

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

**AMENDMENT NO. 6 Dated 18.04.2024 to GeM Tender No. GEM/2024/B/4609668 for Hiring of Bundled Services (comprising of Cementing and Mud Engineering Services) for Drilling and Workover wells in Tulamara DSF Block, Tripura for a period of 02 (Two) years (with provision of extension for another 01 year) under OIL, Duliajan**

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This Amendment to the tender is issued to notify the following:

1. Extension of dates:
  - Last Date of Bid Submission extended up to **02.05.2024 (13:00 Hrs IST)**
  - Date of Technical Bid Opening extended up to **02.05.2024 (13:30 Hrs IST)**
2. Modifications/ additions of a few tender clauses as stipulated vide **ANNEXURE-I** enclosed herewith.

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

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**AMENDMENTS TO CLAUSES OF GEM TENDER No. GEM/2024/B/4609668**

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
<b>Part-2: Bid Evaluation Criteria</b>			
<b>1.</b>	<p><b>Notes to Clause No. 2.3 D. and E. :</b></p> <p>(D. Bid submitted on the basis of the Technical Experience of the Parent/ Subsidiary Company)</p> <p>And</p> <p>(E. Bid submitted on the basis of the Technical Experience of Sister Subsidiary/ Co-subsidiary Company)</p> <p>(Page 28)</p>	<p>In the situations mentioned in <b>Clauses D. and E.</b> above, following conditions are required to be fulfilled/documents to be submitted:</p> <p>(i) Valid legal documents, showing the legal relationship between the bidder and the parent/subsidiary/co-subsidiary/sister subsidiary (supporting company), as the case may be, along with shareholding pattern and linkage between the bidder and the parent/subsidiary (supporting company)/ultimate parent/holding company.</p>	<p>In the situations mentioned in <b>Clauses D. and E.</b> above, following conditions are required to be fulfilled/documents to be submitted:</p> <p>(i) A <b>certificate from the Statutory Auditor of the bidding company / Certificate from a practicing Chartered Accountant</b> 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.</p>

<p><b>2.4</b> <b>VINTAGE</b>  (Page 28)</p>	<p>Bidders must fulfill the following criteria of vintage of equipment to be offered against respective services:</p> <table border="1" data-bbox="539 368 1245 879"> <thead> <tr> <th data-bbox="539 368 792 459">Service</th> <th data-bbox="792 368 1245 459">Vintage criteria</th> </tr> </thead> <tbody> <tr> <td data-bbox="539 459 792 671">a) Cement-ing Service</td> <td data-bbox="792 459 1245 671">-Cementing Unit/Batch Mixer shall not be more than 10 (Ten) years old as on the original bid closing date.</td> </tr> <tr> <td data-bbox="539 671 792 879">b) Mud Engineer-ing Service</td> <td data-bbox="792 671 1245 879">-Lab equipment as applicable shall not be of more than 07 (Seven) years old as on the bid closing date.</td> </tr> </tbody> </table>	Service	Vintage criteria	a) Cement-ing Service	-Cementing Unit/Batch Mixer shall not be more than 10 (Ten) years old as on the original bid closing date.	b) Mud Engineer-ing Service	-Lab equipment as applicable shall not be of more than 07 (Seven) years old as on the bid closing date.	<p>Bidders must fulfill the following criteria of vintage of equipment to be offered against respective services:</p> <table border="1" data-bbox="1294 304 2096 1238"> <thead> <tr> <th data-bbox="1294 304 1503 384">Service</th> <th data-bbox="1503 304 2096 384">Vintage criteria</th> </tr> </thead> <tbody> <tr> <td data-bbox="1294 384 1503 1066">a) Cementing Service</td> <td data-bbox="1503 384 2096 1066">                     a. For truck mounted cementing unit, Age of the cementing unit supplied by the bidder shall not be more than <b>12 (twelve) years old</b> as on original bid closing date counted from the date of initial registration.                       b. For trailer/skid mounted cementing unit, Age of the cementing unit supplied by the bidder shall not be more than <b>15 (fifteen) years old</b> as on original bid closing date counted from the date of initial registration.                       c. Age of the batch mixer supplied by the bidder shall not be more than <b>10 (ten) years old</b> as on original bid closing date.   <b>d. However, the bidder has to comply with any changes/ updation in Government regulation at any point of time during the currency of the contract period.</b> </td> </tr> <tr> <td data-bbox="1294 1066 1503 1238">b) Mud Engineering Service</td> <td data-bbox="1503 1066 2096 1238">a. Lab equipment as applicable shall not be of more than 07 (Seven) years old as on the original bid closing date.</td> </tr> </tbody> </table>	Service	Vintage criteria	a) Cementing Service	a. For truck mounted cementing unit, Age of the cementing unit supplied by the bidder shall not be more than <b>12 (twelve) years old</b> as on original bid closing date counted from the date of initial registration.  b. For trailer/skid mounted cementing unit, Age of the cementing unit supplied by the bidder shall not be more than <b>15 (fifteen) years old</b> as on original bid closing date counted from the date of initial registration.  c. Age of the batch mixer supplied by the bidder shall not be more than <b>10 (ten) years old</b> as on original bid closing date.  <b>d. However, the bidder has to comply with any changes/ updation in Government regulation at any point of time during the currency of the contract period.</b>	b) Mud Engineering Service	a. Lab equipment as applicable shall not be of more than 07 (Seven) years old as on the original bid closing date.
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Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
	2.11	NEW CLAUSE	<p><b><u>CEMENT SLURRY TEST DESIGN AS PER PACKAGES IN PART-3 (SCOPE OF WORK), EXHIBIT-I (CEMENTING SERVICES) :</u></b></p> <p>i. The Bidder shall design the cement slurry and spacer formulation as per requirement of each package indicated in the tender document as per the services and submit the test report of each design signed by authorized signatories along with the bid. The slurry design shall be done using Bidder's API Class 'G' oil well cement &amp; additives offered in their bid to ensure the effectiveness of offered doses of additives against the intended use of package.</p> <p>ii. In addition, the bidder shall submit the properly sealed samples of all the offered API class 'G' cement (two samples of API class 'G' cement: 50 kg of each) &amp; cement additives (two samples of each additive: 1/2 kg of each) within 07 days of actual bid closing date for verification testing of submitted design at OIL's laboratory and another set of samples is to be kept at bidders' laboratories for further testing purpose if required. Bidders have to supply the samples of API Class 'G' cement and cement additives offered in their bid, at Frontier Basin Project Office in Duliajan at their own arrangement and cost. However, all cost incurred for verification of submitted formulation testing done at OIL's laboratory will be borne by OIL. It is to be noted that a bid with incomplete/partial submission or totally devoid of tender samples will not be considered for evaluation and such bid will be rejected outright. The related terms and conditions as applicable is listed in Scope of Work.</p>

