



**HPOIL GAS PRIVATE LIMITED**  
(A Joint Venture of HPCL & OIL)

**TENDER FOR  
HIRING OF AGENCY FOR PROVIDING OPERATION AND COMPREHENSIVE  
MAINTENANCE SERVICE OF GAS ENGINE DRIVEN & ELECTRIC MOTOR  
DRIVEN (GED & EMD) CNG COMPRESSORS INSTALLED AT  
AMBALA – KURUKSHETRA & KOLHAPUR GA**

**TECHNICAL VOLUME**

**TENDER NO: HOGPL/2024-25/C&P/024**

**DATE: 26.03.2025**

## **SCOPE OF WORK & SPECIAL CONDITIONS OF CONTRACT (SCC)**

### **GENERAL WORK DESCRIPTION:**

**Comprehensive operation & maintenance of M/s KPCL and M/s TCPL make GED & EMD CNG compressor, capacity of 1200 SCMH & 600 SCMH for a period mentioned in SOR installed at Kolhapur GA & Ambala – Kurukshetra GA.**

#### **1. Introduction**

- 1.1** HOGPL is involved in Piped Natural Gas Distribution to industrial, commercial, transportation, residential segments of major cities / towns in Kolhapur and Ambala - Kurukshetra GA. HOGPL is rapidly developing a multidimensional operational network that fulfils the India's energy needs by exploring, developing, and harnessing newer energy services. It is leading through action towards a hydrocarbon economy in India with sustainable environmental activities, with the vision of becoming a "Complete Energy Company".
- 1.2** Natural Gas (NG) is today increasingly gaining popularity over as alternate auto fuel primarily because it is environment friendly, economical, and more efficient as compared to other conventional auto and kitchen fuels. Emission of harmful oxide and other polluting particulates is minimal in the case of CNG. HOGPL has commissioned 29 CNG Stations and 1 CGS in Ambala – Kurukshetra GA and 27 CNG Stations and 1 CGS & 1 Mother Station in Kolhapur GA.
- 1.3** **The bidder is required to provide skilled manpower with 100% availability of genuine spares to carry out Comprehensive operation and maintenance contract of KPCL & TCPL make online CNG Compressors including supply of spares during hourly / monthly base maintenance.**

#### **2.0 Compressor & Manpower Details**

**2.1** The compressor details are as follows for both GAs:

##### **KOLHAPUR GA**

<b>Sr. No.</b>	<b>Location</b>	<b>Compressor Sr. No.</b>	<b>Make</b>	<b>Compressor Type - Make</b>	<b>Capacity</b>	<b>Qty.</b>
1	M/S Disha Petrolink, Herle	PGS – 661	KPCL	GED	1200	1
2	M/s KAGAL MS GED, Kagal	PGS-807	KPCL	GED	1200	1
3	M/s KAGAL MS EMD, Kagal	PGS-687	KPCL	EMD	1200	1

**AMBALA – KURUKSHETRA GA**

S. No.	Location	Compressor Sr. No.	Make	Compressor Type	Capacity (SCMH)	Qty. (Nos.)
1	M/s HPOIL Gas – CGS	PGS – 688	KPCL	EMD	1200	1
2	M/s HPOIL Gas – CGS	G1220073	TCPL	GED	1200	1
3	M/s COCO – Ramgarh	M620025	TCPL	EMD-VIP	600	1
4	M/s HP Dhillon FS	M620026	TCPL	EMD-VIP	600	1
5	M/s Premium HP Centre	M620027	TCPL	EMD-VIP	600	1
6	M/s Lacchmandass FS	M620028	TCPL	EMD-VIP	600	1
7	M/s Abhay Highways	M620029	TCPL	EMD-VIP	600	1

**2.2 The manpower details are as follows for both GAs:**

Designated Engineer/Technicians manpower who will be taking care of the operations of the Compressors installed in Clusters/Site for which Qualification required is (Mechanical/Instrumentation & Electrical) has to be provided by the Vendor after receiving the comprehensive O&M contract for AMC of the Compressors: -

Sr. No.	Location	Compressor Sr. No.	Make	Compressor Type	Qty.	Designation	Manpower For Maintenance
1	Kolhapur GA	PGS -661 PGS-807 PGS-687	KPCL	GED/EMD	03	Overall coordinator	01
						Technicians (Mechanical /Electrical/Instrumentation)	03
2	Ambala – Kurukshetra GA	PGS – 688 G1220073 M620025	KPCL	GED/EMD	07	Overall coordinator	00

		M620026 M620027 M620028 M620029	TCPL			Technicians (Mechanical/ Electrical/Inst rumentation)	06
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**Manpower required for operations GED compressor at DISHA Herle Kolhapur GA:**

Sr. No.	Location	Compress or Sr. No.	Compress or Type	Capacity	Qty.	Designation	I ST SHIFT	2 ND SHIF T	3 RD SHI FT	Gen Shift	Relie ver
1	M/S Disha Petrolink, Herle	PGS – 661	KPCL GED/EMD	1200	1	Operator	1	1	1		1
Total											
Reliever											
Grand Total							4 Nos.				

**Manpower required for operations 05 Nos. of EMD-VIP compressors at various CNG stations in Ambala – Kurukshetra GA:**

Sr. No.	Location	Compress or Sr. No.	Compress or Type	Capacity	Qty.	Designation	I ST SHIFT	2 ND SHIF T	3 RD SHI FT	Gen Shift	Relie ver
1	M/s Premium HP Centre & M/s Abhay Highways	M620027 M620029	TCPL EMD-VIP	600	2	Operator	1	1	1		1
2	M/s COCO – Ramgarh, M/s HP Dhillon FS & M/s Lacchmandass FS	M620025 M620026 M620028	TCPL EMD-VIP	600	3	Operator	1	1	1		1
Total											
Reliever											
Grand Total							8 Nos.				

**Bidder shall ensure that sufficient number of relievers should be deployed at site.**

**TOTAL OPERATIONAL MANPOWER for Kolhapur GA: = 4 Nos.**

**TOTAL OPERATIONAL MANPOWER for Ambala – Kurukshetra GA: 6 Nos.**

**HPOIL reserves the rights for allocations of compressor package sites for maintenance.**

**2.3 Qualification / Experience:**

Manpower	Qualification	EXPERIENCE
In-charge	B E. in Mechanical/ Electrical Engineering	Minimum 3 years' experience in O&M of CNG online compressors

Technician	Minimum Diploma/ ITI (Mechanical/Electrical/Instrumentation)	Minimum 2 years' experience in CNG –O & M or relevant field for Diploma Minimum 4 years' Experience for ITI holder
Operator	Minimum ITI (Any Faculty)	Minimum 1 year experience preferably in CNG –O & M or relevant field.

**2.4 At Kagal Mother station, the operation will be handle by HOGPL Own team in shift manner & Bidder have to ensure daily visit of their maintenance team at site for routine health check-up of compressor & monitoring parameter.**

**2.5 Similarly, at M/s HPOIL Gas – CGS, Jalbera, the operation of both the compressors will be managed by HOGPL in-house team in shift manner & bidder have to ensure daily visit of their maintenance team at site for routine health check-up of compressor & monitoring parameter.**

**2.6 HOGPL will share DPR & log sheet data on daily basis to the bidder for monitoring and health check-up of compressor.**

### **3.0 SPECIAL WORK CONDITIONS:**

1. BIDDER should ensure his operator to get trained properly and possess STC card before deploying at site. Without STC training operator should not allow to do the CNG compressor operations.
2. **BIDDER will select the compressor operator and before deployment at HPOIL sites, HPOIL representative will take the Interviews of the operators for the respective site as mentioned in tender.**
3. BIDDER should provide its photo identity card to all the employees deployed for compressor operation. These I-card /Batch are to be constantly displayed during duty hours. The ID card should be reissued immediately in case of loss or damage.
4. Shuffling of operator from one location to another in consultation with AIC/EIC.
5. **OFFICE/CONTROL ROOM SET UP FOR CO-ORDINATION & TO RUN THE SMOOTH O&M OPERATIONS.**
  - a. One dedicated Office set up along with manpower for 24 Hrs to co-ordinate day to day O&M activities along with all instruments, Phones, PCS, Net Facility, equipment's, special tools & tackles and 100% availability of spares around the clock.
  - b. BIDDER shall provide uniform (Both T-Shirt/Shirt + Trouser are mandatory) & PPEs (Good quality safety shoes, helmets, Raincoat, Gloves etc.) to All the manpower as approved by HPOIL & All manpower / attendants shall wear uniform and PPEs. At the time of duty, Workers without proper uniform & PPE penalty will be imposed.
  - c. BIDDER shall provide the police verification of all the employees provided by him to carry out the operation & maintenance at various CNG O&M activity. Police verification shall be submitted to new employees within 7-10 days after the issue of LOA. Group Police verification is also acceptable. Failing of which suitable action will be taken against the BIDDER. **As the standard validity of the Police Verification certificate is One Year, it needs to be issued Every Year.**

#### **4.0 STATUTORY & LEGAL COMPLIANCES**

1. The BIDDER shall comply with the provisions of all the applicable labour laws, particularly following Acts and any amendments/modifications there-to or any other law relating there-to and rules and thereunder from time to time and comply with all provisions applicable there-in and/or make all the payments specified therein.
  1. Payment of Wages Act 1936. (Central Wages)
  2. Workmen's Compensation Act 1923.
  3. Industrial Disputes Act, 1947
  4. Minimum wages Act 1948
  5. Employees State Insurance Act 1948
  6. Maternity Benefit Act 1961
  7. Mines Act 1952
  8. Employees provided funds and Misc., Provisions Act 1952.
  9. Contract Labor (Regulation and Abolition) Act 1970
  10. Payment of Bonus Act, 1965
  11. Factories Act 1948
  12. Shops and Establishment, Factories Act
2. The BIDDER shall be fully responsible for complying with the provisions (including documentation and submission of Reports on the above to the concerned authorities) and shall indemnify the Company from any such lapse for which the Government/statutory authorities hereunder may take action against the BIDDER and/or the Company.
3. The BIDDER shall be liable to pay his contribution and his employee's contribution to the State Insurance Scheme, Provident Fund Authorities, etc. in respect of all his employees for the performance of his obligations under this Agreement in accordance with the provisions of the Employees' State Insurance Act, 1948. Employees Provident Fund and Miscellaneous Provisions Act 1952 as amended from time to time. The PF no. & payment details of each employee are to be presented with the monthly bills.
4. In case the BIDDER fails to submit and/or pay full details of his labor employed and the contributions payable, the Company shall recover from the monthly Bills of the BIDDER the amount of the shortfall in contribution assessed by the concerned authorities. The amount so recovered shall be paid to the concerned authorities against the actual contribution payable to Employees State Insurance or Employees Provident Fund, etc.
5. The monthly PF, ESIC challans etc. to be presented along ECR statement with the monthly RA bills. Also, Individual PF & ESIC Nos. of all contractual employee to be submitted to HPOIL otherwise RA bills will not be process for releasing the payments.
6. The BIDDER will be responsible for making the salary directly to the bank account of the employees by 10th of each month from his own sources and subsequently raise bill for reimbursement which will be verified on the basis of actual amount disbursed and attendance etc. and the concerned bank statement should be readily available with the BIDDER and can be asked for verification by client any time.

