OIL INDIA LIMITED
(A Government of India Enterprise)
P.O. Duliajan, Pin – 786602
Dist-Dibrugarh, Assam

CORRIGENDUM

Addendum No. 4 to IFB No. CDG2304P16

This Addendum No. 4 dated 15.11.2016 to IFB No. CDG2304P16 for *'Hiring of Consultancy Service for Study of Production Sustainability & Flow Assurance of Chabua Oilfield of Oil India Limited in Assam'* is issued to notify the changes in the bid documents, given as ***Annexure-A*** to this page.

2.0 Bidders are requested to take note of the same while preparing and submitting their offer.

All other terms and conditions of the bid document remain unchanged.

(S BORA)
Manager-Contracts
For DGM-Contracts(HoD)

ANNEXURE-A

Modified Clauses based on Pre-Bid Conference against Tender No. CDG2304P16

Clause No.	Existing Clauses	Modified Clauses
BEC		
Clause no 1.0 A, 1.1 (vi) of BEC	The bidder must have experience of successfully executing at least one (1) similar contract of value Rs. 385.7 Lakhs (or equivalent 0.58 million USD) in preceding seven (7) years from the bid closing date. The bidder needs to submit the necessary documentary evidence to ascertain the same.	The bidder must have experience of successfully executing at least: one (1) similar contract of value Rs. 385.7 Lakhs (or equivalent 0.58 million USD) Or *one (1) similar contract with 10 no of wells in single contract* *in preceding seven (7) years from the original bid closing date.* *"Similar" is defined as "carrying out study on Flow assurance problems due to Asphaltene, Wax, Scaling and provides solutions for mitigating / remedial measures"*
Clause no 1.0 A, 1.1 (ii) of BEC	The bidder shall confirm in the bid to deploy a Team Leader with educational qualification of Master degree in Petroleum Engineering and a minimum of 10 years of experience in Flow Assurance project in upstream Oil & Gas industries. Necessary experience certificates and profile of the person deputed for the job shall be submitted along with the bid.	***Project Manager (Team Leader):*** The bidder shall confirm in the bid to deploy a *Project Manager (Team Leader)* with educational qualification of *Master degree in Chemistry / Bachelors in Engineering in Petroleum Engineering / Bachelor degree in Chemical Engineering, and with a minimum of 12 years of experience in Flow Assurance project in upstream Oil & Gas industries and able to use Project management software such as M.S. Project.* Necessary experience certificates and profile of the person deputed for the job shall be submitted along with the bid.
Annexure-B to BEC	Certificate of Annual Turnover and Net Worth	Certificate of *positive Net-Worth & Annual* Turnover of *Parent company, if the bidder doesn't have the financials of its own, is also acceptable.*
Clause no 1.3 of BEC	1.3 **Eligibility criteria in case bid are submitted on the basis of experience of the parent / subsidiary company:** Offers of those bidders who themselves do not meet the experience criteria as stipulated in Clause Nos. A. 1.1 (i) & B. 1.0 can also be considered provided the Bidder is a subsidiary company of the parent company in which the parent company has 100% stake or parent company can also be considered on the strength of its 100% subsidiary. However, the parent/ subsidiary company 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. In that case as the subsidiary company is dependent upon the	1.3 **Eligibility criteria in case bid are submitted on the basis of experience of the parent / subsidiary company:** Offers of those bidders who themselves do not meet the experience criteria as stipulated in Clause Nos. A. 1.1 (i) & *B. 1.5 & 1.6* can also be considered provided the Bidder is a subsidiary company of the parent company in which the parent company has 100% stake or parent company can also be considered on the strength of its 100% subsidiary. However, the parent/ subsidiary company 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. In that case as the subsidiary company is dependent upon the experience of the parent company or vice-versa with a view to ensure commitment and involvement of the parent/ subsidiary company

