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# VOLUME - IA

Technical Conditions of Contract (TCC) for  
Commissioning Expert Services  
FOR

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IOCL Paradip-Standby SRU (525TPD) Train  
project

BHARAT HEAVY ELECTRICALS LIMITED

 <p><b>Technical Conditions Of Contract (TCC)</b>  <b>PROJECT ENGINEERING &amp; SYSTEMS DIVISION</b>  <b>HYDERABAD</b></p>	<p>Ref No:  HY/PE&amp;SD/Projects/TCC/2023-24/Expert/01</p>		<p>Rev. No. 01</p>
<p><b>COPYRIGHT AND CONFIDENTIAL</b>  The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED,  It must not be used directly or indirectly in any way detrimental to the interest of the company.</p>	<p style="text-align: center;"><b>TECHNICAL CONDITIONS OF CONTRACT (TCC)</b></p> <p style="text-align: center;"><b>FOR</b></p> <p style="text-align: center;"><b>COMMISSIONING EXPERT SERVICES</b></p> <p style="text-align: center;"><b>FOR</b></p> <p style="text-align: center;"><b>IOCL PARADIP-STANDBY SRU (525TPD) TRAIN PROJECT</b></p>		
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**Volume IA**  
**Part I**  
**Contract specific details**

## Chapter I- Project Information

1.0 Project Details			
1	Customer	:	IOCL, Paradip, Odisha
2	Project Information	:	IOCL Paradip-Standby SRU (525TPD) Train project
3	Location	:	Paradip, Odisha
4	Address Detail	:	IOCL, Paradip, Jagatsinghpur District, Odisha, India
5	Nearest Railway Station	:	Paradip Railway Station
6	Road Approach	:	118KM from Bhubaneswar via Cuttack and NH 53
7	Nearest Air Port	:	Biju Patnaik Airport, Bhubaneswar, Odisha, 125KM
11	Ambient Air Temperature (Average)	:	a) Maximum : 39 <sup>0</sup> C b) Minimum : 16 <sup>0</sup> C
12	Average Relative Humidity	:	71 %
13	Climatic Condition	:	Tropical Climate

**Bidder is advised to visit the project site and appraise himself about the local conditions and infrastructure available in the area for fulfilling their commitments under the contract. BHEL will not admit any claims whatsoever on account of Contractor's non-familiarization of local conditions.**

## Chapter II- Scope of Work

1. **Purpose/ Intent of the specification:** The intent of this specification is to describe the requirements governing the Scope of work, technical requirements, and other associated terms of “Commissioning Expert Services” as part of IOCL Paradip 525 TPD Standby SRU LSTK Project.

### 2. Scope of the services

- (i) **Project Scope:** BHEL has received the order from IOCL for 525 TPD Standby SRU LSTK Contract for their Paradip Refinery. The order requires project management, residual process design, detailed engineering (including HAZOP study), procurement, fabrication, inspection, transportation, storage, assembly, erection, installation, construction, testing, statutory approvals, mechanical completion, **pre-commissioning, commissioning,** performance guarantee test run (PGTR) of standby Sulphur Recovery Unit (SRU) along with incinerator, waste heat exchanger, stack and interconnecting works for IOCL Paradip Refinery.
- (ii) **Broad Scope of Services:** The scope of the “Commissioning Expert Services” contract will include the following but not limited to:
  - (a) The contractor shall be responsible for ensuring successful Mechanical completion, commissioning, and performance test runs of the facilities in association with the Owner’s (IOCL/ PMC) operating personnel.
  - (b) Planning, Preparing, Reviewing, Facilitating/ Assisting, and Documenting the pre-commissioning, commissioning, and performance test run requirements, in line with the IOCL/ PMC’s Technical specification 080557C-000-JSC-0093-001(Job Specification For Pre-Commissioning, Commissioning, And Performance Test Run (For Process/ Offsite/Utility Units)
  - (c) Facilitating all of the approvals required for successful pre-commissioning, and commissioning requirements of all the systems, and sub-systems of the project