7. The BIDDER shall deploy at his own cost suitably qualified persons for all the jobs required to be carried out by him under this Contract.
8. All payments shall be made by the BIDDER to his employees in accordance with the various Rules and Regulations stated above. The BIDDER shall keep the Company indemnified from any claims whatsoever inclusive damages/costs or otherwise arising from injuries or alleged injuries or to death of persons employed by the BIDDER.
9. The BIDDER shall provide the manpower as per HPOIL's requirement as mentioned in the clause 2.2 & 2.3 of general work description. If manpower is absent for any reason, it is the duty of BIDDER to immediately provide the replacement manpower. If BIDDER fails to do so, Penalty will be imposed as per the penalty clause.
10. The BIDDER shall, at his own expense, comply with the Model rules of labor welfare framed by the Govt. /Statutory Authorities under the various labor laws from time to time for the protection of their health, etc. In case BIDDER fails to make arrangements as aforesaid, the Company shall be entitled to do so and recover the cost thereof from BIDDER.
11. The insurance for the following will be covered and paid by BIDDER and he shall indemnify the Company and hold the Company harmless in respect of all and any expenses arising from any injury and/or damage in respect of:
  - i) Workmen's compensation and risk of accidents of BIDDER's own employees.
  - ii) Risk of accident of BIDDER's own employees, representatives, sub-contractors and agents' property of third parties arising out of the acts of BIDDER's employees, representatives, sub-contractors and agents.
12. The BIDDER will be fully responsible for complying with all relevant provisions of the Contract Labor (R&A) Act, 1970, including registering himself / themselves under this Act and shall pay rates of wages and observing hours of work and conditions of employment according to rules in-force from time to time.
13. The BIDDER shall observe and implement all the laws of the land, and the rules framed there under for the staff employed by him and the Company shall in no event be liable or responsible for any default or non-observance of such laws / rules on the part of the BIDDER.

## **5.0 SPECIAL CONDITIONS OF CONTRACT**

1. The services shall be provided in terms of shift patterns as mentioned below.
2. The BIDDER is required to carry out all services as mentioned in the scope of service and schedule of rates as mentioned in the service order on all the 365 days including Sundays, All Holidays & National Holidays.
3. The BIDDER shall allow weekly off to his workmen and daily working hours will be fixed as per relevant Act / Law and rules made there under. However, no work shall be left incomplete / unattended on any holiday / weekly rest. The BIDDER or his authorized representative shall interact with the Engineer In-Charge daily for smooth operation and maintenance of all the stations.
4. Regarding work completion, the decision of the Engineer In-Charge shall be final.

5. The BIDDER shall make his own arrangement to provide all facilities like accommodation and transport etc. to his workmen. HPOIL does not make any commitment to provide his employees with facilities such as office accommodation, transport, canteen, tea, telephone etc.
6. The BIDDER will strictly adhere to all the safety rules and regulations prevailing and applicable from time to time at the installations as directed by HPOIL.
7. **It is the responsibility of the BIDDER to pay wages as per the minimum wages as per central wages of the appropriate government rules applicable under the minimum wages act 1948. Weekly Off to be provided to the employee as per Local Labor Laws and Reliever is in the scope of BIDDER.**
8. Overtime to be paid by BIDDER as per Local Labor Laws applicable to work location / sites and NO separate payment will be made against overtime by HPOIL.

**The current minimum wages applicable as per the Minimum Wages Act 1948. i.e., Bidder shall apply central wages for deployed staff.**

**\*\*Any Statutory variation in minimum wages and other applicable statutory requirement as per Minimum Wages Act 1948 shall be paid by contractor to deployed staff. \*\***

**HPOIL will not pay any statutory variation and national holiday's payment to the Contractor.**

9. BIDDER has to pay the National Holidays payment as per the labour laws, **no** separate payment will be paid by HPOIL.
10. If the BIDDER finds any discrepancy in the bill payment from company, such discrepancy should be brought to the notice of the Company within 3 months from the date of such payment failing which the said discrepancy will be ignored, and the BIDDER will not be entitled to any payment therefore. This right of the Company is without prejudice to any other right; the Company is having under this agreement or in law.
11. Nothing herein contained shall prevent the Company from engaging any other BIDDER(s) to carry out the work similar to the work entrusted to the BIDDER(s).
12. It is agreed between the parties that if the quality of jobs carried out by the BIDDER are not of standard as required by Company and breach of any of the terms and conditions herein mentioned, the Company is at liberty to terminate this Agreement at the option of the Company by giving one months' notice in the writing to the BIDDER without assigning any reasons thereof.
13. On the termination of this Agreement, the BIDDER will immediately remove him and his directly or indirectly employed or deployed manpower from the said premises with all the goods, if any, property and effects belonging to him. The BIDDER shall not cause any hindrance or objection in such circumstances.
14. All relevant formats (ISO/ SAP), reports, logbooks, monthly breakdown reports, etc. will be in the BIDDER scope as per direction of Engineer In-Charge and HPOIL requirement.
15. List of critical spares should be available at BIDDER site office during the AMC period and Inventory of the critical spares should be maintained by BIDDER on monthly basis, also updated critical spares list submitted by BIDDER to Engineer –in-Charge on monthly basis.



16 At the end of the contract, the spares consumed during carrying out PM and B/D maintenance will belong to HPOIL. The replaced/damaged parts/spare belongs to BIDDER. Further, leftover spares belong to the BIDDER.

17 COMPRESSOR PACKAGES ENGINE MAKE & MODEL DETAILS ARE AS FOLLOWS:

**KOLHAPUR GA**

Sr. No.	Location	Compressor Sr. No.	Make	Compressor Type-Make	Capacity	Qty.
1	M/S Disha Petrolink, Herle	PGS-661	KPCL	GED	1200	1
2	M/s KAGAL MS GED, Kagal	PGS-807	KPCL	GED	1200	1
3	M/s KAGAL MS EMD, Kagal	PGS-687	KPCL	EMD	1200	1

**AMBALA – KURUKSHETRA GA**

Sr. No.	Location	Compressor Sr. No.	Make	Compressor Type	Capacity	Qty.
1	M/s HPOIL Gas – CGS	PGS – 688	KPCL	EMD	1200	1
2	M/s HPOIL Gas – CGS	G1220073	TCPL	GED	1200	1
3	M/s COCO – Ramgarh	M620025	TCPL	EMD-VIP	600	1
4	M/s HP Dhillon FS	M620026	TCPL	EMD-VIP	600	1
5	M/s Premium HP Centre	M620027	TCPL	EMD-VIP	600	1
6	M/s Lacchmandass FS	M620028	TCPL	EMD-VIP	600	1
7	M/s Abhay Highways	M620029	TCPL	EMD-VIP	600	1

18. Details of GED/EMD Compressors running hours for both the GA are tabulated below:

Sr. No.	Location	Compressor Sr. No.	Compressor Type	Capacity	Date & Time Running Hrs. Taken	Clocked Running Hrs.
1	M/S Disha Petrolink, Herle	PGS-661	KPCL	1200	04/03/2025 6:30 AM	13766:47
2	M/s KAGAL MS GED, Kagal	PGS-807	KPCL	1200	04/03/2025 6:30 AM	5742:31

3	M/s KAGAL MS EMD, Kagal	PGS-687	KPCL	1200	04/03/2025 6:30 AM	4186:11
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KOLHAPUR GA

### **AMBALA – KURUKSHETRA GA**

<b>Sr. No.</b>	<b>Location</b>	<b>Compressor Sr. No.</b>	<b>Compressor Type</b>	<b>Capacity</b>	<b>Date Running Hrs. Taken</b>	<b>Clocked Running Hrs.</b>
1	M/s HPOIL Gas – CGS	PGS – 688	KPCL	1200	10-03-2025	13657:24
2	M/s HPOIL Gas – CGS	G1220073	TCPL	1200	10-03-2025	17252:09
3	M/s COCO – Ramgarh	M620025	TCPL	600	10-03-2025	3755:54
4	M/s HP Dhillon FS	M620026	TCPL	600	10-03-2025	00:00
5	M/s Premium HP Centre	M620027	TCPL	600	10-03-2025	3668:13
6	M/s Lacchmandass FS	M620028	TCPL	600	10-03-2025	6279:10
7	M/s Abhay Highways	M620029	TCPL	600	10-03-2025	00:00

19. All the machines are in good and healthy running condition. All Mass Flow meters will be calibrated through FCRI by Bidder. Along with, BIDDER shall be fully responsible to carry out '0' calibration including any other maintenance related to flow meters. As calibration is a statutory requirement and an ongoing process, so there is no requirement of initial calibration from HPOIL. The same calibration will be carried out by the BIDDER in defined interval as and when required by HPOIL (the same includes calibration of all instruments such as pressure & temperature gauges, transmitters, switches, Gas Detectors, Fire Detectors etc. and many other instruments installed in Compressor Packages).

It is clarified as under: All Mass Flow meters will be calibrated through FCRI by bidder. However, BIDDER shall be fully responsible to carry out '0' calibration for all flow meters. As calibration is an ongoing process and is done after defined interval. So, there is no requirement of initial calibration from HPOIL. The same calibration will be carried out by the BIDDER in defined interval as and when required by HPOIL.

20. Any additional critical spare parts including crankshaft, cam shaft, timing gears or any part of engine, if found defective during MOH inspection, same to be provided by BIDDER.

21. Consumables like OIL and coolant, grease, cleaning material only will be in the bidder's scope for both GED/EMD compressors at both the GA's.

22. Bidder has to Check and Monitor the Noise and Vibration of the Compressor packages and share the report every month with Monthly Maintenance report as per the Checklist provided by HPOIL Gas.

23. Review Meeting: –

Fort-night Review Meeting: -

Level of participation: BIDDERS/Site In-Charge & Job Engineers.

Agenda & meeting venue will be informed by client 3-4 days before in advance & in some

cases an immediate meeting will be scheduled to resolve the issues.

Monthly Review Meeting: -

Level of Participation: Senior Officers of HPOIL and Participating BIDDERS.

Meeting Agenda & Venue will be informed by client to bidder 3-4 days in advance & in some cases an immediate meeting will be scheduled to resolve the issues.

## **6.0 O&M SCOPE OF WORK**

### **1.0 Scope of supply**

Any spare parts required during the contract period shall be supplied by the contractor shall be covered under contract. Further, all the consumables, lubricating oil, coolant, sealant, manpower, DM water, housekeeping etc. required for carrying out the comprehensive Operation & Maintenance of the complete compressor package during the contract period, including periodic, breakdown maintenance for continuous and uninterrupted operation of the compressor packages shall be in scope of the contractor and shall be kept in stock. Electricity shall be supplied free of cost to the contractor.

### **2.0 Scope of works**

#### **2.1 Comprehensive Maintenance:**

The contractor shall have to keep all the spares, consumables, lubricants, coolant etc. required for carrying out periodic, breakdown, emergency maintenance etc. of the CNG compressor package including the electrical panels, air compressors, leak detection system, CO<sub>2</sub> flooding system, CNG compressor, heat exchanger, Piping supplied & installed by BIDDER within the battery limit of packages, PLC of compressor package and other auxiliaries with the CNG compressor package, air compressor etc. so as to minimize the down time of the equipment. All tools, tackles and fixtures required for carrying out the above maintenance of the compressor packages shall be in scope of the contractor. Contractor shall maintain exclusive toolboxes for each location. The scope will also include handling equipment like crane, Chain pulley block, etc. required during any maintenance activity.

- i) Any expert services required from the principal company or OEM (of any equipment in the package) shall be arranged by the contractor or his agent at his own cost. All arrangements like phone, fax, computer, internet etc. required for correspondence with the above personnel shall be arranged by the contractor.
- ii) Submission of monthly PREVENTIVE, SCHEDULED and BREAKDOWN maintenance reports to EIC of respective location along with supported documents.
- iii) Ensure 97-98% availability of each package on a monthly basis.
- iv) The maintenance team will assist any unplanned/emergency maintenance of equipment installed at CNG Station
- v) The Contractor shall use only OEM's certified spares during maintenance. The schedule maintenance of the OEM manual recommends checking and replacing parts like valves, regulators, hoses, piston rings etc. after certain time interval, same shall be replaced or used further only on approval from the HOGPL representative. Any untoward consequences for non-replacement of such parts shall be the responsibility of the Contractor. In case OEM certified spares are not available HOGPL may approve the installation

of OEM equivalent spares; however, contractor should submit all the technical details of equivalent spares to the concerned EIC prior to installation for approval.