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	experience of the parent company or vice-versa with a view to ensure commitment and involvement of the parent/ subsidiary company for successful execution of the contract, the participating bidder should enclose an Agreement (as per format enclosed as **Annexure-IV(a)** in Part-4) between the parent and the subsidiary company or vice-versa and Parent/ Subsidiary Guarantee (as per format enclosed as **Annexure-IV(b)** in Part-4) from the parent/ subsidiary company to OIL for fulfilling the obligation under the Agreement, along with the Technical bid.	for successful execution of the contract, the participating bidder should enclose an Agreement (as per format enclosed as **Annexure-IV(a)** in Part-4) between the parent and the subsidiary company or vice-versa and Parent/ Subsidiary Guarantee (as per format enclosed as **Annexure-IV(b)** in Part-4) from the parent/ subsidiary company to OIL for fulfilling the obligation under the Agreement, along with the Technical bid.
Clause no 1.4 of BEC	**Eligibility criteria in case bid are submitted on the basis of experience of sister subsidiary/ co-subsidiary company:** Offers of those bidders who themselves do not meet the experience criteria as stipulated in Clause Nos. A. 1.1 (i) & B. 1.0 can also be considered based on the experience criteria of their sister subsidiary/ co-subsidiary company within the ultimate parent/ holding company subject to meeting of the following conditions: i. Provided that the sister subsidiary/ co-subsidiary company and the bidding company are both 100% subsidiaries of an ultimate parent/holding company either directly or through intermediate 100% subsidiaries of the ultimate parent/ holding company or through any other 100% 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 and not through any other arrangement like Technical Collaboration agreement meets the experience criteria stipulated in the BEC. 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 shall enclose an agreement (as per format enclosed as **Annexure-V** in Part-4) between them, their ultimate parent/ holding company and the sister subsidiary/ co-subsidiary company.	**Eligibility criteria in case bid are submitted on the basis of experience of sister subsidiary/ co-subsidiary company:** Offers of those bidders who themselves do not meet the experience criteria as stipulated in Clause Nos. A. 1.1 (i) & *B. 1.5 & 1.6* can also be considered based on the experience criteria of their sister subsidiary/ co-subsidiary company within the ultimate parent/ holding company subject to meeting of the following conditions: i. Provided that the sister subsidiary/ co-subsidiary company and the bidding company are both 100% subsidiaries of an ultimate parent/holding company either directly or through intermediate 100% subsidiaries of the ultimate parent/ holding company or through any other 100% 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 and not through any other arrangement like Technical Collaboration agreement meets the experience criteria stipulated in the BEC. 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 shall enclose an agreement (as per format enclosed as **Annexure-V** in Part-4) between them, their ultimate parent/ holding company and the sister subsidiary/ co-subsidiary company.

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Terms Of Reference		
Part-3, Section II, Clause no 1.0	**1.0 Backdrop**: Oil India Limited (OIL), a Government of India "Navaratna" category enterprise, is engaged in exploration, production and transportation of crude oil and natural gas as well as production of LPG. Hydrocarbon discovery was established in Chabua Oilfield in 1997 when Location HKY (Chabua Well No. 01) was drilled and production testing was carried out in 3566m, 3547m and 3521m Langpar Sands of Eocene age. In 1999, the second well in Chabua structure Loc. (CBA W/02) was drilled and successful production from this well could be achieved. A total 20 numbers of wells have been drilled and presence of hydrocarbon has been ascertained in Langpar and Lakadong + Therria sands. But due to adverse fluid characteristics in most of the wells in Chabua area, there arises a problem in vertical, horizontal regime and also severe permeability damage in near well bore area. Till date, the assessed production potential could not be exploited to its optimum level owing to various reasons. Barring a few wells, sustainability of production from these wells is very short lived. With an objective to understand the problems related to poor influx to the well bore, insufficient lift energy of the produced fluid and flow assurance problem in vertical and horizontal regimes, a detailed study has been initiated from the perspective of production with the present available data.	**1.0 Backdrop**: Oil India Limited (OIL), a Government of India "Navaratna" category enterprise, is engaged in exploration, production and transportation of crude oil and natural gas as well as production of LPG. Hydrocarbon discovery was established in Chabua Oilfield in 1997 when Location HKY (Chabua Well No. 01) was drilled and production testing was carried out in 3566m, 3547m and 3521m Langpar Sands of Eocene age. In 1999, the second well in Chabua structure Loc. (CBA W/02) was drilled and successful production from this well could be achieved. A total 23 numbers of wells have been drilled in Chabua + Matimekhana area and presence of hydrocarbon has been ascertained in Langpar and Lakadong + Therria sands. But due to adverse fluid characteristics in most of the wells in Chabua area, there arises a problem in vertical, horizontal regime and also severe permeability damage in near well bore area. Till date, the assessed production potential could not be exploited to its optimum level owing to various reasons. Barring a few wells, sustainability of production from these wells is very short lived. With an objective to understand the problems related to poor influx to the well bore, insufficient lift energy of the produced fluid and flow assurance problem in vertical and horizontal regimes, a detailed study has been initiated from the perspective of production with the present available data. ***Basic Fluid Data***. *Fluid API = 20 deg – 31 deg Max ,* *Viscosity =depends upon the temperature & shear rate of measurement.* *Pour Point = 33 deg C max.* *Solution GOR= 110-120scmd/kls,* *Amount of Wax (volume %) = 5-15%,* *Amount of Paraffin (volume %) = 5-15% and* *Amount of Asphaltene (volume %) = 1.5 -9%* *Formation = Langpar& LK+TH formations; Sandstone reservoir; 4 reservoirs.* *No of wells=23 out of which 5 wells are active and rest in shut-in or abandoned.*
Part-3, Section II, Clause no 2.0	**2.0 Project/Work Outline:** OIL INDIA LIMTED proposes to a production sustainability and flow assurance study in order to screen, diagnose, and propose solutions to 20 wells selected by OIL. The study shall include reviewing existing well and reservoir data, performing a well productivity analysis on each individual well, providing a diagnosis for the reasons for underperformance and proposing	**2.0 Project/Work Outline:** OIL INDIA LIMTED proposes to a production sustainability and flow assurance study in order to screen, diagnose, and propose solutions to 20 wells selected by OIL. The study shall include reviewing existing well and reservoir data, performing a well productivity analysis on each individual well, providing a diagnosis for the reasons for underperformance and proposing solutions to address low productivity for each individual well. Significant value can be added by the following:

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	solutions to address low productivity for each individual well. Significant value can be added by the following: • Screen data and diagnose sources of poor well performance related to formation damage, poor influx, Flow assurance, fluid properties, artificial lift selection and surface facilities requirements • Make recommendations for the best applicable solution to each well • Model well solutions and conduct a cost benefit analysis for top candidates • Prepare an execution plan for the identified opportunities utilizing past experiences within similar situations throughout the world. • Leverage global of reputed Oil service providers of their vast experience in mature fields and operational excellence in projects worldwide OIL desires an approach proven to improve capital productivity of projects by using the best available technology, eliminating non-income-producing investment and minimizing changes during project execution.	• Screen data and diagnose sources of poor well performance related to formation damage, poor influx, Flow assurance, fluid properties, artificial lift selection and surface facilities requirements • Make recommendations for the best applicable solution to each well • Model well solutions and conduct a cost benefit analysis for top candidates • Prepare an execution plan for the identified opportunities utilizing past experiences within similar situations throughout the world. • Leverage global of reputed Oil service providers of their vast experience in mature fields and operational excellence in projects worldwide OIL desires an approach proven to improve capital productivity of projects by using the best available technology, eliminating non-income-producing investment and minimizing changes during project execution. *Number of wells are firm i.e. 20 nos., and are limited to Chabua+Matimekhana field only.* *Model wells and Cost-benefit analysis of candidates wells to suit OIL's requirement.*
Part-3, Section II, Clause no 7.0	**7.0 Phase–II: Initial Review, Screening & Prioritization** The purpose of Phase II is to perform preliminary analyses and establish an overview of the issues per well: 1) Establish current state of the wells 2) Perform petro-physical analysis on key wells 3) Diagnose well completion integrity 4) Determine baseline performance of key wells 5) Establish facilities constraints/options 6) Identify areas of high uncertainty and document additional data acquisition requirements 7) Categorize specific types of issues per well The preliminary analysis and screening will help to rule out wells that will not benefit from interventions and to rank which wells have a better potential for success. This will also allow identifying the severity of the problem and a general understanding of what the main problems	**7.0 Phase–II: Initial Review, Screening & Prioritization** The purpose of Phase II is to perform preliminary analyses and establish an overview of the issues per well: 1) Establish current state of the wells 2) Perform petro-physical analysis on ~~key~~ wells 3) Diagnose well completion integrity 4) Determine baseline performance of ~~key~~ wells 5) Establish facilities constraints/options 6) Identify areas of high uncertainty and document additional data acquisition requirements 7) Categorize specific types of issues per well *8) To carry out PVT data analysis of 2 nos. of surface or downhole samples. The bottom-hole samples will be collected by OIL and Contractor shall arrange for sample bottles (suitable for transport, IATA conforming) with suitable adapter.* *Note: Contractor to carry out 2 nos. of PVT analysis for two wells(One sample per well).* *Contractor's representative must be available during sample collection, transfer of sample from sampler to sample bottle and handling of logistics from Duliajan onwards.*