For the detailed scope of work, please refer to the following documents:

- (i) 080557C-000-JSC-0093-001(Job Specification For Pre-Commissioning, Commissioning, And Performance Test Run (For Process/ Offsite/Utility Units) (Attached as Annexure-I)
- (ii) Relevant clause of the Customer contract (Will be provided after contract signing)

### 3. Manpower requirement, Experience, and qualification

The following manpower shall be deployed by the contractor:

- a) **Expert Mechanical Equipment and Piping Commissioning Works:** One (1) number, Minimum 19 to 26 Years of experience in the relevant field of work.
- b) **Expert Electrical and C&I Commissioning Works:** One (1) number, Minimum 19 to 26 Years of experience in the relevant field of work.

- c) **Senior Expert Overall SRU Commissioning Works:** One (1) number, Minimum 27 to 30 Years of experience in the relevant field of work.

**Bidder will submit the biodata of the experts as per the qualifications, and experience mentioned above for approval from BHEL/ IOCL/ PMC**

4. **Reporting:** The team will report to RCM/ SRU  
5. **Annexures**  
    (i) IOCL Specification of commissioning  
6. **Payment Break-up:**

<b>Expert Mechanical Equipment and Piping Commissioning Works</b>	Months	31.7487267%
<b>Expert Electrical and C&amp;I Commissioning Works</b>	Months	31.7487267%
<b>Senior Expert Overall SRU Commissioning Works</b>	Months	36.5025467%

Chapter III- Facilities in the scope of BHEL/Contractor

S. No.	Description <b>PART I</b>	Scope / to be taken care by		Remarks
		BHEL	Bidder	
<b>3.1</b>	<b>ESTABLISHMENT</b>			
<b>3.1.1</b>	<b>FOR CONSTRUCTION PURPOSE:</b>			
a	<del>Open space for office (as per availability)</del>		Yes	
b	<del>Open space for storage (as per availability)</del>		Yes	
e	<del>Construction of bidder's office, canteen and storage building including supply of materials and other services</del>		Yes	
d	<del>Bidder's all office equipment, office / store / canteen consumables</del>		Yes	
e	<del>Canteen facilities for the bidder's staff, supervisors and engineers etc.</del>		Yes	
f	<del>Firefighting equipment like buckets, extinguishers etc.</del>		Yes	
g	<del>Fencing of storage area, office, canteen etc. of the bidder</del>		Yes	
<b>3.1.2</b>	<b>FOR LIVING PURPOSES OF THE BIDDER</b>			
a	<del>Open space for labor colony (as per availability)</del>		Yes	
b	<del>Labor Colony with internal roads, sanitation, complying with statutory requirements</del>		Yes	
<b>3.2.0</b>	<b>ELECTRICITY</b>			
<b>3.2.1</b>	<del>Electricity For construction purposes</del>		Yes	<del>Electricity shall be provided by BHEL/IOCL at one point on chargeable basis. Further distribution shall be done by contractor.</del>
<b>3.2.2</b>	<del>Electricity for the office, stores, canteen etc. of the bidder</del>		Yes	
<b>3.2.3</b>	<del>Electricity for living accommodation of the bidder's staff, engineers, supervisors etc.</del>		Yes	
<b>3.3.0</b>	<b>WATER SUPPLY</b>			