- vi) During preventive maintenance / handing over of machine, any wear limits of all components of compressor package will be determined/ analyzed on pro rata basis from the last date of spare replacement and considering total running hours of machine. A joint decision for replacement of parts will be taken with due consideration to total running hours of package.
- vii) Painting of the equipment is to be done by the contractor as per OEM standards for safety of equipment, and with directions of EIC of the respective Tender, as this is the Comprehensive O&M Rate Contract, so the painting work of the equipment/Compressor Package is in Bidder Scope.
- viii) A detailed report on all spares & consumables used have to be maintained by the contractor, having details of part no, quantity used, date, expected running hours before replacement, etc. The same has to be submitted monthly to HPOIL.
- ix) All routine and periodic checks / inspections required to be done as per OEM recommendation shall be done by the contractor. Instruments required for above inspection like vernier caliper, micrometer screw gauge, fill gauges, bore gauge, vibration meter etc. shall be in scope of the contractor and these instruments shall be calibrated every year.
- x) All spare parts to be replaced in the compressor package should be brand new and unused. Inspection of each spare part to be utilized in the CNG Compressor will be carried out by HPOIL Gas' representative.
- xi) All routine leak checks/inspections of the associated SS tubing, fittings valves and hoses outside the compressor package (i.e. inlet & outlet of compressor) shall be done by contractor.
- xii) The contractor shall ensure that compressor running parameters are recorded in daily logbook including all vital parameters and Maintenance records of preventive and scheduled maintenance and spare used. The format of logbook to be finalized in consultation with EIC in line with OEM specification/recommendations. All stationery, including the printed material, shall be in the scope of the contractor.
- xiii) The contractor shall submit a copy of the monthly / quarterly and yearly performance report to the EIC in both soft and hard form including condition Monitoring and safety interlock checks. All stationery, including the printed material, shall be in the scope of the contractor.
- xiv) The entire maintenance / inspection job carried out by the contractor shall be recorded and the report of the same shall be jointly signed by the representative of the owner.
- xv) The EIC will be the final authority to take a decision with regards to maintenance or replacement of parts or any disagreement between the contractor and owner during the execution of the contract.
- xvi) The contractor shall carry out calibration of gas detectors and flame detectors every six months or earlier as per requirement or instruction of EIC of owner, also yearly calibration of all instruments including the safety relief valves, pressure gauges, transmitters, switches etc. shall

be in the scope of the contractor. Calibration shall be done from NABL approved laboratories and shall be carried out at least 15 days prior to the calibration due date. In case of POP-UP of any valve, the same must be calibrated immediately. Calibration of safety valves, pressure gauges, transmitters, switches etc. to be carried out on a yearly basis. GD & FD calibration will be done on six monthly basis.

- xvii) The contractor shall carry out thickness testing of pressure vessels periodically as per the gas cylinder rules 1981 or static & mobile pressure vessel (SMPV) rules. Thickness testing will be carried out by BIDDER on a yearly basis as per the factories' act.
- xviii) The contractor shall carry out hydrotesting of CO<sub>2</sub> cylinders once in a period of 5 years as per gas cylinder rule 2016 & IS2190 for carbon-dioxide service.
- xix) The contractor shall carry out Load testing, examination, inspection and certification of chain pulley block and monorail trolley fitted in online packages for HPOIL as per section-29, Factories act 1948.
- xx) During thorough examination of the lifting equipment and accessories, if any defect was identified in the fitted items and which need to be repaired or replaced, the contractor should inform the Engineer In-Charge and corrective necessary action to be taken in correspondence with the EIC.
- xxi) Tests, examinations, inspection and certification shall be carried out under the direct supervision of the competent person or by a person, so authorized by an institution recognized to be a competent person.
- xxii) A competent person means a person who is capable by virtue of his qualifications, training and experience of conducting thorough examinations to detect defects or weaknesses and to assess their importance in relation to the safety and continued use of the lifting equipment and also who is approved by Director / Chief inspector of factories, Maharashtra & Haryana.
- xxiii) Certificate of recognition as competent person by Director / chief Inspector factories Maharashtra & Haryana for carrying out test, examination, inspection and certification for lifting machines, chains, ropes and lifting tackles should be provided to HPOIL.
- xxiv) The periodic maintenance required to be done as per OEM recommendation shall be taken up promptly. The contractor shall plan such maintenance during non-peak hours and in-consultation with the Engineer In-Charge of owner. Any maintenance that needs to be taken up shall be planned well in advance with due approval of the EIC. The scope shall include preparation of the maintenance schedule for carrying out the maintenance during the contract period.
- xxv) In case, the schedule maintenance of the OEM manual recommends checking and replacing parts like valve springs, valve plates, piston rings etc. after certain time interval, same shall replacement in the presence of OWNER representative.
- xxvi) Anything required over and above what is specified, for safe and satisfactory maintenance of the equipment package shall be included by the contractor in his scope.
- xxvii) In general, the contractor must carry out full Comprehensive Operation

& Maintenance of the BIDDER make CNG packages at the CNG stations, thereby making available the equipment's in running conditions at all times, through supply of adequate skilled technicians, OEM spares, OEM recommended consumables and any other specialized service. HPOIL will check the authenticity of the genuine spares before carrying out the maintenance activity. Bidders has to submit the Test certificates for the same. In case of any discrepancy HPOIL will take the action against bidders.

## **2.2 CNG Compressor Operations:**

- i) The contractor shall carry out daily operation activities round the clock on shift basis of CNG Compressor at respective Stations as per SOR., Air compressor and other associated equipment as per OEM recommendations in order to ensure smooth operations and minimize downtime of the Compressor packages.
- ii) The contractor will deploy adequately trained personnel for carrying out Operations Activities at respective Stations as per SOR.
- iii) All the vital parameters of the CNG Compressor such as Oil Level, Air, Coolant level etc. are to be noted in daily logbook at respective Station as per SOR.
- iv) HOGPL will provide the daily DPR of M/s Kagal Mother Station of Kolhapur GA and M/s HPOIL Gas – CGS, Jalbera of Ambala – Kurukshetra GA or respective stations; where operational activities not under scope of bidder for daily monitoring the compressors & engine parameter like gas loss, pressure, temperature, fuel consumption, oil level, oil top up & oil drain etc.
- v) Bidder shall ensure daily monitoring of DPR of submitted by the HOGPL for respective stations i.e., Mother station Kagal of Kolhapur GA and M/s HPOIL Gas CGS – Jalbera of Ambala – Kurukshetra GA for health check-up of machine & also ensure visit of maintenance team for any abnormalities & oil top up.
- vi) Opening and Closing readings of all the Mass Flow Meters in the CNG Compressor packages are to be recorded at 06:00 AM or as advised by EIC and the meter reading records are to be provided to EIC/HPOIL's representative on daily basis.
- vii) The opening and closing pressure reading of all CNG cascades in the CNG Station will be recorded by operator and will be submitted to HPOIL Gas.
- viii) In addition to the Compressor operations, Compressor Operator should assist LCV filling activity at, which is 24X7 activity at DISHA Petrolinks.
- ix) The scope of Compressor operator for assisting LCV filling activities will be as follows at respective station where manpower in the scope of bidder.
  - a) Daily check-up of all Cascades and piping / tubing's of LCV stand etc.
  - b) To fill CNG into mobile cascades as per the standard procedure.
  - c) Noting the initial and final pressure of each mobile cascade and reporting the same to the Shift In-Charge.
  - d) Compressor operator has to verify CNG cylinders testing validity prior to CNG filling in Natural Gas Vehicles (LCV/HCV).

- e) Operators should coordinate with shift SIC and LCV driver for safe filling of CNG to LCV from Mother Station.
- f) Any other activity as directed by HPOIL nodal point of contact from time to time.

### 3.0 SCHEDULED MAINTENANCE

- 1). All activities required to be carried out as per instruction of EIC.
- 2). All kinds of machinery, tools, tackles and consumable items required to complete the above job are in the scope of the contractor.
- 3). De-coupling of starter motor/ electrical lockout of starter motor to be done before proceeding.
- 4). Complete depressurizing of the equipment along with pipe fittings before proceeding with maintenance.
- 5). Scheduled maintenance shall be categorized as monthly clubbed with consecutive **hourly**. The tasks may be rescheduled based on equipment health as per instruction from EIC.
- 6). Vibration condition Monitoring will be carried out in scheduled maintenance.
- 7). In addition to the jobs in, the following jobs need to be carried out at each scheduled maintenance.
  - a) Inspection / Cleaning / repair / replacement of valves, fittings and other piping's.
  - b) Checking diaphragms, O-rings, gaskets. Replacements if required.
  - c) Adjustment of PRVs.
  - d) Checking the alignment of Engine compressor coupling and performing alignment, if required.
  - e) Checking for freeness / abnormal sounds / vibration monitoring of all rotating / reciprocating parts.
  - f) Checking for any wear and tear of internal parts like crankshaft, camshaft, piston rods, and cylinder liner etc.
  - g) Maintenance of lubricator assembly, if required.
  - h) Inspection of Engine valves, sparkplugs, carburetors. In case of any damaged parts, necessary steps to be taken as per instruction of EIC.
  - i) Boxing up dismantled parts & connection of all associate piping with proper gasket & fasteners.
  - j) Maintenance / inspection of all other accessories like instrumentation gauges, pipe fittings, joints, PLC, and electrical connections.
  - k) Cleaning / housekeeping of the equipment including the foundation area.
  - l) Return of excess / unused material (as per standard Engineering practice) to storage areas as per instructions of EIC.
  - m) The job shall be deemed completed only after a successful trial including leak testing.
  - n) Maintenance of Scheduled Maintenance LOG Sheets.
- 8) Calibration of mass Flow Meters: - Zero Calibration EVERY YEAR is in



the scope of Bidder. However, calibration through FCRI will be in the scope of bidder, but once in 1 years.

It is clarified as, All Mass Flow meters will be calibrated through bidder. However, BIDDER shall be fully responsible to carry out '0' calibration for all flow meters. As calibration is an ongoing process and is done after defined interval. So, there is no requirement of initial calibration from HPOIL. The same calibration will be carried out by the BIDDER in defined interval as and when required by HPOIL.

- 9) Thickness testing will be Carried out by BIDDER on yearly basis as per the factories rule. The contractor shall carry out thickness testing of pressure vessels periodically as per gas cylinder rules 1981 or static & mobile pressure vessels rules. Replacement of vessel during testing (beyond acceptable limit) should be done by Bidder.

- 10) Bidder has to support HPOIL during the CNG station automation work.

#### **4.0 ROUTINE MAINTENANCE**

Routine maintenance shall include the following in addition to OEM recommended checks:

1. Checking for any abnormal sounds, vibration, loose bolts including foundation bolts and attending the problem if required.
2. Checking Engine oil level and quality and oil top up if required. Both Compressor Crankcase oil and lubricator oil to be maintained.
3. Draining of Condensate from blow down vessel daily.
4. Draining of Condensate from air receiver, air compressor tank daily.
5. Draining of Condensate from filters daily.
6. Checking of Beko filter differential pressure and take corrective action accordingly.
7. Cleaning of filters/strainers, and replacing them if required.
8. Checking for any leaks in pipe fittings and attending the leaks with proper gaskets, O-rings, PTFE as applicable.
9. Checking of daily power supply and healthy ness of electrical equipment's and accessories.
10. Maintaining of Daily LOG Sheets

#### **5.0 Time Schedule & Contract Period**

11 months from the date of handing over the Compressor packages for Kolhapur GA and Ambala – Kurukshetra GA.