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
			<p>iii. The bidder whose offered designs meet the parameters for all the 11 (Eleven) packages (ANNEXURE-I TO EXHIBIT-1) in total as indicated in the tender document will only be considered for further evaluation of their bid, or else, their bid will be straightway rejected.</p> <p>iv. The list of Cement additives offered by the bidder shall require product datasheet for each chemical including but not limited to brand name, unit of packing, country of origin, complete technical details including MSDS (Material Safety Data Sheet), manufacturer's address with printed literature along with Annexure against each and every item.</p>
	<p><b>3.4</b> (Under Clause 3.0 'FINANCIAL EVALUATION CRITERIA')  (Page 32)</p>	<p><b>In case, the bidder is a subsidiary company</b> (should be a wholly owned subsidiary of the parent/ultimate parent/holding company) who does not meet financial criteria as per <b>Clauses 3.1 and 3.2</b> by itself and submits bid based on the financial strength of its parent/ultimate parent/holding company, the following needs to be complied/submitted:</p> <p>(iii) A <b>Certificate</b> from the statutory Auditor of the bidding company as well as of the parent/ultimate/ holding parent company (supporting company) to establish the relationship and equity percentage holding between bidding company and the supporting company. The certificates should be duly certified by the Company Secretary or one of the Directors of the company concerned.</p>	<p><b>In case, the bidder is a subsidiary company</b> (should be a wholly owned subsidiary of the parent/ultimate parent/holding company) who does not meet financial criteria as per <b>Clauses 3.1 and 3.2</b> by itself and submits bid based on the financial strength of its parent/ultimate parent/holding company, the following needs to be complied/submitted:</p> <p>(iii) A <b>Certificate from the Statutory Auditor of the bidding company/ Certificate from a practicing Chartered Accountant</b>, 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.</p>

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
<b>Part: 3: Scope of Work/ Terms of Reference/Technical Specifications</b> <b>[Exhibit-1 (Cementing Services)]</b>			
3.	4.2  Under  4.0 (VINTAGE OF TOOLS/ EQUIPMENT)  (Page 56)	Cementing Unit/Batch mixture shall <b>not be of more than 10 (Ten) years</b> old as on the original bid closing date.	<p>a. For truck mounted cementing unit, Age of the cementing unit supplied by the bidder shall not be more than <b>12 (twelve) years old</b> as on original bid closing date counted from the date of initial registration.</p> <p>b. For trailer/skid mounted cementing unit, Age of the cementing unit supplied by the bidder shall not be more than <b>15 (fifteen) years old</b> as on original bid closing date counted from the date of initial registration.</p> <p>c. Age of the batch mixer supplied by the bidder shall not be more than <b>10 (ten) years old</b> as on original bid closing date.</p> <p><b>d. However bidder has to comply with any changes/ updation in government regulation at any point of time during the currency of the contract period.</b></p>

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
4.	10.0  <b><u>TESTING FACILITY &amp; CEMENT SLURRY FORMULATION:</u></b>  (Page 61)	<p>(i) The BIDDER should have the adequate facilities to test cement additives and design cement slurry. BIDDER's laboratory must be located in India for testing cement, additives and for designing cement slurry as per API 10B standards. In addition to this, the BIDDER may be required to carry out cement testing jobs beyond the scope of API 10B, if operational requirement arises.</p> <p>Post cement job testing of any kind, if required has to be carried out by the BIDDER. At OIL's discretion, such testing at BIDDER's laboratory may be witnessed by OIL's representative. Also OIL reserves the right to carry out Post-Cement job analysis. For this purpose, Contractor needs to supply the additives used in the respective job. In addition, one laboratory with testing facilities should be available at base office in Duliajan for the validation of the test reports (in line with Clause 2.4 of SOW).</p>	<p>(i) The BIDDER should have the adequate facilities to test cement additives and design cement slurry. BIDDER's laboratory must be located in India for testing cement, additives and for designing cement slurry as per API 10B standards. In addition to this, the BIDDER may be required to carry out cement testing jobs beyond the scope of API 10B, if operational requirement arises.</p> <p>Post cement job testing of any kind, if required has to be carried out by the BIDDER. At OIL's discretion, such testing at BIDDER's laboratory may be witnessed by OIL's representative. Also OIL reserves the right to carry out Post-Cement job analysis. For this purpose, Contractor needs to supply the additives used in the respective job.</p>