S. No.	Description <b>PART I</b>	Scope / to be taken care by		Remarks
		BHEL	Bidder	
<b>3.3.1</b>	For construction purposes		Yes	<del>Water shall be provided by IOCL at one point on chargeable basis. Further distribution shall be done by contractor.</del>
<b>3.3.2</b>	<del>Water supply for bidder's office, stores, canteen etc.</del>		Yes	
<b>3.3.3</b>	<del>Water supply for Living Purpose</del>		Yes	
<b>3.4.0</b>	<b>LIGHTING</b>			
a	For construction work (supply of all the necessary materials) 1. At office/storage area 2. At the preassembly area 3. At the construction site /area		Yes	
b	For construction work (execution of the lighting work/ arrangements) 1. At office/storage area 2. At the preassembly area <del>At the construction site /area</del>		Yes	
e	<del>Providing the necessary consumables like bulbs, switches, etc. during the course of project work</del>		Yes	
d	Lighting for the living purposes of the bidder at the colony / quarters		Yes	
<b>3.5.0</b>	<b>IT, and COMMUNICATION FACILITIES FOR SITE OPERATIONS OF THE BIDDER</b>			
a	Internet	Yes		
b	PC/ Laptop		Yes	
c	PC Peripherals : Printer etc.	Yes		
<b>3.6.0</b>	<del>COMPRESSED AIR wherever required for the work</del>		Yes	
<b>3.7.0</b>	<del>Demobilization of all the above facilities</del>		Yes	
<b>3.8.0</b>	<b>TRANSPORTATION</b>			
a	For site personnel of the bidder		Yes	
b	<del>For bidder's equipment and consumables (T&amp;P, Consumables etc.)</del>		Yes	

Sl. No	Description  <b>PART II</b>  <b>3.9.0 CONSTRUCTION FACILITIES</b>	Scope / to be taken care by		Remarks
		BHEL	Bidder	
<b>3.9.1</b>	<b>Engineering works for construction:</b>			
a	Providing the Specifications/ construction/ fabrication drawings for all the works covered under this scope	Yes		
b	<del>Drawings for construction methods</del>			NA
e	<del>As built drawings where ever deviations observed and executed and also based on the decisions taken at site example routing of small bore pipes</del>		Yes	<del>In consultation with BHEL</del>
d	<del>Shipping lists etc. for reference and planning the activities</del>		Yes	<del>In consultation with BHEL</del>
e	<del>Preparation of construction (Concreting B/W, etc.) schedules and other input requirements</del>		Yes	<del>In consultation with BHEL</del>
f	<del>Review of performance and revision of site construction schedules in order to achieve the end dates and other commitments</del>	Yes	Yes	<del>In consultation with BHEL</del>
g	<del>Weekly construction schedules based on S. No. e. hard copy to Construction manager, by email to HO.</del>		Yes	<del>In consultation with BHEL</del>
h	<del>Daily construction / work plan based on S. No. g. hard copy to Construction manager, by email to HO.</del>		Yes	<del>In consultation with BHEL</del>
i	Periodic visit of senior official of the bidder to site to review the progress so that works are completed as per schedule. It is suggested this review by the senior official of the bidder should be done once in every two Weeks.		Yes	
j	<del>Arranging the materials required for Work</del>		Yes	

Sl. No	Description  <b>PART II</b>  <b>3.9.0 CONSTRUCTION FACILITIES</b>	Scope / to be taken care by		Remarks
		BHEL	Bidder	
k	Coordination for inspection & checking and getting clearance from customer		Yes	
l	Preparation of formats for completion of activities		Yes	
M	Planning, Preparing, Reviewing, Facilitating/ Assisting, and Documenting the pre-commissioning, commissioning, and performance test run requirements, in line with the IOCL/ PMC's Technical specification 080557C-000-JSC-0093-001(Job Specification For Pre-Commissioning, Commissioning, And Performance Test Run (For Process/ Offsite/Utility Units)		Yes	
<b>3.10</b>	<b>Work Permits, gate pass etc. from customer for manpower, machinery and material</b>		Yes	
3.11	Ambulance Services for contractor's site staff	<b>Yes</b>		

**Chapter IV- Tools & plants to be deployed by Contractor**

**Deleted**

## Chapter V- Time Schedule

### 5.1 TIME SCHEDULE

#### 5.1.1

The entire work of “Commissioning Expert Services” Works as detailed elsewhere in the Tender Specification shall be completed within **03 Months** from the date of commencement of work at site.