#### **6.0 FOLLOWING TENTATIVE LIST OF CRITICAL SPARES FOR PREVENTIVE MAINTENANCE OF COMPRESSORS WILL BE MAINTAINED BY BIDDER FOR SMOOTH O&M ACTIVITY.**

HPOIL has taken the standard list of critical spares from existing KPCL O&M manual when KPCL was supplied Compressors to HPOIL. HPOIL will update the spare list for KPCL make compressors for both the GAs.

HPOIL will check the authenticity of the genuine spares before carrying out the maintenance activity. Bidders has to submit the Test certificates for the same. In case of any discrepancy HPOIL will take the action against bidder.

Sr. No.	Part Description	Old Part Number Cameron	New Part Number KPCL
1	SHELL BEARING (THRUST)	ZGRF133000002999	757.32.10.108.
2	SHELL BEARING (FLOAT)	ZGRF133000001999	757.32.10.107.
3	CROSS HEAD BUSHING	Z630-110-001	757.32.10.702.
4	BUSHING NARROW CON ROD SMALL END	Z210750	757.32.10.303.
5	BUSHING WIDE CON ROD SMALL END	Z210760	757.32.10.313.
6	WRISTPIN LONG	ZGRF00120098B111	757.32.10.711
7	WRISTPIN SHORT	ZGRF00120099C111	757.32.10.713.
8	PRELUBE PUMP	GRF141000002999	757.32.10.806.
9	PRELUBE DRIVE ASSEMBLY	Z630-415-001	757.32.10.501.
10	PUMP LUBRICATOR	ZGRF141000001999	757.32.10.514.
11	PREMIER P-55UPUMP 1/4" PLUNGER	Z904-462-001	G8888.40.SP.351.
12	O RING KIT (9EA ORINGS)	Z625-604-001	G8888.40.SP.272.
13	RUPTURE DISCKIT (25PSC, 6400 PSI)	Z625-603-012	G8888.40.SP.271.
14	SMX-08SMETERING ELEMENT	Z625-605-001	G8888.40.SP.2886.
15	SMX-12LMETERING ELEMENT	Z625-605-020	G8888.40.SP.381.
16	SMX-35SMETERING ELEMENT	Z625-605-005	G8888.40.SP.1048.
17	SMX-16SMETERING ELEMENT	Z625-605-003	G8888.40.SP.271.
18	SMX-12SMETERING ELEMENT	Z625-605-002	G8888.40.SP.259.
19	SMX-16TMETERING ELEMENT	Z625-605-012	G8888.40.SP.370.
20	PREMIER MODEP -55 LUBRICATOR	Z626-101-001	G8888.40.SP.368.
21	FILTER 10 MICRON	Z620-209-001	G8888.40.SP.257.
22	RUPTUREINDICATOR, 6400 PSI	Z625-602-012	G8888.40.SP.369.
23	SWITCH FLOW(DNFT)	Z620-233-002	757.32.40.134.
24	MASTER DV BLOCK	08S-12L-35S	757.32.10.802.
25	SECONDARY DV BLOCK	16S-12S-16T	757.32.10.602.
26	NUPROBALANCING VALVE SETTING 2900 PSI	Z939-032-001	757.32.10.605.
27	PIN INDICATOR 5000 PSI	Z625-601-007	757.32.10.607.
28	EXTERNALOUTLET CHECK VALVE	Z620-208-001	757.32.10.612.
29	INJECTION POINT CHECK VALVE SINGLE BALL	Z620-244-001	757.32.10.404.

30	INJECTION POINT CHECK VALVE DOUBLE BALL	Z922-084	757.32.10.520.
31	FILTER AIR	ZGRF132000001999	757.32.10.521.
32	GASKET FRAME	ZGRF001200630121	757.32.10.519.
33	GASKET – DRIVE END	ZGRF001200590121	757.32.10.522
34	GASKET – AUX. END	ZGRF001200610121	757.32.10.523.
35	GASKET-CROSSHEAD GUIDE COVER	Z630-301-001	757.32.10.608.
36	GASKET - FRAME / XHD GUIDE	ZGRF001200620121	G8888.40.SP.351.
37	FILTER ELEMENT	ZGRF121000001999	G8888.40.SP.259.
38	GASKET HEAD	ZGRF001202570139	757.32.43.127.
39	FILTER – HEAD	ZGRF143000001999	G8888.40.SP.774.
40	SEAL O-RING	Z900-838-165	G8888.40.SP.776.
41	MANIFOLD LUBE OIL	ZGRF001203240119	G8888.40.SP.777.
42	OIL SEAL MECANICAL	ZGRF 131000001999	G8888.40.SP.775.
43	PREMIER P-55UPUMP 1/4" PLUNGER	904-462-001	G8888.40.SP.776.
44	SWITCH FLOW(DNFT)	Z620-233-002	G8888.40.SP.777.
45	OILFILTER ELEMENT	ZGRF- 121000001999	G8888.40.SP.778.
46	GASKET HEAD 4.125	ZGRF00120057B122	G8888.40.SP.159.
47	SUCTION VALVE	Z630-122-136	G8888.40.SP.151.
48	SUCTION VALVE PLATE	Z630-013-012	G8888.40.SP.139.
49	SUCTION SPRING PLATE	Z630-018-002	G8888.40.SP.159.
50	DISCHARGE VALVE	Z630-121-336	G8888.40.SP.151.
51	DISCHARGE VAL VE PLATE	Z630-013-020	G8888.40.SP.134.
52	DISCHARGE SPRI NG PLATE	Z630-018-002	G8888.40.SP.154.
53	SUCTION VALVE	Z630-122-136	G8888.40.SP.164.
54	SUCTION VALVE PLATE	Z630-013-012	G8888.40.SP.155.
55	SUCTION SPRING PLATE	Z630-018-002	G8888.40.SP.153.
56	DISCHARGE VALVE	Z630-121-336	757.32.43.115.
57	DISCHARGEVALVE PLATE	Z630-013-020	757.32.40.113.
58	DISCHARGESPRING PLATE	Z630-018-002	757.32.40.114.
59	CONCENTRIC VALVE	Z630-133-036	757.32.40.108.
60	SUCTION VALVE PLATE	Z630-013-006	757.32.33.110.
61	SUCTION SPRING PLATE	Z630-018-003	757.32.17.110.
62	DISCHARGE VAL VE PLATE	Z630-013-005	757.32.10.108.

63	DISCHARGE NG PLATE SPRI	Z630-018-001	757.32.10.107.
64	RING SET PISTON	ZGRF00120996G137	757.32.10.702.
65	NUT PISTON 1 EA	ZGRF001201610111	757.32.10.303.
66	NUT PISTON ROD	ZGRF001201600109	757.32.10.313.
67	PACKING COMPR ROD	ZGRF211100	757.32.10.711
68	RING SET PISTON	ZGRF00120996C137	757.32.10.713.
69	NUT PISTON ROD	ZGRF001201600109	757.32.10.806.
70	RING SET PISTON	ZGRF21121C	757.32.10.501.
71	INTERFACING MODULE	N/A	N/A
72	DIGITAL INPUT CARD 32 CHANNEL	N/A	N/A
73	DIGITAL INPUT CARD 16 CHANNEL	N/A	N/A
74	DIGITAL OUTPUT CARD 32 CHANNEL	N/A	N/A
75	ANLOG INPUT CARD 8 CHANNEL	N/A	N/A
76	COMMUNICATION CARD MODBUS RTU SLAVE-	N/A	N/A
77	Gas Detector :	N/A	N/A
	Model No. : CROW ON		
78	Flame Detector :	N/A	N/A
	Model No. : HONEYWELL		
79	Temperature nt: Simplex type, with weather proof housing/SS braided Eleme	N/A	N/A
	wire of 5 meter length, Sensor: RTD PT100. Process connecti on: 1/2"NPT, Instrum ent connection :1/2"NPT, Stem dia: 8 mm. Thermowell made out of bar stock SS304, suitable for pressure rating as per the service below.	N/A	N/A
	Temperature Gauge with Thermowell, MIS,Capillary type, Dial Size: 65mm, SS304 Case, Mounting: Front Flange Back Entry,		N/A

80	Instrument Connection: 1/2" NPT (M), Stem Material: AISI 316 SS, Stem Diameter: 12 mm, Stem Length: Suitable to Thermowell Length, Capillary: SS Armoured, Capillary length: 5 Meters.65 MM DIAL SIZE,SS CASING,IP-65 , GLYCERENE FILL ED ,CONNECTION : 1/4" NPT(M) , GAUGE BOARD MOUNTING AND FIELD MOUNTING	N/A	
81	PRESSURE GAUGES MAKE:GEN. INSTRUMENTS 65MM DIAL SIZE,SS CASING,IP-65 , GLYCERENE FILL ED ,CONNECTION : 1/4" NPT(M) , GAUGE BOARD MOUNTING AND FIELD MOUNTING	N/A	N/A
82	Pressure Transmitter Make : WIKA Model No. : IS 20, Connection: 1/4"NPT(M)	N/A	N/A
83	Ball Valve Repair Kit FOR Pneumatic Operated Ball Valve for Drain Make : PARKER Model No. : 8A- B8LPKR- BN-SS, FULL BORE, OD CONNECTION, VALVE SIZE: 15 NB, PRESSURE RATING: 6000 PSI SS316	N/A	N/A

84	Ball Valve Repair Kit FOR Pneumatic Operated Ball Valve for Compressor Inlet Make : PARKER Model No. : 16A- B12LPKR-BN-SS, FULL BORE, THREADED (BSP) CONNECTION, VALVE SIZE: 50 NB, PRESSURE RATING: 6000 PSI	N/A	N/A
85	Actuator Repair Kit FOR Actuator Type: Single Acting Make :Rotex Model No. : EC-50E-7	N/A	N/A
86	Actuator Repair Kit FOR Actuator Type: Single Acting Make : Rotex	N/A	N/A
87	Solenoid Valve, 3/2Way Direct Acting, NC, FLAMEPROOF to IIA/IIB, NAMUR	N/A	N/A

Sr. No.	Part Description	Part Number
1	TRANSFORMER ASSEMBLY	2152434
2	SPARK PLUG	4W-2256
3	REGULATOR AS-GAS PRESSURE	349-8809
4	STARTING MOTOR GP-AIR	7W-6569
5	FILTER ELEMENT AS-AIR (PRIMARY)	6I-2505
6	FILTER ELEMENT AS-AIR (SECONDARY)	6I-2506
7	CARTRIDGE GP-TURBOCHARGER	150-6304
8	PUMP GP-WATER	135-4926
9	CARBURETOR GP	135-0454
10	FILTER-ENGINE OIL (ADVANCED EFFICIENCY)	1R-1808
11	PUMP GP-ENGINE OIL	4N-0733
12	CARTRIDGE GP-TURBOCHARGER	150-6304

Sr. No.	Part Description	Part Number
1	HRC FUSE LINK 400A FOR SFU	N/A
2	STAR DELTA TIMER COIL VOLTAGE 230V AC	N/A
3	MPCB FOR AUX MOTOR 5.5 KW WITH AUX TRIP CONTACT RANGE 8-13 AMP	N/A
4	LOAD POWER SUPPLY UNIT I/P 230V AC O/P 24V DC RATING 5 AMP FOR PLC AND LOAD	N/A
5	AUX RELAY COIL 24V DC CONTACTS 2C/O	N/A

6	ACTIVE BARRIER INPUT 4-20MA, OUTPUT 4-20MA, TYPE KFD2-STC4-EX1	N/A
7	PASSIVE BARRIER FOR RTD INPUT TYPE MTL 7756AC	N/A
8	ACTIVE BARRIER INPUT POT FREE CONTACT OUTPUT POT FREE CONTACT FOR DNFT TYPE KFD2-SR2-EX1.W.L.B	N/A
9	AUX RELAY COIL 230V AC CONTACTS 4 C/O WITH LED INDICATION	N/A
10	"CONTACTOR KIT FOT POWER CONTACTOR MODEL NO. 3TF 52 170AMP"	N/A
11	"CONTACTOR COIL FOT POWER CONTACTOR COIL VOLTAGE 230VAC MODEL NO. 3TF 52 170AMP"	N/A