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
<b>REVISED ANNEXURE-I to EXHIBIT-1</b>			
5.		<p><b>1.0 DESCRIPTION OF ITMES: CEMENT ADDITIVES</b></p> <p>NUMBERS OF PACKAGES FOR 2 YEARS (1 Package = 1 MT Cement)</p> <p>1) SERVICE PACKAGE 1 (20-40°C BHCT, BHP-400 psi, mud wt.-8.52ppg) = 4 JOBS – conductor cementing, cement rise up to surface, depth range- 200 to 300m (approx.), single slurry density-15.24 ppg) = <b>215 Packages</b> (Cement Quantity per job = 53.75 MT Approx.)</p> <p>2) SERVICE PACKAGE 2 (66°C BHCT, BHP-2331 psi, mud wt.-9.12ppg) = 4 JOBS – isolation cementing, cement rise up to surface, depth range- 500 to 1500m (approx.), slurry density (lead- 13.64ppg, tail- 15.77 ppg)</p> <p>1. 2A (Lead Slurry -13.6 ppg): 4 Jobs (<b>141 Packages</b>)</p> <p>2. 2B (Tail Slurry- 15.8 ppg): 4 Jobs (<b>53 Packages</b>) (Cement Quantity per job = 48.5 MT Approx.)</p> <p>3) SERVICE PACKAGE 3 (78°C BHCT, BHP-5500 psi, mud wt.-12.9ppg) =1 JOB – isolation cementing, cement rise-200m inside last csg. shoe, depth range- 2500m (approx.), slurry density (lead- 13.64ppg, tail- 15.77 ppg)</p> <p>1. 3A (Lead Slurry -13.6 ppg): 1 Job (<b>29 Packages</b>)</p> <p>2. 3B (Tail Slurry- 15.8 ppg): 1 Job (<b>10 Packages</b>) (Cement Quantity per job = 39 MT Approx.)</p> <p>4) SERVICE PACKAGE 4 (66°C BHCT, BHP-2331 psi, mud wt.-9.12ppg) = 2 JOBS – Production casing cementing with Gas block additives, cement rise-100m inside last csg. shoe, depth range- 800m-1400m (approx.), slurry density - 15.8 ppg) = <b>66 packages</b></p>	

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
	5)	SERVICE PACKAGE 5 (78°C BHCT, BHP-5500 psi, mud wt.-12.9 ppg) = 1 JOB – Production casing cementing with Gas block additives, cement rise- 100 m inside last csg. shoe, depth - 2300m (approx.), slurry density-15.8 ppg) = <b>27 packages</b>	
	6)	SERVICE PACKAGE 6 (90-103°C BHCT, BHP-7283 psi, mud wt. -13.35 ppg) = 1 JOB – Production casing cementing with Gas block additives, cement rise- 100 m inside last csg. shoe, depth - 3200m (approx.), slurry density-15.8 ppg) = <b>27 packages</b>	
	7)	SERVICE PACKAGE 7(Secondary Cementing) temperature 84°C BHCT(BHST-103°C) – 4 jobs ( <b>20 Packages</b> ) (Cement Quantity per job = 5 MT Approx.)	
	8)	SERVICE PACKAGE 7.1(Secondary Cementing) temperature 64°C BHCT(BHST-78°C) – 12 jobs ( <b>60 Packages</b> ) (Cement Quantity per job = 5 MT Approx.)	
	9)	SERVICE PACKAGE 8 (Open Hole plug job) temperature range of 84°C BHCT (BHST 103°C)- 5 jobs ( <b>100 Packages</b> ) (Cement Quantity per job = 20 MT Approx.)	
	10)	SERVICE PACKAGE 8.1 (Open Hole plug job) temperature range of 64°C BHCT (BHST 78°C)- 15 jobs ( <b>300 Packages</b> ) (Cement Quantity per job = 20 MT Approx.)	
	11)	SERVICE PACKAGE9: Cement additives for lost circulation for temperature range of 84 °C BHCT (BHST 103 °C) – ( <b>200-Packages</b> )	
		<b>2.0 RECOMMENDED PRESSURE - TEMPERATURE RANGE, TESTING CONDITIONS AND CEMENT SLURRY PROPERTIES FOR DIFFERENT PACKAGES :</b>	
		<b>2.1 SERVICE PACKAGE-1: (Conductor cementing) Cement additives for temperature range 38°C BHCT: 215 packages along with defoamer. Test report will be assessed at 38°C. (BHST 40°C)</b>	