#### 5.1.2

During the total period of contract, the contractor has to carry out the activities in a phased manner as required by BHEL and the program of milestone events.

#### 5.1.3

The work shall be commenced on the mutually agreed date between the bidder and BHEL engineer. The decision of BHEL in this regard shall be final and binding on the contractor. The scope of work under this contract is deemed to be completed only when so certified by the site Engineer.

### 5.2 COMMENCEMENT OF CONTRACT PERIOD

The date of commencement of contract period shall be the mutually agreed date between the bidder and BHEL engineer to start the work. In case of discrepancy, the decision of BHEL engineer will be final.

### 5.3 MOBILISATION

#### 5.3.1

The activities for “Commissioning Expert Services” shall be started as per directions of Construction manager of BHEL.

#### 5.3.2

The contractor should mobilize manpower in order to complete the work in **03 Months**.

#### 5.3.3

Requisite Material, men and machinery should be arranged in order to complete the project within stipulated time.

#### 5.3.4

The contractor has to augment his resources in such a manner that following major milestones of the project are achieved on specified schedules:

In order to meet above schedule in general, and any other intermediate targets set, to meet project, contractor shall arrange & augment all necessary resources from time to time on the instructions of BHEL.

### 5.4 CONTRACT PERIOD

For the purpose of contract, the period shall be taken as **03 Months**. Completion of the work shall be as per BHEL Bar Charts revised from time to time. In order to expedite the work, the contractor has to deploy manpower as per site requirement without any extra cost to BHEL.

**5.5 GUARANTEE PERIOD**

NA

**5.6 PROTECTION OF WORK**

NA

## **Chapter VI- Statutory Regulation**

**6.1 GST:** For All types of works excepting works covered under sl no 6.2

**6.2 BUILDING & OTHER CONSTRUCTION WORKERS (REGULATION OF EMPLOYMENT AND CONDITIONS OF SERVICE) ACT, 1996 (BOCW Act) AND RULES OF 1998 READ WITH BUILDING & OTHER CONSTRUCTION WORKERS CESS Act, 1996 & CESS RULES, 1998 and**

**INTER-STATE MIGRANT WORKMEN ACT, 1979 (IN CASE BIDDER ENGAGE MANPOWER FROM OTHER STATE)**

In case any portion of work involves execution through building or construction workers and/or inter-state migrant workers, then compliance to the above titled Acts as applicable shall be ensured by the contractor and contractor shall obtain license and deposit the cess under the Act. In the circumstances, it may be ensured as under:-

It shall be the sole responsibility of the contractor in the capacity of employer to forthwith (within a period of 15 days from the award of work) apply for a license to the Competent Authority under the BOCW Act and/or ISMW Act as applicable and obtain proper certificate thereof by specifying the scope of its work. It shall also be responsibility of the contractor to furnish a copy of such certificate of license / permission to BHEL within a period of one month from the date of award of contract.

It shall be the sole responsibility of the contractor as employer to ensure compliance of all the statutory obligations under these acts and rules including that of payment / deposit of cess as per the applicability under above referred Acts within a period of one month from the receipt of payment.

It shall be the responsibility of the sub-contractor to furnish the receipts / challans towards deposit of the cess together with the number, name and other details of beneficiaries (building/Inter-state Migrant workmen) engaged by the sub-contractor during the preceding month.

It shall be the absolute responsibility of the sub-contractor to make payment of all statutory payments & compensations to its workers including that is provided under the Workmen's Compensation Act, 1923.

**Chapter VI- Field quality control plan**

NA



**Chapter VIII: HSE (Health, Safety, Environment) and PPE (personal Protective Equipment)  
Guidelines**

1. Contractor shall follow all the HSE guidelines as mentioned chapter IX off SCC, and IOCL (Annexure-I).