KPCL MAKE – GED / EMD COMPRESSOR - CRITICAL SPARE LIST			
Item Nos.	Description	Unit	Qty.
<b>A</b>	<b>CNG Compressor</b>		
1	Crank shaft	No	1
2	Roller Bearing DE	No	1
3	Roller Bearing NDE	No	1
4	Crosshead	No	1
5	Crosshead PISTON	Set	1
6	Piston rings / Rider Ring (sealing wear rings) for all cylinders.	Set	1
7	Piston Rods	Set	1
8	Piston for all stages	No	1
9	Complete valve assembly, Suction, for all stages	Set	1
10	Complete valve assembly, Discharge, for all stages	Set	1
11	Replaceable parts of main packing, partition packing, all scrapper ring, O rings, Gaskets etc.	Set	1
12	Complete Lubricator assembly	Set	1
13	complete coupling/ pulley	Set	1
14	Idler pulley, if applicable	Set	1
15	Belt, if applicable / bended Belt	Set	1
16	Cooling fan bearing	Set	1
17	Cooling fan shaft	Set	1
18	Cooling fan blades with hub	Set	1
<b>B</b>	<b>Electric Moto Driven</b>		
1	HRC FUSE LINK 400A FOR SFU	N/A	3
2	STAR DELTA TIMER COIL VOLTAGE 230V AC	N/A	1
3	MPCB FOR AUX MOTOR 5.5 KW WITH AUX TRIP CONTACT RANGE 8-13 AMP	N/A	1
4	LOAD POWER SUPPLY UNIT I/P 230V AC O/P 24V DC RATING 5 AMP FOR PLC AND LOAD	N/A	1
5	AUX RELAY COIL 24V DC CONTACTS 2C/O	N/A	1

<b>C</b>	<b>Instrumentation</b>		
1	Analog card	No	1
2	Relays	Set	2
3	Digital card	Set	1
4	Barrier	Set	1
5	Power supply unit	Set	1
6	Pressure Transducer	Set	1
7	Temperature Element	Set	1
8	LEL detectors	Set	1
9	Flame detectors	Set	1
10	Pressure Gauge	Set	1
11	Temperature gauge (100 - 200 degC)	Set	1
12	Solenoid Cils	Set	1
13	Solenoid valve	Set	1
<b>D</b>	<b>Package Spares</b>		
1	NRV	Set	1
2	Coalescing Filter Element	Set	1
3	Suction Gas Filter Element	Set	1
4	Lube Oil Filter Element	Set	1
<b>E</b>	<b>Air Compressor</b>		
1	Air compressor kit	Set	1
6	ACTIVE BARRIER INPUT 4-20MA, OUTPUT 4-20MA, TYPE KFD2-STC4-EX1	N/A	1
7	PASSIVE BARRIER FOR RTD INPUT TYPE MTL 7756AC	N/A	1
8	ACTIVE BARRIER INPUT POT FREE CONTACT OUTPUT POT FREE CONTACT FOR DNFT TYPE KFD2-SR2-EX1.W.L.B	N/A	1
9	AUX RELAY COIL 230V AC CONTACTS 4 C/O WITH LED INDICATION	N/A	1
10	"CONTACTOR KIT FOT POWER CONTACTOR MODEL NO. 3TF 52 170AMP"	N/A	1
11	"CONTACTOR COIL FOT POWER CONTACTOR COIL VOLTAGE 230VAC MODEL NO. 3TF 52 170AMP"	N/A	1

Critical spares should be stored at centralized location OF KOLHAPUR and AMBALA – KURUKSHETRA GA (i.e. within 20 KM radius of both the GAs) to minimize the maintenance time period.



## 7.0 GENERAL SCOPE

The operation and maintenance services shall be provided in terms of shift pattern on round the clock basis.

Shift Timings are	I st Shift	7.00 AM to 3.00 PM
	II nd Shift	3.00 PM to 11.00 PM
	III rd Shift	11.00 PM to 7.00 AM

- i) The BIDDER shall deploy adequate number of technicians /supervisors / Engineers / helpers as well as tools & equipment for smooth and proper operation & maintenance of the compressors supplied in terms of the contract. In case required to meet operational requirements, the supplier shall augment the same as per direction of Engineer –in-Charge.
- ii) The BIDDER is required to carry out all services as mentioned in the Scope of Services and Schedule of Rates on all the 365 days including Sunday and all Holiday & around the clock.
- iii) The BIDDER shall allow weekly rest and daily working hours to his workmen as per the relevant Act / Law and Rule made thereunder. However, no work shall be left incomplete/unattended on any holiday/weekly rest. Technician/operators provided shall have minimum qualification of ITI. Contract in person or his authorized representative shall provide the services on daily basis to interact with Engineer-in-charge and deployed workman.
- iv) BIDDER has to ensure the safety of machine at all times. BIDDER is responsible for any kind of consequential damages for CNG package due to negligence on BIDDER part.
- v) The BIDDER shall ensure that no person in the premises of CNG Station would smoke or no fire or other ingredients of ignition should be permitted in the vicinity of the CNG Station. BIDDER shall plan schedule maintenance in consultation and prior permission of Engineer-in-charge.
- vi) The BIDDER shall make his own arrangement to provide all facilities like accommodation and transport etc. to his workmen. HPOIL does not make any commitment to provide his employees with facilities such as office accommodation canteen, tea, telephone etc.
- xii) The BIDDER will strictly adhere to all the safety rules and regulations prevailing and applicable from time to time at the installations as directed by HPOIL.
- xiii) The work force deployed by the BIDDER for O&M services at CNG installation shall be of sound relevant technical professional expertise which is otherwise also essential from the safety point of view of the personnel of the supplier as well as for the installation.
- xiv) Regarding work completion, the decision of the Engineer-in-Charge will be final and binding.
- xv) All personnel of the BIDDER entering on work premises shall be properly and neatly dressed and shall wear uniform, badges while working on premises of the company including work sites.
- xvi) BIDDER shall maintain proper record of his working employee's attendance and payment made to them.
- xvii) The BIDDER's representative/supervisor shall report daily to the Shift-in-Charge for day to day working.
- xviii) All the safety rules and regulations prevailing and applicable from time to time at the installations as directed by PURCHASER will be strictly adhered to by the BIDDER.
- xix) The rates quoted by the bidder must be inclusive of all the taxes, duties, services tax, work contract tax and any other levies, BIDDER's share of P.F. and insurance charges, BIDDER's profit and any other expenditure etc.
- xx) It will be the responsibility of the BIDDER to pay as per the minimum wages of the appropriate government applicable under the factories Minimum Wage Act

1948.

- xxi) The services shall be provided in terms of shift pattern on the round the clock basis. The BIDDER is responsible to provide effective and efficient services in all shifts and assure that there is no disruption in the services for want of any resources.
- xxii) All arrangements for communication from control room to the contract person working on job under the services shall be the responsibility of the BIDDER, viz phones, mobiles etc.
- xxiii) All the jobs mentioned under scope of services shall be carried out as per sound engineering practices, work procedure documentation, recommendation of the manufacturer and as per the guidelines /direction of engineer-in-charge of authorized representative.
- xxiv) **The BIDDER shall on or before the execution of this Agreement furnish a bank guarantee from a nationalized/scheduled bank for amount 10% Annualized Contract Value as per the format given by the Company. The Company shall hold this Bank Guarantee as a guarantee for timely and proper performance of the work by the BIDDER. The said Bank Guarantee shall be invoked by the Company in the event of any breaches or negligence or default by the BIDDER.**
- xxv) It is agreed between the parties that if the quality of jobs carried out by the BIDDER are not of standard as required by Company and breach of any of the terms and conditions herein mentioned, the Company is at liberty to terminate this Agreement at the option of the Company by giving one months' notice in the writing to the BIDDER without assigning any reasons thereof.
- xxvi) On the termination of this Agreement, the BIDDER will immediately remove himself and his directly or indirectly employed or deployed manpower from the said premises with all the goods, if any, property and effects belonging to him. The BIDDER shall not cause any hindrance or objection in such circumstances.
- xxvii) BIDDER should submit the trouble shooting & root cause analysis report to HPOIL, within 4-5 working days from the date of compressor B/D, failing to which RA bill will not be processed for the said LOA till the satisfactory report will not receive from bidder.
- xxviii) Machine Canopy Repairing and painting. As this is the Comprehensive O&M Rate Contract so the said canopy repairing & painting work is in Bidder Scope.
- xxix) Principal parts of packages like crankcase, distance pieces, compressor cylinders, pressure vessels, mass flow meters, electric motor, Heat exchangers etc shall be in Bidder scope. As this is the Comprehensive O&M Rate Contract so the said Principal parts of compressor like crankcase, be in HPOIL scope distance pieces, compressor cylinders, pressure vessels, mass flow meters, electric motor, Heat exchangers etc replacement during breakdown is in Bidder Scope.
- xxx) If there is any breakdown/malfunction in PLC and a new software/ software license renewal is required to restore the PLC working, the same shall be in Bidder scope. As this is the Comprehensive O&M Rate Contract so all PLC software updating including (renewal/alterations/modification) is in Bidder Scope.

## **8.0 ACCOMMODATION/TRANSPORTATION/MEDICAL**

The BIDDER shall make his own arrangement for the accommodation of his personnel at respective locations and subsequent transportation arrangement for them from their place of residence to workplace or any other place as required and company shall have no obligation in this respect. The company shall not be responsible for providing any medical assistance to the BIDDER personnel.

**9.0 DISCIPLINE:**

The BIDDER shall be responsible for the discipline and good behavior of all his personnel deployed in the services contracted out and should any complaint be received against any of his employee, he shall arrange to replace such persons within 24 hours of notice issued by the Engineer-in-Charge. The decision of the Engineer –in-Charge in this matter shall be final and binding on the BIDDER.

**10.0 GATE PASS/IDENTY CARD**

The contract shall arrange to supply / renew identity card to his workforce at his own cost, if so required by PURCHASER for security or for any other reasons. Those BIDDER's personnel shall be required to carry their respective identity cards while on duty and produce on demand.

**11.0 RIGHT TO GET SERVICES CARRIED OUT THROUGH OTHER AGENCIES**

Nothing contained herein shall restrict PURCHASER from accepting similar service from other agencies, at its discretion and at the risk and cost of the BIDDER, if the supplier fails to provide the said services any time.