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
	<b>1.0</b>	<b>SLURRY TYPE</b>	Cement slurry design should consists of API class 'G' HSR type and fresh water, having a density of 15.24 ppg (114 lbs/cft)
	<b>2.0</b>	<b>PHYSICAL PROPERTIES</b>	
	2.1	PHYSICAL STATE	Additives as received should be free flowing powder or homogeneous liquid free from visible impurities
	2.2	Solubility in water	Additives will be pre-hydrated except for Lightweight additives; which are to be dry blended & soluble or dispersible in fresh water.
	2.3	Moisture content% by mass	10.0(max)
	<b>3.0</b>	<b>SLURRY PROPERTIES</b>	
	3.1	Thickening time at HTHP consistometer at 38°C and 500 psi (Pressure to be raised in 44 minutes)	200 to 250 minutes (Min) for 100 Bc
	3.2	Fluid loss as per API	N/A
	3.3	Free water as per API	Trace
	3.4	Initial consistency	10 - 15 BC (Max)
	3.5	24 hrs compressive strength BHST as per API schedule	500 psi (Min)
	<b>4.0</b>	<b>TESTING PARAMETERS</b>	
	4.1	BHCT	30 - 45°C to test at 38°C
	4.2	BHST	35-55°C to test at 40°C
	4.3	Bottom hole pressure	<b>500 psi</b>
	4.4	Time to raise temp. and pressure	44 minutes
	4.5	Slurry specific gravity	1.83 (114 lbs/cft)

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
<b>2.2 SERVICE PACKAGE-2: Cement additives for Isolation Casing for the temperature range of 55°C BHCT- 9 5/8” &amp; 13 3/8” inch Casing Jobs: 194 packages along with defoamer. Test report will be assessed at 55°C. (BHST 66°C)</b>			
<b>1.0</b>	<b>SLURRY TYPE</b>	<p><b>Lead Slurry:</b> Cement slurry design should consists of API class 'G' HSR type and fresh water, having a density of 13.64 ppg (102 pcf)</p> <p><b>Tail Slurry:</b> Cement slurry design should consist of API class 'G' HSR type and fresh water, having a density of 15.8 ppg (118 pcf)</p>	
<b>2.0</b>		<b>PHYSICAL PROPERTIES</b>	
2.1	PHYSICAL STATE	Additives as received should be free flowing powder or homogeneous liquid free from visible impurities	
2.2	Solubility in water	Additives will be pre-hydrated except for Lightweight additives; which are to be dry blended & soluble or dispersible in fresh water.	
2.3	Moisture content % by mass	10.0(max)	
<b>3.0</b>		<b>SLURRY PROPERTIES</b>	
3.1	Thickening time at HTHP consistometer at 55°C and 2500 psi (Pressure to be raised in 44 minutes )	Lead : 270 to 300 minutes (Min) for 100Bc Tail : 270 to 300 minutes (Min) for 100Bc.	
3.2	Water loss as per API	Lead: 100 ml/30 min(Max)	

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
		Tail : 50 ml/30 min(Max)	
	3.3	Free water as per API Lead : Trace Tail : Nil	
	3.4	Initial consistency Lead: 25 - 30 BC (Max) Tail : 10 - 15 BC (Max)	
	3.5	24 hrs compressive strength at BHST as per API schedule Lead: 500 psi (min) Tail : 2000 psi (Min)	
	<b>4.0</b>	<b>TESTING PARAMETERS</b>	
	4.1	BHCT 50°-60°C to test at 55°C	
	4.2	BHST 55-70°C to test at 66°C	
	4.3	Bottom hole pressure 4500 psi	
	4.4	Time to raise temp. and pressure 44 minutes	
	4.5	Slurry specific gravity Lead: 1.63(102 lbs/cft) Tail: 1.9(118 lbs/cft)	
	<b>2.3 SERVICE PACKAGE-3: Cement additives for Intermediate Isolation Casing for the temperature range of 64°C BHCT- 9 5/8" inch Casing Jobs: 39 packages along with defoamer. Test report will be assessed at 64°C. (BHST 78°C)</b>		
	<b>1</b>	<b>SLURRY TYPE</b>	<b>Lead Slurry:</b> Cement slurry design should consists of API class 'G' HSR type and fresh water, having a density of 13.64 ppg (102 pcf) <b>Tail Slurry:</b> Cement slurry design should consists of API class 'G' HSR type and fresh water, having a density of 15.8 ppg (118 pcf)

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
	<b>2.0</b>	<b>PHYSICAL PROPERTIES</b>	
	2.1	PHYSICAL STATE	Additives as received should be free flowing powder or homogeneous liquid free from visible impurities
	2.2	Solubility in water	Additives will be pre-hydrated except for Lightweight additives; which are to be dry blended & soluble or dispersible in fresh water.
	2.3	Moisture content % by mass	10.0(max)
	<b>3.0</b>	<b>SLURRY PROPERTIES</b>	
	3.1	Thickening time at HTHP consistometer at Lead: 64°C and 5500 psi (Pressure to be raised in 44 minutes )	Lead : 270 to 300 minutes (Min) for 100Bc Tail : 270 to 300 minutes (Min) for 100Bc.
	3.2	Water loss as per API	Lead: 100 ml/30 min(Max) Tail : 50 ml/30 min(Max)
	3.3	Free water as per API	Lead : Trace Tail : Nil
	3.4	Initial consistency	Lead: 25 - 30 BC (Max) Tail : 10 - 15 BC (Max)
	3.5	24 hrs compressive strength at BHST as per API schedule	Lead: 500 psi (min) Tail : 2000 psi (Min)
	<b>4.0</b>	<b>TESTING PARAMETERS</b>	
	4.1	BHCT	60-75°C to test at 64°C
	4.2	BHST	70-85°C to test at 78°C
	4.3	Bottom hole pressure	5500 psi
	4.4	Time to raise temp. and pressure	44 minutes
	4.5	Slurry specific gravity	Lead: 1.63 (102 lbs/cft) Tail: 1.9 (118 lbs/cft)