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	are such as: • Formation damage • Poor Influx (Validations of reservoir pressures, produced fluid characteristics) • Flow assurance in vertical & horizontal regime • Assessment of fluid properties • Artificial lift selection • Surface facilities requirement	***Note:*** • *The number of tests is Contractor's scope to the satisfaction of OIL. However payment will be done as per provisions in the SOR & Proforma-B. Any additional test if required to be carried will be contractor's scope.* • *OIL will provide logistic support only for sample collection at the field. Sample collection is OIL's scope but sample transfer bottles/can will be contractor's scope. All the transfer kit shall be IATA conforming.* • *Shipping to bidder's lab from fields is Contractor's responsibility.* • *For Wax Appearance Temperature, the Contractor shall carry out DSC test only.* The preliminary analysis and screening will help to rule out wells that will not benefit from interventions and to rank which wells have a better potential for success. This will also allow identifying the severity of the problem and a general understanding of what the main problems are such as: • Formation damage • Poor Influx (Validations of reservoir pressures, produced fluid characteristics) • Flow assurance in vertical & horizontal regime • Assessment of fluid properties • Artificial lift selection • Surface facilities requirement *Note:* *Static model is available however no specific Petro-physical model is available. OIL uses ELAN software for petro-physical evaluation.*
Part-3, Section II, Clause no 14.0, Phase–V	**14.0 Phase–V: Submission of Final Report and Presentation** The recommendations will be examined by the competent authority of OIL and these may be sorted out in two categories- implementation with in-house capacity and hiring of services. The recommended (technology/chemicals) shall be of generic nature. Recommended technology shall not be of unique company's specific/proprietary item. Technical detail of the recommended technology shall be furnished along with the report. For chemicals and other additives the consultant shall provide generic specifications of the chemicals / additives	**14.0 Phase–V: Submission of Final Report and Presentation** The recommendations will be examined by the competent authority of OIL and these may be sorted out in two categories- implementation with in-house capacity and hiring of services. The recommended (technology/chemicals) shall be of generic nature. Recommended technology shall not be of unique company's specific/proprietary item. Technical detail of the recommended technology shall be furnished along with the report. *For chemicals and other additives the consultant shall provide:* *a) Generic specifications of the chemicals/ additives and also the probable list of at least 3 (three) sources. They shall also specify the applicable*

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	and also the probable list of at least 3 (three) sources. The consultant will submit and make a presentation of final report at OIL's office at Duliajan and Noida (UP). The team will deliver a presentation of the results at a two day workshop at OIL's designated location.	*doses of such chemicals/additives and their dosing parameters/mechanism* *OR* *b) The brand names, their MSDS, and their generic compositions (as available in public domain). They shall also specify the applicable doses of such chemicals/additives and their dosing parameters/mechanism.* The consultant will submit and make a presentation of final report at OIL's office at Duliajan and Noida (UP). The team will deliver a presentation of the results at a two day workshop at OIL's designated location.
Part-3, Section II, Clause no 17.0 A) Sl No.1.0	**17.0 A) Resources** (1) **Production Engineering SME** • Master degree in Petroleum Engineering • Can Performs nodal Analysis on wells using software such as Prosper • Can build and validate well models and insert KwIDF workflows such as ESP • Able to optimize artificial lift Settings	**17.0 A) Resources** (1) **Production Engineering SME** • *Bachelor degree in Engineering (any stream) with Master degree in Petroleum Engineering* *Or* *Bachelor's degree in Petroleum Engineering.* • *Minimum Experience: 12 years in relevant field.* • Can Performs nodal Analysis on wells using software such as Prosper • Can build and validate well models and insert KwIDF workflows such as ESP • Able to optimize artificial lift Settings
Part-3, Section II, Clause no 17.0 A) Sl No.2.0	**17.0 A) Resources** (2) **Staff Production Engineer** • Bachelor degree in Petroleum Engineering • Can Performs nodal Analysis on wells using software such as Prosper • Can build and validate well models and insert KwIDF workflows such as ESP • Able to optimize artificial lift Settings	**17.0 A) Resources** (2) **Staff Production Engineer** • Bachelor degree in Petroleum Engineering *Or* *Bachelor Degree in Engineering (any stream) with Master degree in Petroleum Engineering will be considered.* • Can Performs nodal Analysis on wells using software such as Prosper • Can build and validate well models and insert KwIDF workflows such as ESP • Able to optimize artificial lift Settings
Part-3, Section II, Clause no 17.0 A) Sl No.3.0	**17.0 A) Resources** (3) **Reservoir Engineer** • Bachelor degree Petroleum Engineering • Able to update and history-match simulation models for reservoirs • Able to update simulation models with current production data • Can develop recommendations to improve pattern and field performance • Experience with major reservoir simulation software	**17.0 A) Resources** (3) **Reservoir Engineer** • *Bachelor degree in Petroleum Engineering* *Or* *Bachelor Degree in Engineering (any stream) with Master degree in Petroleum Engineering* • .Able to update and history-match simulation models for reservoirs • Able to update simulation models with current production data • Can develop recommendations to improve pattern and field performance • Experience with major reservoir simulation software