**12.0 SUB-LETTING OF CONTRACT**

No part of the CONTRACT nor any share or interest therein shall in any manner or degree be transferred, assigned or sublet by the BIDDER directly or indirectly to any person, firm or corporation whatsoever without the consent in writing, of the ENGINEER/EMPLOYER except as provided for in the succeeding sub-clause.

i) **SUB-CONTRACTS FOR TEMPORARY WORKS ETC.:**

The EMPLOYER may give written consent to Sub- contract for the execution of any part of the WORK at the site, being entered in to by BIDDER provided each individual Sub- contract is submitted to the ENGINEER-IN-CHARGE before being entered into and is approved by him.

ii) **LIST OF SUB-CONTRACTOR TO BE SUPPLIED:**

At the commencement of every month the BIDDER shall furnish to the ENGINEER-IN-CHARGE list of all SUB-CONTRCATORS or other persons or firms engaged by the BIDDER and working at the SITE during the previous month with particulars of the general nature of the Subcontract or works done by them.

iii) **CONTRCATOR'S LIABILITY NOT LIMITED BY SUB-CONTRCATORS:**

Notwithstanding any sub-letting with such approval as aforesaid and notwithstanding that the ENGINEER-IN-CHARGE shall have received copies of any Subcontracts, the BIDDER shall be and shall remain solely responsible for the quality, proper and expeditious execution of the Contract in all respects as if such sub-letting or Subcontracting had not taken place, and as if such work had been done directly by the BIDDER. The BIDDER shall bear all responsibility for any act or omission on the part of sub- BIDDERS in regard to work to be performed under the CONTRACT.

iv) **EMPLOYER MAY TERMINATE SUB-CONTRACTS:**

If any SUB-CONTRCATOR engaged upon the works at the site executes any works which in the opinion of the ENGINEER-IN-CHARGE is not in accordance with the CONTRACT documents, the EMPLOYER may by written notice to the BIDDER request him to terminate such subcontract and the BIDDER upon the receipt of such notice shall terminate such Subcontract and dismiss the SUB-BIDDER(S) and the later shall forthwith leave the works, failing which the EMPLOYER shall have the right to remove such SUB- CONTRCATOR(S) from the site.

v) **NO REMEDY FOR ACTION TAKEN UNDER THIS CLAUSE:**

No action taken by the EMPLOYER under the clause shall relieve the BIDDER of any of his liabilities under the CONTRACT or give rise to any right or compensation, extension of time or otherwise failing which the EMPLOYER shall have the right to remove such SUB-CONTRACTOR(S) from the site.

### **13.0 COMPLIANCE OF LAWS**

- i) The BIDDER deploying 20(twenty) or more workmen as contract labour shall have to obtain license from appropriate licensing authority, if required. The BIDDER (which shall include the Contracting firm / company) shall be solely liable to obtain and to abide by all necessary licenses from the concerned authorities as provided under the various labour laws legislation's including labour license from the competent authority under the Contract Labour ("Regulation & Abolition") Act 1970 and Acts made thereafter.
- ii) The BIDDER shall be responsible for necessary contributions towards PF, Family Pension, ESIC or any other statutory payments to Government Agencies as applicable under the laws in respect of the contract and personnel deployed by the supplier for rendering services to PURCHASER and shall deposit the required amount with the concerned statutory authorities on or before due dates. The BIDDER shall obtain a separate PF number from the concerned Regional Provident Fund Commissioner and submit necessary proof of having deposited the employees as well as the employer's contribution to the Provident Fund.
- iii) The BIDDER shall not engage /deploy any person of less than 18 years under this contract and the persons to be deployed should be physically and mentally fit.
- iv) The installations where job is to be carried out are live and have hydrocarbon environment. Supplier shall comply with all safety and security rules and regulations and other rules laid down by PURCHASER for its operation. It shall be the duty / responsibility of the supplier to ensure the compliance of fire, safety, security and other operational rules and regulations by his personnel. Disregard to these rules by the BIDDER's personnel will lead to the termination of the contract in all respects and shall face penal/legal consequences.
- v) The BIDDER shall arrange for insurance of all these workers engaged on the job as per the relevant Acts, rules and regulations, etc. In case by virtue of provisions of worker's compensation Act, 1923 or any other law in force. PURCHASER has to pay compensation for a workman employed by the supplier due to any cause whatsoever the amount so paid shall be recovered from the dues payable to the supplier and /or security deposit. Insurance of equipment after performance test shall be arranged by owner.
- vi) **BIDDER has responsibility as a principal employer to check all the statutory compliances of the deployed staff at HPOIL site by Sub-Letting contractors. BIDDER must check all the documents and verify it. HPOIL is not responsible for any dispute regarding statutory compliances.**

### **14.0 THE ENGINEER IN CHARGE SHALL HAVE POWER TO**

- i) Issue the BIDDER from time to time during the running of the contract such further instructions as shall be necessary for the purpose of proper and adequate execution of the contract and the BIDDER shall carry out and bound by the same.
- ii) During the currency of the contract, BIDDER needs to follow recommended plan of preventive maintenance of OEM and accordingly deploy the services and manpower.
- ii) Order the BIDDER to remove or replace any workman whom the company considers incompetent or unsuitable and opinion of the company representative as to the competence of any workman engaged

by the supplier shall be final and binding on the BIDDER.

**15.0 REPATRIATION AND TERMINATION**

PURCHASER shall reserve the right at any time during the currency of the contract, to terminate it by giving 30 days' notice to BIDDER, and upon expiry of such notice period the supplier shall vacate the site/office occupied by him immediately.

**16.0 INDEMNITY AGREEMENT**

BIDDER shall exclusively be liable for non-compliance of the provision of any act, laws, rules and regulations having bearing over engagement of workers directly or indirectly for execution of work and the supplier hereby undertake to indemnify the company against all actions, suits, proceedings, claims, damages demands, losses, etc. which may arise under minimum wages act, payment of wages act, workman compensation act, personnel injury (compensation insurance) act ESI Act, Fatal Accident Act, Industrial Dispute Act, Shops and Establishment Act, Employees Provident Fund Act, Family Pension and deposit Linked Insurance Scheme or any other act or statutes not herein specifically mentioned but having direct or indirect application for the persons engaged under this contract. (The supplier immediately on receipt of LOA shall submit a certificate to this effect).

**17.0 Compensation for non-fulfilment of obligation under Annual Maintenance Contract (AMC) of BIDDER make online Compressor.**

Sr. No.	Penalty Clauses
1	The BIDDER must ensure <b>97%-98%</b> availability of each package cumulative on monthly basis failing which penalty will be attracted. Penalty as per monthly down time of machine on cumulative basis will be as follows.
	1) Break-down time-up to 8 hours in a month ----- No Penalty
	2) Break-down beyond 8 hours till 12 hours in a month-----Rs. 10,000/-
	3) Break-down beyond 12 hrs till 24 hours in a month ----- Rs. 20,000/-
	4) Break-down beyond 24 hrs in a month -----Rs. 40,000/ Day
2	In any case/ any situation, total penalty will be limited to 60% of monthly invoice value of concerned package.
3	Non-availability of manpower in any shift/any workplace will not be tolerable. The BIDDER will be penalized for each such act as follows
	For non-availability of compressor operator, PPE, Uniform = 1% of Max. Invoice value of Single Pkg. / Incident & Max. amount will be penalized up to 5% of the Max. Invoice value of each package in a month.
	If the BIDDER fails to provide PPE and Uniform to his manpower after stipulated time, HPOIL will provide the PPE and Uniform at his risk and cost considering original invoice value plus 15% overhead charges which will be recovered from BIDDER.

4	We at HPOIL will not tolerate any kind of Indiscipline act at the premises from the BIDDER employee's during the service time. If any such incident happens, the BIDDER will be penalized <b>2% of the Max. Inv. Value / Incident &amp; Max. amount will be penalized up to 5% of single package invoice value</b>
5	In any Case/any situation, total cumulative penalty from all accounts (i.e. from gas loss, break down time, statutory requirements etc.) will be limited to 50% of monthly invoice value of concerned package for concerned month. No penalty will be carried over to next month.
6	For any IR (Industrial Relation) issue (like strike by operators for wages, union issues etc.) CNG station operation stopped, BIDDER will be penalized Rs. 25,000/Incident. Max. Caping is up to Rs. 1,00,000 / Month
7	<p><b>Package Gas Loss:</b> Service Provider shall ensure that any action to limit gas losses within 1% is taken within 7 days from detection of gas loss. Any loss over and above <b>1%</b> will be recovered from service provider for a period after 7days. Reconciliation of gas (gain or loss) will be done at average on monthly basis for individual package. In case OEM presumes MFM is faulty, then BIDDER must prove that MFM is faulty within 7 days' time period and BIDDER has to check the accuracy of MFM. If require BIDDER must repair/replace it within 7 days. If BIDDER fails to prove that HPOIL will consider the MFM reading is accurate. However, in any Case/any situation, total cumulative penalty from all accounts (i.e. from gas loss, break down time, statutory requirements etc.) will be limited to <b>50% of monthly invoice value</b> of concerned package for concerned month only. Beyond 1%, BIDDER has to compensate the <b>amount @45/Kg.</b> during the O&amp;M period. The amount will be deducted from monthly RA bill.</p> <p>Calculation of Gas Loss for GED = <math>[MRI - (MRIC + MRO)] / MRI * 100</math>  Calculation of Gas Loss for EMD = <math>[MRI - MRO] / MRI * 100</math> AMOUNT</p> <p>OF RECOVERY = <math>[TOTAL GAS LOSS(Kg) - 1\% \text{ of } MRI] * RS. 95.5</math> Cost of natural gas Rs/kg</p> <p><i>MRI- MASS REGISTERED IN INLET MASS FLOW METER MRO-MASS REGISTERED IN OUTLET MASS FLOW METER MRIC-MASS REGISTER INTERNAL COMBUSTION MASS FLOW METER</i></p>
8	<p><b>Penalty towards Excess Fuel Consumption:</b></p> <p>At the start of O&amp;M period or even at any point of time during the O&amp; M period, cost towards excess fuel consumption beyond quoted figure shall be deducted from O&amp;M bills.</p> <p>Following calculations shall be used for deduction towards excess fuel consumption.</p> $F = (G - Q) \times H$ <p>Where,</p> <p>F= Monthly penalty in Rs.  G= Monthly Actual Gas Consumption kg  Q= Guaranteed consumption rate quoted by supplier based on gas composition, on monthly basis  H=Cost of Natural Gas @ Rs 95.5 Rs per kg for the monthly consumption</p> <p><b>HPOIL will allow 5% Excess fuel Consumption of guaranteed parameter consumption on 5 years old packages and 10% excess fuel consumption on more than 10years old Packages.</b></p>

## **18.0 BIDDER RESPONSIBILITY**

The BIDDER shall depute his Supervisor for supervision of the services to receive instructions from Engineer-in-Charge or his representative.

## **19.0 EMPLOYMENT LIABILITY OF BIDDER**

- i) The BIDDER shall ensure and will be solely responsible for payment of wages and other dues latest by 10<sup>th</sup> of the following month to the personnel deployed by him in the presence of the Company's representative.
- ii) The BIDDER shall be directly responsible and indemnify the company against all charges, claims, dues etc. arising out of disputes relating to the dues and employment of personnel deployed by him.
- iii) The BIDDER shall indemnify the company against all losses or damages caused to it on account of acts of the personnel deployed by the BIDDER. The BIDDER shall ensure regular and effective supervision of the personnel deployed by him.
- iv) The BIDDER shall be responsible for any damages, losses or theft of any office furniture, equipment, fitting and fixtures etc. what-so-ever as may be caused directly or indirectly by the engaged persons through BIDDER for work carried out by them.

## **20.0 Payment Terms:**

Monthly running account bills shall be submitted in triplicate subject to carrying out maintenance as per the scope of the work.

The bill should be submitted along with the copies of all reports-preventive / breakdown maintenance, operators attendance sheet (muster roll), register of wages, ESI monthly challan, EPF monthly challan & statutory testing reports and training reports as necessary duly certified by station In-Charge/Engineer-In-Charge.

## **21.0 SPECIAL CONDITIONS OF CONTRACT (SCC) COMMERCIAL**

### **1.0 LABOUR, LABOUR LAWS AND SITE REQUIREMENTS**

#### **1.1 Labour**

- 1.1.1 The Contractor shall make his own arrangements for the engagement of all labour for doing the work at site or in respect of or in connection with the execution of work as also for the transport, housing, feeding and payment thereof.
- 1.1.2 The Contractor shall provide on the site, an adequate supply of drinking and other water for the use of the Contractor's staff and labours.
- 1.1.3 The Contractor shall not import, sell, give, barter or otherwise dispose of any alcoholic liquor, or drugs, or permit or suffer any such importation, sale, gift, barter or disposal by his subcontractor/ s, his/their servants, agents or employees.
- 1.1.4 The Contractor shall not give, barter or otherwise dispose of to any person or persons, any arms or ammunition of any kind or permit or suffer the same as aforesaid by his sub-contractor/s, his/their servants, agents or employees.
- 1.1.5 The Contractor shall in all dealings with labour in his employment have due regard to all recognized festivals, days of rest and religious or other customs.