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
		<b>2.4 SERVICE PACKAGE-4: (Oil string casing cementing) Cement additives for temperature range 55°C BHCT: 33 packages along with defoamer. Test report will be assessed at 55°C. (BHST 66°C)</b>	
	<b>1.0</b>	<b>SLURRY TYPE</b>	Cement slurry design should consists of API class 'G' HSR type and fresh water, having a density of 15.8 ppg (118 lbs/cft)
	<b>2.0</b>		<b>PHYSICAL PROPERTIES</b>
	2.1	PHYSICAL STATE	Additives as received should be free flowing powder or homogeneous liquid free from visible impurities
	2.2	Solubility in water	Additives will be pre-hydrated except for Lightweight additives; which are to be dry blended & soluble or dispersible in fresh water.
	2.3	Moisture content% by mass determined at 60-850C	10.0(max)
	<b>3.0</b>		<b>SLURRY PROPERTIES</b>
	3.1	Thickening time at HTHP consistometer at 55°C and 2500 psi (Pressure to be raised in 44 minutes)	270 to 300 minutes (Min) for 100Bc
	3.2	Fluid loss as per API	45 ml/30 min(Max)
	3.3	Free water as per API	Trace
	3.4	Initial consistency	10 - 15 BC (Max)
	3.5	24 hrs compressive strength BHST as per API schedule	2000 psi (Min)

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
	3.6	Static gel strength using Static Gel Strength (SGS) analyzer (recommended in API)	45 min (max) transition time from 100 lbf/100ft <sup>2</sup> to 500 lbf/100ft <sup>2</sup>
	3.7	Linear Expansion	0.2 %(Min) in 5 Days
	<b>4.0</b>	<b>TESTING PARAMETERS</b>	
	4.1	BHCT	45 - 60°C to test at 55°C
	4.2	BHST	55-70°C to test at 66°C
	4.3	Bottom hole pressure	4500 psi
	4.4	Time to raise temp. and pressure	44 minutes
	4.5	Slurry specific gravity	1.90(118 lbs/cft)
<b>2.5 SERVICE PACKAGE-5: (Oil string casing cementing) Cement additives for temperature range 64°C BHCT: 27 packages along with defoamer. Test report will be assessed at 64°C. (BHST 78°C)</b>			
	<b>1.0</b>	<b>SLURRY TYPE</b>	Cement slurry design should consists of API class 'G' HSR type and fresh water, having a density of 15.8 ppg (118 lbs/cft)
	<b>2.0</b>	<b>PHYSICAL PROPERTIES</b>	
	2.1	PHYSICAL STATE	Additives as received should be free flowing powder or homogeneous liquid free from visible impurities
	2.2	Solubility in water	Additives will be pre-hydrated except for Lightweight additives; which are to be dry blended & soluble or dispersible in fresh water.
	2.3	Moisture content% by mass	10.0(max)
	<b>3.0</b>	<b>SLURRY PROPERTIES</b>	

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
	3.1	Thickening time at HTHP consistometer at 64°C and 5500 psi (Pressure to be raised in 44 minutes)	300 to 360 minutes (Min) for 100Bc
	3.2	Fluid loss as per API	45 ml/30 min(Max)
	3.3	Free water as per API	Trace
	3.4	Initial consistency	10 - 15 BC (Max)
	3.5	24 hrs compressive strength BHST as per API schedule	2000 psi (Min)
	3.6	Static gel strength using Static Gel Strength (SGS) analyzer (recommended in API)	45 min (max) transition time from 100 lbf/100ft <sup>2</sup> to 500 lbf/100ft <sup>2</sup>
	3.7	Linear Expansion	0.2 %(Min) in 5 Days
	<b>4.0</b>		<b>TESTING PARAMETERS</b>
	4.1	BHCT	60 - 75°C to test at 64°C
	4.2	BHST	70-85°C to test at 78°C
	4.3	Bottom hole pressure	7000 psi
	4.4	Time to raise temp. and pressure	44 minutes
	4.5	Slurry specific gravity	1.90(118lbs/cft)
	<b>2.6 SERVICE PACKAGE-6: (Oil string casing cementing) Cement additives for temperature range 74-84°C BHCT: 27 packages along with defoamer. Test report will be assessed at 84°C. (BHST 90-103°C)</b>		
	<b>1.0</b>	<b>SLURRY TYPE</b>	Cement slurry design should consists of API class 'G' HSR type and fresh water, having a density of 15.8 ppg (118 lbs/cft)