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Part-3, Section II, Clause no 17.0 A) Sl No.4.0	**17.0 A) Resources** (4) **Petro-physicist** • Bachelor degree in Petroleum Engineering • Experience with Petro-Physical software	**17.0 A) Resources** (4) **Petro-physicist** • *Master's Degree in Geo-science/ Bachelors in Petroleum Engineering as minimum qualification.* • Experience with Petro-Physical software
Part-3, Section II, Clause no 17.0 A) Sl No.5.0	**17.0 A) Resources** (5) **Project Manager** • Bachelor degree in Engineering • Experience in Petro-Physics and Production Engineering. • Project Management Software such as M.S. Project	**17.0 A) Resources** (5) ***Project Manager (Team Leader)*** • Master degree in Chemistry Or Bachelors in Engineering in Petroleum Engineering/ Bachelors in Engineering in Chemical Engineering * Minimum of 12 years of experience in Flow Assurance project in upstream Oil & Gas industries • Project Management Software such as M.S. Project
Part-3, Section II, Clause no 17.0	Additional Note to the clause.	**Note:** a. *MoHA clearance for expats to be involved in the projects is contractor's scope.* b. *Security cover during their stay in OIL's operational area to be arranged by the Contractor.*
SPECIAL CONDITIONS OF THE CONTRACT		
Part-3, Section III, Clause no 12.0	12.0 **CUSTOMS DUTY** 12.1 Company shall use the Tools/equipment along with the Services under the Contract in the PEL/ML areas renewed/issued to Company after 1.4.1999 and therefore, in terms of Notification No. 21 dated 01.03.2002, goods specified in List-12 imported in connection with petroleum operations under this Contract would attract zero customs duty. Company will issue Recommendatory Letter to Directorate General of Hydrocarbons(DGH), Ministry of Petroleum & Natural Gas, as per Government guidelines for issuance of Essentiality Certificate (EC) from Directorate General of Hydrocarbons, to enable the Contractor to import goods at concessional (Nil) customs duty so as to provide the services under this Contract provided these goods are specified in the List-12 of the aforesaid Notification.	12.0 **CUSTOMS DUTY** 12.1 Company shall use t**he units with the Services under the Contract in the PEL/ML areas renewed/issued to Company after 1.4.1999 and *therefore, in terms of Sl.No. 357A of Custom Notification No. 12/2016 C Date 01.03.2016 amending Custom Notification No. 12/2012 Custom Date 17.03.2012 items imported in connection with petroleum operations under this Contract would attract zero customs duty.* Company will issue Recommendatory Letter to Directorate General of Hydrocarbons(DGH), Ministry of Petroleum & Natural Gas, as per Government guidelines for issuance of Essentiality Certificate (EC) from Directorate General of Hydrocarbons, to enable the Contractor to import goods at concessional (Nil) customs duty so as to provide the services under this Contract provided these goods are *specified in the List-34(Condition No. 40A)of the aforesaid Notification.***
Part-3, Section III, Clause no 15.0	New Clause	***Clause no 15.0 :*** ***LIMITATION OF LIABILITY :*** Notwithstanding any other provisions herein to the contrary, except only in cases of wilful misconduct and / or criminal acts, (a) Neither the Consultant nor the Company (OIL) shall be liable to the other, whether in Contract, tort, or otherwise, for any consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs.

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		(b) Notwithstanding any other provisions incorporated elsewhere in the contract, the aggregate liability of the Consultant in respect of this contract, whether under Contract, in tort or otherwise, shall not exceed 50% of the Annualized Contract Price, provided however that this limitation shall not apply to the cost of repairing or replacing defective equipment by the Consultant, or to any obligation of the Consultant to indemnify the Company with respect to Intellectual Property Rights. (c) Company shall indemnify and keep indemnified Consultant harmless from and against any and all claims, costs, losses and liabilities in excess of the aggregate liability amount in terms of clause (b) above

Note: **(1)** Under Section-I, General Conditions of Contract(GCC), **Clause Nos. 33.2 to 33.9** stand revised to read as **Clause Nos. 32.2 to 32.9.**

(2) It is acceptable that the priced bid may contain the prices in multiple currency for different items [ref. Clause No. 9.0 ("Currencies of Bid and Payment") under 'Instructions to Bidders' of tender document.

****End of Addendum to Bid Document****