- 1.1.6 In the event of any outbreak of illness of an epidemic nature, the Contractor shall comply with any carry out such regulations, orders and requirements as may be made by the Government, or the local medical or sanitary.
- 1.1.7 The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riots or disorderly conduct by or amongst his employees/labour and for the preservation of peace and protection of persons and property in the neighborhood of the works against the same.
- 1.1.8 The Contractor shall at all times during the continuance of the contract comply fully with all existing Acts, Regulations and by laws including all statutory amendments and re-enactment of State or Central Government and other local authorities and the Central Government or local authority, including Indian Workmen's Compensation Act., Contract labour (Regulation and Abolition) Act., 1970 and Equal Remuneration Act, 1976, Factories Act, Minimum wages Act, provident Fund act, etc., and sanitary arrangement for the said Act. Health and sanitary Arrangements for workmen, Insurance and other benefits etc., and shall indemnify and keep the Owner/Engineer-in-charge indemnified in case any proceedings are taken or commenced by any authority against the Owner/Engineer-in-Charge for any contravention of any of the laws, by laws or scheme by the Contractor. If as a result of Contractor's failure, negligence, omission, default or non-observance of any provisions of any laws, the Owner/Engineer-in-Charge is called upon by any authority to pay or reimburse or required to pay or reimburse any amount, the Owner/Engineer-in-Charge shall be entitled to deduct the same from any money due or that may become due to the Contractor under this contract or any other contract or otherwise recover from the Contractor any sums which the Owner/Engineer-in-Charge is required or called upon to pay or reimburse on behalf of the Contractor. All registration and statutory inspection fees in respect of his work pursuant to the contract shall be paid by the Contractor.
- 1.1.9 The Contractor shall pay the labourers engaged by him on the work not less than a fair wage, which expression shall mean, whether for time or piece work, rates of wages as may be fixed by the Public Work Department as fair wages for New Delhi Region payable to the different categories of labours or those notified under the Minimum Wages Act for corresponding employees of the Owner/Engineer-in-Charge whichever may be higher.
- 1.1.10 The Contractor shall notwithstanding the provisions of any contract to the contrary, cause to be paid a fair wage to the labours indirectly engaged by Sub-Contractors in connection with the zaid works as if the labour had been directly employed by him.
- 1.1.11 The contractor shall, before he commences the work, display and correctly maintain in a clean and legible condition at a conspicuous place on the site notices in English and in a local language spoken by the majority of the workers, stating therein the rate of wages which have been fixed as fair wages and the hours of work for which such wages are earned and send a copy of such notices to the Owner/Engineer-in-Charge.
- 1.1.12 The Contractor shall maintain records of wages and other remuneration paid to his employees in such. form as may be convenient and to the satisfaction of the Owner/Engineer-in-Charge and the Conciliation Officer (Central), Ministry of Labour, Government of India, or such other authorized person appointed by Central or State Government.



- 1.1.13 The Contractor shall provide a wage slip for each worker employed on the works.
- 1.1.14 The wage records and wage slips shall be preserved by the Contractor for minimum period of 12 months after the last entry or such time as the Owner/Engineer-in-Charge may fix in that behalf.
- 1.1.15 The Contractor shall allow inspection of the aforesaid wage records and wage slip to the Owner/Engineer-in-Charge at a convenient time and place after notice is received by him from the Owner/Engineer-in-Charge demanding such inspection.
- 1.1.16 The Owner/Engineer-in-Charge or any other person authorized by him on his behalf shall have power to make enquiries with a view to ascertaining and enforcing due and proper observance of the Fair wages Clauses. The Owner/Engineer-in-Charge shall also have the power to investigate into any complaint regarding any default made by the Contractor or his sub-Contractor in regard to such provision.
- 1.1.17 The Owner/Engineer-in-Charge shall have the right to deduct from the moneys due to the Contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of nonpayment of fair wage, except any deductions that may be permissible under any law for the time being in force.

## **1.2 Labour Law**

- 1.2.1 Under the provisions of Employees Provident Funds and Misc. Provision Act-1952, every employee is entitled to and required to become a member of the PF from the beginning of the month following that in which he completes three months continuous service or has actually worked for not less than 80 days during the period of three months or less whichever is earlier.

The Contractor is to fulfill statutory obligations regarding Employees Provident Fund.

## **1.3 Labour License**

- 1.3.1 Before starting of work at site, Contractor shall obtain a license from concerned authorities under the Contract Labour (Abolition and Regulation) Act 1970 and furnish copy of the same to Owner.

## **1.4 Labour Relations**

- 1.4.1 In case of labour unrest/labour dispute arising out of non-implementation of any law, the responsibility shall solely lie with the Contractor and he shall remove/resolve the same satisfactorily at his cost and risk.
- 1.4.2 The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst his staff and labour and to preserve peace and protection of persons and property in the neighborhood of the Works against such conduct.

## **1.5 Employment of Local Labour**

- 1.5.1 The Contractor shall ensure that local labour, skilled and/or unskilled, to the extent available shall be employed in this work.
- 1.5.2 The Contractor shall not recruit personnel of any category from among those who are already employed by the other agencies working at site but shall make maximum use of local labour available.

**1.6 Access to Site**

The Contractor shall obtain prior permission of the Owner/Engineer-in-Charge before any person not directly connected with the works visits the site. Contractor shall obtain prior permission for his workers gate pass/for materials etc., as may be required to carry out the works at site from the Owner/Engineer-in-Charge and shall follow the rules and regulations of CISF/Owner/Engineer-in-Charge which may be enforced from time to time for entry or exit.

**1.7 Contractor's Laborers to Leave Site on Completion of the Work**

The Contractor's laborers must leave the location of the project site after the work is tapered/ completed to avoid creation of a slum in the areas adjoining the project.

**1.8 Site Cleaning**

1.8.1 The Contractor shall clean and keep clean the work site from time to time to the satisfaction of the Engineer-in-Charge for easy access to work site and to ensure safe passage, movement and working.

1.8.2 If the work involves dismantling any existing structure in whole or part, care shall be taken to limit the dismantling up to the exact point and/or lines as directed by the Engineer-in-Charge and any damage caused to the existing structure beyond the said line or point shall be repaired and restored to the original at the Contractors cost and risk to the satisfaction of the Engineer-in- Charge, whose decision shall be final and binding upon the Contractor.

1.8.3 The Contractor shall be custodian of the dismantled materials till the Engineer-in-Charge takes charge thereof.

1.8.4 The Contractor shall dispose off the unserviceable materials, debris etc. to any area within the site premises as decided by the Engineer-in-Charge.

1.8.5 The Contractor shall sort out, clear and stack the serviceable material obtained from dismantling at places as directed by the Engineer-in-Charge.

1.8.6 No extra payment shall be paid on this account.

**1.9 Protection of Existing Facilities**

1.9.1 Contractor shall obtain plans and full details of all existing and planned underground services from the relevant Department of Owner and shall follow these plans closely at all times during the performance of work. Contractor shall be responsible for location and protection of all underground lines and structures at his own cost.

1.9.2 Despite all precautions, should any damage to any structure/ utility etc. occur, the Owner/Authority concerned shall be contacted by the Contractor and repair shah forthwith be carried out by Contractor at his expenses under the direction and to the satisfaction of Engineer-in-charge and the concerned Owner/ authority.

1.9.3 The Contractor shall does not store any materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services.

1.9.4 Contractor shall obtain all safety clearance (viz. Excavation, Hot/ Cold work permit) from the Owner prior to start of work. Work without safety permit shall not be carried out.

1.9.5 Contractor shall in consultation with Owner and the concerned authorities, take adequate measures for strengthening the existing electric poles, telephone poles etc. in the proximity of the pipeline alignment. Contractor shall take adequate protective measures to prevent damage to these facilities during construction. Contractor shall have to adopt such method of construction as will be suitable for working in these areas using the limited space available and without causing any damage to these facilities. Contractor shall be deemed to have taken cognizance of all such constraints, etc. while working in this area

and Contractor shall not be entitled to claim any extra at a later stage.

**1.10 Fronts for Work, Where Other Agencies are involved**

The work involved under this Contract may include such works as have to be taken up and completed after other agencies have completed their jobs. The Contractor will be required and bound to take up and complete such works as and when the fronts are available for the same and no claim of any sort whatsoever shall be admissible to the Contractor on this account. Only extension of time limit shall be admissible, if the availabilities of work fronts to the Contractor are delayed due to any reason not attributable to the Contractor.

It is to be noted that other contractors will be working during the currency of this Contract. The Contractor shall co-ordinate with such other contractor(s) and ensures that the work of other contractor(s) is not affected. The Engineer- in-Charge will decide the priority and the same shall be binding without any cost and time effect.

**1.11 Site Facilities**

**1.11.1** The Contractor shall arrange for the following facilities at site, for workmen deployed/engaged by him/his sub-contractor, at its own cost.

- (i) Arrangement for First Aid.
- (ii) Any other facility/utility as may be required under the Contract.

**2.0 Rounding off**

All payments to and recoveries from the Contractor shall be rounded off to the nearest rupee. Wherever the amount to be paid/recovered consists of a fraction of rupee (paise), the amount shall be rounded off to the next higher rupee if the fraction consists of 50 (fifty) paise or more and if the fraction of a rupee is less than 50 (fifty) paise, the same shall be ignored.

**3.0 Computerized Contractors Billing System**

Without prejudice to stipulation in General Condition of Contract, Contractor should follow following billing system.

The bills will be prepared by the Contractor on their own PCs as per the standard formats and codification scheme proposed by HPOIL. The Contractor will be provided with data entry software to capture the relevant billing data for subsequent processing. Contractor will submit these data to HPOIL in an electronic media along with the hard copy of the bill, necessary enclosures and documents. The Contractor will also ensure the correctness and consistency of data so entered with the hard copy of the bill submitted for payment.

Owner will utilize these data for processing and verification of the Contractor's Bills.

**4.0 Leads**

For the various works, in case of contradiction, leads mentioned in the Schedule of Rates shall prevail over those indicated in the Technical Specifications.

**5.0 Insurance for Personal injuries**

The Contractor shall at his own costs and expenses obtain and shall cause any sub-Contractor to obtain such insurances as may be necessary' to cover the liability of the Contractor or as the case may be of such subcontractor in respect of personal injuries and death arising out of or in the course of caused during the execution of the works and shall produce or cause any such subcontractor to produce for inspection the relevant policy or policies together

with receipt for the premium paid under such policy/policies as and when required by the Owner/Engineer-in-Charge.

**6.0 Strike/Lock out by Contractor's Employees**

Nonavailability of labour or strike by the Contractor's employees or lock out shall not be a ground or any excuse for not completing the works within the stipulated time nor shall be a ground or any excuse, for extension of period of completion of works.

**7.0 Make of Materials**

7.1 All equipment and materials to be supplied under this contract shall be from approved vendors as accepted by HPOIL.

7.2 Where the makes of materials are not indicated in the Bidding Document, Contractor shall furnish details of proposed makes and supply the same after written approval of Owner. Proposed makes will be considered, provided sufficient information are furnished to the Owner to assess the makes proposed by the Contractor as equivalent and acceptable.

## **Maintenance Schedule**

### **(CNG Cummins Engine-Driven Package)**

#### **Daily**

**1. Package**

- Drain oil recovery vessel.
- Check power phase voltage and current as per limit.
- Ensure area around the compressor is free from rags, tools, debris and flammable or explosive materials.
- Check for gas leakage.