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
	<b>2.0</b>	<b>PHYSICAL PROPERTIES</b>	
	2.1	PHYSICAL STATE	Additives as received should be free flowing powder or homogeneous liquid free from visible impurities
	2.2	Solubility in water	Additives will be pre-hydrated except for Lightweight additives; which are to be dry blended & soluble or dispersible in fresh water.
	2.3	Moisture content% by mass	10.0(max)
	<b>3.0</b>	<b>SLURRY PROPERTIES</b>	
	3.1	Thickening time at HTHP consistometer at 74-84°C and 7500 psi (Pressure to be raised in 44 minutes)	300 to 360 minutes (Min) for 100Bc
	3.2	Fluid loss as per API	45 ml/30 min(Max)
	3.3	Free water as per API	Trace
	3.4	Initial consistency	10 - 15 BC (Max)
	3.5	24 hrs compressive strength BHST as per API schedule	2000 psi (Min)
	3.6	Static gel strength using Static Gel Strength (SGS) analyzer (recommended in API)	45 min (max) transition time from 100 lbf/100ft <sup>2</sup> to 500 lbf/100ft <sup>2</sup>
	3.7	Linear Expansion	0.2 %(Min) in 5 Days
	<b>4.0</b>	<b>TESTING PARAMETERS</b>	
	4.1	BHCT	<b>75-90°C</b> to test at <b>84°C</b>
	4.2	BHST	<b>85-108°C</b> to test at <b>103°C</b>
	4.3	Bottom hole pressure	7500 psi
	4.4	Time to raise temp. and pressure	44 minutes
	4.5	Slurry specific gravity	1.90(118lbs/cft)

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
		<b>2.7 SERVICE PACKAGE-7: Cement additives for secondary cementing for the temperature range of 84°C BHCT (BHST 103°C) -: Test report will be assessed at 84°C. (BHST 103°C)</b>	
	<b>1.0</b>	<b>Slurry type</b>	Cement slurry design should consists of API class 'G' HSR type and fresh water, having a density of 15.8 ppg (118 lbs/cft).
	<b>2.0</b>	<b>PHYSICAL PROPERTIES</b>	
	2.1	PHYSICAL STATE	Additives as received should be free flowing powder or homogeneous liquid free from visible impurities
	2.2	Solubility in water	Additives will be pre-hydrated except for Lightweight additives, which are to be dry blended & soluble or dispersible in fresh water.
	2.3	Moisture content % by mass	10.0(MAX)
	<b>3.0</b>	<b>SLURRY PROPERTIES</b>	
	3.1	Thickening time at HTHP consistometer at 84°C and 7500 psi (Pressure to be raised in 44 minutes)	300 to 360 minutes (Min) for 100Bc
	3.2	Fluid loss as per API	50 ml/30 min(Max)
	3.3	Free water as per API	Trace
	3.4	Initial consistency	10 - 15 BC (Max)
	3.5	24 hrs compressive strength BHST as per API schedule	2000 psi (Min)
	3.6	Static gel strength using Static Gel Strength (SGS) analyzer (recommended in API)	45 min (max) transition time from 100 lbf/100ft <sup>2</sup> to 500 lbf/100ft <sup>2</sup>
	3.7	<del>Linear Expansion</del>	0.2 %(Min) in 5 Days

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
	<b>4.0</b>		<b>TESTING PARAMETERS</b>
	4.1	BHCT	75-90°C to test at 84°C
	4.2	BHST	85-108°C to test at 103°C
	4.3	Bottom hole pressure	7500 psi
	4.4	Time to raise temp. and pressure	44 minutes
	4.5	Slurry specific gravity	1.90 (118lbs/cft)
	<b>2.7.1 SERVICE PACKAGE-7.1: Cement additives for secondary cementing for the temperature range of 64°C BHCT (BHST 78°C) :- Test report will be assessed at 64°C. (BHST 103°C)</b>		
	<b>1.0</b>	<b>Slurry type</b>	Cement slurry design should consists of API class 'G' HSR type and fresh water, having a density of 15.8 ppg (118 lbs/cft).
	<b>2.0</b>		<b>PHYSICAL PROPERTIES</b>
	2.1	PHYSICAL STATE	Additives as received should be free flowing powder or homogeneous liquid free from visible impurities
	2.2	Solubility in water	Additives will be pre-hydrated except for Lightweight additives, which are to be dry blended & soluble or dispersible in fresh water.
	2.3	Moisture content % by mass	10.0(MAX)
	<b>3.0</b>		<b>SLURRY PROPERTIES</b>
	3.1	Thickening time at HTHP consistometer at 84°C and 5500 psi (Pressure to be raised in 44 minutes)	300 to 360 minutes (Min) for 100Bc
	3.2	Fluid loss as per API	50 ml/30 min(Max)

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
	3.3	Free water as per API	Trace
	3.4	Initial consistency	10 - 15 BC (Max)
	3.5	24 hrs compressive strength BHST as per API schedule	2000 psi (Min)
	3.6	Static gel strength using Static Gel Strength (SGS) analyzer (recommended in API)	45 min (max) transition time from 100 lbf/100ft <sup>2</sup> to 500 lbf/100ft <sup>2</sup>
	3.7	<del>Linear Expansion</del>	<del>0.2 % (Min) in 5 Days</del>
	<b>4.0</b>	<b>TESTING PARAMETERS</b>	
	4.1	BHCT	60-75°C to test at 64°C
	4.2	BHST	70-85°C to test at 75°C
	4.3	Bottom hole pressure	5500 psi
	4.4	Time to raise temp. and pressure	44 minutes
	4.5	Slurry specific gravity	1.90 (118lbs/cft)
<b>2.8 SERVICE PACKAGE-8: Cement additives for open hole plug cementing for the temperature range of 84°C BHCT (BHST 103°C) -: Test report will be assessed at 84°C. (BHST 103°C)</b>			
	<b>1.0</b>	<b>Slurry type</b>	Cement slurry design should consists of API class 'G' HSR type and fresh water, having a specific gravity 1.90 (118 lbs/cft)
	<b>2.0</b>	<b>PHYSICAL PROPERTIES</b>	
	2.1	PHYSICAL STATE	Additives as received should be free flowing powder or homogeneous liquid free from visible impurities
	2.2	Solubility in water	Additives will be pre-hydrated except for Lightweight additives, which are to be dry blended & soluble or dispersible in fresh water.

