give presentation / discussion at Duliajan / Guwahati, whenever invited, at their own expense.

7.0 SUBMISSION OF EOI:

7.1 The interested parties shall submit the EOI along with the following details:

EOI No: EOI/INDIGENOUS/O/344/2020-21

Description: EOI for Empanelment of Vendors for In-situ bio-remediation and Ex-situ bio-remediation job including emergency response and containment and collection /picking / lifting and disposal of spilled crude oil, oily sludge, oil

contaminated soil both on land / water bodies (stagnant / floating) in Oil India Limited's Assam and Arunachal Pradesh Fields for a period of 03 (Three) years extendable by another 01 (one) year

Experience of the firm:

- A. Name of the party:
- B. Contact details:
- C. List of successful jobs:

Sl. No.	Client Name	Year	Type of jobs carried out	Project Quantity and Cost

7.2 Interested parties meeting the pre-qualifying criteria as above are invited to submit their EOI at our e-mail id: eoicontracts@oilindia.in or kaushik.das@oilindia.in within **03.09.2020 up to 15:00 Hrs (IST)**, followed by hard copies of the same through courier/post super-scribing **“Expression of Interest (EOI) NO. EOI/INDIGENOUS/O/344/2020-21 for In-situ bio-remediation and Ex-situ bio-remediation job including emergency response and containment and collection / picking / lifting and disposal of spilled crude oil, oily sludge, oil contaminated soil both on land / water bodies (stagnant / floating) in Oil India Limited's Assam and Arunachal Pradesh Fields for a period of 03 (Three) years extendable by another 01 (one) year”** at the following address:

**CGM-CONTRACTS
OIL INDIA LIMITED
CONTRACTS DEPARTMENT
P.O. DULIAJAN-786602
DIST. DIBRUGARH, ASSAM, INDIA**

7.3 The offer(s) may also be uploaded in Parties' FTP server / File sharing website (portal) and the link(s) may be provided to us at our e-mail within above specified period.

7.4 The offer(s) should have clear indication whether the same meet the Pre-qualifying criteria.

7.5 OIL reserves the right to (a) accept or reject any / all offers submitted by parties (b) cancel the process at any time without any liability and assigning any reason thereof.

8.0 For clarifications, if any, the interested party may contract the following email addresses:

- a. dandeswardeka@oilindia.in
- b. abhijit_bora@oilindia.in