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
	2.3	Moisture content % by mass determined at 60-850C	10.0(MAX)
	<b>3.0</b>	<b>SLURRY PROPERTIES</b>	
	3.1	Thickening time at HTHP consistometer at 84°C and 7500 psi (Pressure to be raised in 44 minutes)	300 to 360 minutes (Min) for 100Bc
	3.2	Fluid loss as per API	50 ml/30 min(Max)
	3.3	Free water as per API	Trace
	3.4	Initial consistency	10 - 15 BC (Max)
	3.5	24 hrs compressive strength BHST as per API schedule	2000 psi (Min)
	<b>4.0</b>	<b>TESTING PARAMETERS</b>	
	4.1	BHCT	75-90°C to test at 84°C
	4.2	BHST	85-108°C to test at 103°C
	4.3	Bottom hole pressure	7500 psi
	4.4	Time to raise temp. and pressure	44 minutes
	4.5	Slurry specific gravity	1.90(118lbs/cft)
	<b>2.8.1 SERVICE PACKAGE-8.1: Cement additives for open hole plug cementing for the temperature range of 64°C BHCT (BHST 78°C) :- Test report will be assessed at 64 ° C. (BHST 1030C)</b>		
	<b>1.0</b>	<b>Slurry type</b>	Cement slurry design should consists of API class 'G' HSR type and fresh water, having a specific gravity 1.90 (118 lbs/cft)

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
	<b>2.0</b>	<b>PHYSICAL PROPERTIES</b>	
	2.1	PHYSICAL STATE	Additives as received should be free flowing powder or homogeneous liquid free from visible impurities
	2.2	Solubility in water	Additives will be pre-hydrated except for Lightweight additives, which are to be dry blended & soluble or dispersible in fresh water.
	2.3	Moisture content % by mass determined at 60-850C	10.0(MAX)
	<b>3.0</b>	<b>SLURRY PROPERTIES</b>	
	3.1	Thickening time at HTHP consistometer at 84°C and 5500 psi (Pressure to be raised in 44 minutes)	300 to 360 minutes (Min) for 100Bc
	3.2	Fluid loss as per API	50 ml/30 min(Max)
	3.3	Free water as per API	Trace
	3.4	Initial consistency	10 - 15 BC (Max)
	3.5	24 hrs compressive strength BHST as per API schedule	2000 psi (Min)
	<b>4.0</b>	<b>TESTING PARAMETERS</b>	
	4.1	BHCT	60-75°C to test at 64°C
	4.2	BHST	70-85°C to test at 78°C
	4.3	Bottom hole pressure	5500 psi
	4.4	Time to raise temp. and pressure	44 minutes
	4.5	Slurry specific gravity	1.90(118lbs/cft)

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
		<p><b>2.9 SERVICE PACKAGE 9: Cement additives for <u>lost circulation</u> for the temperature range of 84°C BHCT (BHST 103°C) :-</b></p> <p>a) 200 bbls of spacer for Reservoir Section i.e. 50 bbls per job</p> <p>b) 500 bbls of spacer for Non Reservoir Section i.e. 50 bbls per job</p> <p>c) Lost Circulation Material for 1000 bbls of cement slurry i.e. LCM to be mixed with last 100 bbls of cement slurry per job</p>	
	<b>1.0</b>	<b>Lost Circulation Material</b>	<p><b>1)</b> Lost Circulation Spacer for Reservoir Section</p> <p><b>2)</b> Lost Circulation Spacer Material for Non Reservoir section</p> <p><b>3)</b> Lost Circulation Material for Cement Slurry</p>
	<b>2.0</b>		<b>PHYSICAL PROPERTIES</b>
	2.1	PHYSICAL STATE	<ul style="list-style-type: none"> <li>• Additives as received should be applicable for reservoir section; and must not leave any skin behind (degradable)</li> <li>• Non reservoir section shall have lost circulation material as spacer and fibers in cement slurry</li> <li>• Calcium Carbonate, Barite and Bentoite will be provided by company</li> </ul>
	<b>3.0</b>		<b>TESTING PARAMETERS</b>
	3.1	BHCT	75 – 90°C to test at 84°C
	3.2	Bottom hole pressure	7500 psi
	3.3	Time to raise temp. and pressure	44 minutes

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
<b>General Notes on ANNEXURE-I of EXHIBIT-1:</b>			
1.		Suitable spacer design by maintaining density hierarchy and volume of maximum 100US barrels or 500 ft in the annulus whichever is lower, for each of the above service packages and chemicals required for the spacer should be provided by the BIDDER. The said parameters are for Water Based Mud only. Bentonite concentration should not be more than 4lbs/bbl while designing the spacer. Exception: Only one spacer design & volume of maximum 100 us bbls or 500 ft whichever is lower is required against service package "2A & 2B combined" and "3A & 3B combined". The spacer for secondary job as per package 7, 7.1, 8 & 8.1 should be considered as combination of pre-flush and post-flush values for 1000 ft in annulus and inside string for cased hole (string should be 5", 19.5 ppf drill pipe for open hole and 2 7/8", 6.5 ppf tubing for cased hole) & 656 ft for open hole (the open hole size should be considered true gauge for quote).	
2.		Only Barite and Bentonite shall be supplied by OIL for mix fluid and spacer preparation, if required. Cement and any other cement additives/spacer additives shall be supplied by the BIDDER.	
3.		Mixing Tank: Oil will provide mixing tanks with agitators and centrifugal pumps for mixing Pre-Flush & Spacers. Bidder to consider a dead volume of approx. 35 Bbls in each of these tanks while quoting against the service.	
4.		The following conditions will be applicable for Testing of the design recipe of the above packages during the evaluation of the recipes at Cement Lab, OIL, Duliajan.	
	4.1	For "Package 2 & Package 3", LEAD and TAIL slurry will considered as two (02) packages.	
	4.2	Static gel strength (SGS) analysis will be on Bidder's scope.	
	4.3	The technical water Salinity to be considered as 150 ppm. Salinity of water will be provided to bidders by OIL.	
	4.4	Free Water and Fluid loss testing will be carried out at 88 °C for packages with temperature greater than 88 °C and below 88 °C.	
	4.5	OIL will provide cement for testing.	
	4.6	Linear Expansion test will be conducted only for the package 4, 5 & 6.	

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
		<p>4.7 Bidders must do the sample submission to Frontier Basin Project Office within 07 days of actual Bid Closing Date.</p> <p>4.8 Bidder will provide samples of cement &amp; additives to OIL for testing along with the recipes.</p> <p>4.9 Linear Expansion test will be on Bidder's scope.</p> <p>4.10 Confirmatory tests for Single cement additive package will be limited to maximum two (02) times. (Initial test plus one repeat test, in case of non-confirmation). In case any package fails, bidder will be required to pay for each repeat test as per testing charges of OIL.</p> <p>4.11 GST/Taxes extra as applicable will have to borne by the bidder.</p>	
<p><b>Part: 3: Scope of Work/ Terms of Reference/Technical Specifications</b></p> <p><b>[Exhibit-2 (Mud Engineering Services)]</b></p>			
6.	<p>A. 1.1 (ii).</p> <p>DRILLING FLUID DESCRIPTION FOR DRILLING WELLS:</p> <p>(Page 82)</p>	<p><b><u>WORKOVER &amp; COMPLETION FLUID</u></b></p> <p>The bidder shall supply clear Sodium formate solution as well completion fluid to cater density requirement up to 10.695 ppg during production testing stage. Any density requirement above to 10.695 ppg shall be catered by drilling fluid present at well site.</p> <p>For Workover operations the bidder shall supply clear sodium formate solution along with other chemicals required for carrying workover jobs.</p>	<p><b><u>WORKOVER &amp; COMPLETION FLUID:</u></b></p> <p>The bidder shall supply clear Sodium formate solution as well completion fluid to cater density requirement up to 10.695 ppg during production testing stage. Any density requirement above to 10.695 ppg shall be catered by drilling fluid present at well site.</p> <p>For Workover operations the bidder shall supply clear sodium formate solution along with other chemicals required for carrying workover jobs.</p>

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
		<p>Brine weights may range from 8.32 ppg to 10.695 ppg. The purity of sodium formate supplied at well site should be as per the specification provided in the tender document. Provision for adequate volumes with sufficient back up should be present to cater to any well killing operations during well testing operations.</p>	<p>Brine weights may range from 8.32 ppg to 10.695 ppg. The purity of sodium formate supplied at well site should be as per the specification provided in the tender document. Provision for adequate volumes with sufficient back up should be present to cater to any well killing operations during well testing operations.</p> <p><b>Company shall issue call out notice to the bidder for supply of sodium formate specifying the required quantity. The bidder shall supply the sodium formate within 60 days from the call out notice. Payment shall be made on actual consumption basis.</b></p> <p><b>However, after the end of the project in Tripura, the company shall buy back the leftover quantity/ unused quantity of sodium formate that was brought by bidder under call out option, at company's prevailing price or, bidder's quoted price, whichever is lower, for use in MPA wells under Company's Field Head Quarters, Duliajan. The leftover quantity of sodium formate is subjected to physical verification by company representative. Damaged bags in any manner shall not be considered under leftover quantities.</b></p> <p><b>Transportation of the leftover Sodium Formate from Tripura to in and around Duliajan (for MPA wells) shall be sole responsibility of the bidder.</b></p>

Sl. No.	Clause No.	Original Tender Clause	Amended Tender Clause
<b>Part-4, Section-II: Special Conditions of Contract</b>			
7.	4.2 (Page 169)	Contractor shall remobilize all/part of services (as notified) including equipment, accessories, and personnel to the wellsite and make it ready for operation <b>within 15 days from the date of interim re-mobilization notice.</b>	Contractor shall remobilize all/part of services (as notified) including equipment, accessories, and personnel to the wellsite and make it ready for operation <b>within 20 days from the date of interim re-mobilization notice.</b>