**2. Compressor**

- Note & record panel gauge reading.
- Check oil levels, oil level regulators and oil sight level.
- Check lubricator line connections for leakage.
- Note and Record inlet & outlet temperature.
- Hand check suction valve covers for coolness.
- Listen for unusual noises.
- Check temperatures of coolant to and from cylinders, lube oil cooler and packing's.

**3. Engine**

- Check for leaks and correct it.
- Observe the air cleaner restriction indicator
- Check gas pressure at carburetor inlet and before and after the pressure regulator
- Check Engine oil level
- Check hydraulic governor oil level
- Check coolant level and top up with pre-mixed coolant, if required.
- Check wiring connection are proper
- Check carburetor & governor linkages are free

**4. Heat Exchanger**

- Listen for unusual noises.
- Check tightness of fasteners related to moving parts.

## **5. Air-Compressor**

- Check lubrication oil level in crankcase.
- Drain condensate from the receiver tank.
- Check for existence of any unusual noise and vibration.
- Examine visually earth connections, Overall condition of motor and cable.
- Check motor windings for overheating.
- Ensure area around the compressor is free from rags, tools, debris and flammable or explosive materials.

## **6. Suction & Discharge Gas Filter**

- Check -Differential pressure gauge.

## **Weekly**

### **1. Compressor**

- Inspect frame, lubricator, and packing cases for leakage.
- Check for loose cylinder fasteners.
- Check foundation bolt torques.

### **2. Air-Compressor**

- Inspect and clean the air inlet filter.
- Clean the cooling fins and Exteriors of cylinder, intercooler and after cooler.
- Check safety/relief valves by pulling rings and replace whichever do not operate freely.
- Check the belt tension.

### **3. Heat Exchanger**

- Check the belt tension and adjust accordingly.

### **4. Co2 Flooding System**

- Check & ensure solenoid locking pin removed and grub screw is in loose condition.

## **Monthly**

### **1. Package**

- Check Oil usage.
- Safety Valve Leakage.
- Check the compressor and motor Foundation Bolts.
- Hoses and clamps - inspect/replace.
- Inspect/change belts if needed.
- Check tightness of all power terminations.
- Clean all power contactor & replace if required.
- Clean sensing parts of Gas Detectors and Flame Detectors.

### **2. Compressor**

- Perform safety shutdown system tests.
- Check Compressor force feed lubricator pumps for proper outlet rate.
- Collect a compressor oil sample for analysis.
- Remove the distance piece cover piece cover from the crosshead guide and inspect the packing area on each piston rod.
- Visually inspect frame interior for bearing material in frame, gear tooth condition, crosshead shoe and guide condition.

### **3. Air-Compressor**

- Inspect for air leaks.
- Check tightness of fasteners.
- Check the belt tension.
- Inspect the lubrication oil for contamination. Change if necessary
- Check ,clean and lubricate the motor bearings

### **4. Co2 Flooding System**

- Check the weight of cylinders (if loss found >20 % then recharge the cylinders).

### **5. Heat Exchanger**

- Check fan hub & apply grease to the bearings.

## **500 Hrs**

### **1. Engine**

- Repeat Daily check
- IGNITION SYSTEM
  - In case of distributor system check CB points and adjust gap, if required
- MISC. CHECK
  - Check and adjust belt tensions, Check connections and gauges
- INTAKE MANIFOLD TEMP.
  - For turbocharger after cooler engines check and ensure, intake manifold temp. is less than 55'c

## **1000 Hrs**

### **1. Engine**

- Repeat 500 Hrs Check
- LUBRICATION SYSTEM
  - Change engine lube oil. Use only special gas engine oil SAE Grade 15 W 40 for fill and top up
  - Change lube oil filters
  - Clean crankcase breather
  - Lubricate water pump & fan hub bearing
  - Check engine blow by
- COOLING SYSTEM-
  - Check coolant additive concentration level and add concrete if required.
  - Check auxiliary water pump
- IGNITION SYSTEM-
  - Check /clean spark plug and adjust spark plug if equipped with champion make spark plug
  - Check transformer resistance primary -0.2 to 0.30 secondary -6 to 8 kQ.
  - Check MICO spark plug and replace if necessary.
  - heck ignition timing and adjust if required.
- MISC.CHECK
  - Check and adjust valve clearances
- AIR INTAKE SYSTEM
  - Check intake manifold vacuum
- GAS PIPELINE CHECK
  - Check pressure drop across the gas filter, replace if more than 3 PSI while engine running.

## **3000 Hrs**

### **1. Engine**

- Repeat above all
- **IGNITION SYSTEM**
  - Check champion make Spark plug and replace if necessary.
  - Check HT cables with spark plug connectors.
- **MISC. CHECK**
  - Check fan hub apply grease to the bearings
  - Check cylinder compression

## **2000 Hrs**

1. **Compressor**
  - Oil and filter change(12 to15 psi)
2. **Air-Compressor**
  - Change the lubricating oil with recommended oil only
  - Tighten all the bolts with optimum torque value indicated in torque chart
  - Check piston rings and wearing surfaces.
  - Check the condition of oil seal for wear out .replace the seal if necessary.
  - Re-tighten intercooler and after cooler tube fittings

## **4000 Hrs**

1. **Package**
  - Coupling alignment check
2. **Compressor**
  - Clean and/ or replace crankcase breathers
  - Check one compressor valve on each stage inspect for broken plates, broken springs and trapped solid or liquid
  - Check crosshead clearances
  - Check crosshead guide for wear metals
  - Check compressor accessory drive gear lash and general condition
3. **Heat Exchanger**
  - Check for leaks and correct it.
  - Alignment of Fan shaft & check Fan blade angle
4. **Air-Compressor**
  - Inspect and if necessary clean the compressor valves
  - Clean the external surface of the cylinder intercooler and after cooler with a jet of air
  - Check grease in ball bearing and make it up where necessary
  - Check winding insulation resistance of motor.
  -

## **6000 Hrs**

1. **Suction Filter**
  - Check DPG reading and replaced inline filter element if exceeds the limit.
2. **Engine**
  - Repeat above all
  - **LUBRICATION SYSTEM**
    - Check engine blow by
  - **COOLING SYSTEM**

- Check thermostat.
- Clean radiator core (Externally)
- Clean heat exchanger core tube internally to remove scaling in necessary.
- Replace water line hoses.
- **IGNITION SYSTEM**
  - Check disc Allotropic ignition timer coupling
- **MISC.CHECK**
  - Clean engine
  - Tighten engine mounting bolts and nuts
  - Check AVM and mounting.
  - Check crankshaft end clearances
  - Check damper for fluid leak and Wobble, and replace if required
- **Reconditioning**
  - Recondition cylinder head if intake manifold vacuumed is low

## **8000 Hrs**

### **1. Compressor**

- Check O-rings and replace if necessary.
- Remove head and piston of the first stage cylinder check cylinder bore , piston rings,
- packing rings, piston ,and rod bearing
- Roll out compressor thrust main lower shell for inspection

### **2. Co2 Flooding**

- Check the weight of cylinders(if loss found >20 % then recharge the cylinders)
- Check hoses & outlet pipes are fastening and condition
- Lightly lubricate the pressure operated switch position with grease.
- Check that nozzles and pipes are in working Order.

### **3. Air-Compressor**

- Inspect and replace the filter element if required.
- Inspect and replace the sealing gaskets if required.
- Inspect and replace the worn parts if required.
- Clean the valve assembly and top face of the piston if carbon deposits are found on it
- Check all high speed bearings and renew if necessary.
- Blow out all windings thoroughly with clean dry air.
- Clean all the dirty and oily windings.
- Check alignment between motor and compressor
- Take out the after cooler and intercooler tubes and blow oil the dirt and deposits on the internal
- surfaces with the safety solvents.

## **15000 Hrs**

### **1. Compressor**

- Replace piston rings if clearance exceeds the limit.
- Inspection of compression pistons.
- Overhaul compressor valves
- Oil pump inspection.
- Visual inspection of big end bearing shells and gudgeon pins
- Replace rod packing if clearance exceeds the limit.



- Heat exchanger cleaning
- Coupling alignment check

✓All instruments needs to be calibrated on yearly basis

✓Flow meters needs to be calibrated once in a 5 year (Zero calibration required on annual basis).

**Note:**

- ➡ Lubrication interval for bearing and Bearing life should be according to Motor data sheet.
- ➡ while carrying out succeeding maintenance it is necessary to carry out all preceding maintenance

## SECTION – VI SCHEDULE OF RATES – KOLHAPUR GA

### SCHEDULE OF RATES (SOR)

Operation & Comprehensive Maintenance of KPCL make GED & EMD CNG Compressors installed at various CNG stations in Kolhapur GA.

Sl No.	Description	Quantity	Unit	Unit Rate	Total Unit Rate per month Excluding GST	Per Unit Goods & Service Tax (GST) applicable in %	GST	Total amount incl. all taxes & duties
						%		
	Detailed Item Description							
HPOIL KOLHAPUR GA, MAHARASHTRA								
1	<p><b>Comprehensive maintenance of KPCL make GED Compressor Installed at Disha Petroleum, Herle (PGS - 661)</b></p> <p>Lump sum Comprehensive maintenance, servicing, repair and maintenance charges of KPCL MAKE 1200 SCMH GAS ENGINE DRIVEN (GED) CNG compressor, air compressor. All Spares and Consumables like supply of engine oil, compressor oil, air compressor oil, coolant etc. required for smooth running of Machine. CMC will consist of following parts</p> <p>a) Preventive maintenance at regular interval <b>OR</b> as per requirement and recommendation of HOGPL.</p> <p>b) Break down maintenance as and when required during CMC period. <b>N.B: Vendor has to provide One Manpower in each shift for compressor and ensure round the clock operation of the compressor installed at Disha Petroleum, Herle. The Manpower provided by Vendor to be stationed at Disha Petroleum. The comprehensive maintenance rate should include such Operation scope.</b></p> <p><b>Current HMR: 13825:00 hours as on 10.03.2025</b></p>	11	Machine Months					
2	<p><b>Comprehensive maintenance of KPCL make GED Compressor Installed at MOTHER STATION, KAGAL (PGS - 807)</b></p> <p>Lump sum Comprehensive maintenance, servicing, repair and maintenance charges of KPCL MAKE 1200 SCMH GAS ENGINE DRIVEN (GED) CNG compressor, air compressor, All Spares and Consumables like supply of engine oil, compressor oil, air compressor oil, coolant etc. required for smooth running of Machine. CMC will consist of following parts-</p> <p>A) Preventive maintenance at regular interval <b>OR</b> as per requirement and recommendation of HOGPL.</p> <p>B) Break down maintenance as and when required during CMC period.</p> <p><b>Current HMR: 5784:04 hours as on 10.03.2025</b></p>	11	Machine Months					

3	<b>Comprehensive maintenance of KPCL make EMD Compressor Installed at MOTHER STATION , KAGAL (PGS - 687)</b> Lump sum Comprehensive Maintenance, servicing, repair and maintenance charges of KPCL MAKE 1200 SCMH ELECTRIC MOTOR DRIVEN (EMD) CNG compressor, air compressor, All Spares and Consumables like supply of engine oil, compressor oil, air compressor oil, coolant etc. required for smooth running of Machine. CMC will consist of following parts- A) Preventive maintenance at regular interval <b>OR</b> as per requirement and recommendation of HOGPL. B) Break down maintenance as and when required during CMC period. <b>Current HMR: 4223:32 hours as on 10.03.2025</b>	11	Machine Months					
			<b>Total</b>					

### **SECTION – VI SCHEDULE OF RATES – AMBALA – KURUKSHETRA GA**

SCHEDULE OF RATES (SOR)								
Comprehensive Maintenance of GED Compressors and Operation & Comprehensive Maintenance of EMD Compressors of TCPL & KPCL Make installed at various CNG stations in A-K GA								
SI. No.	Description	Quantity	UOM	Unit Rate	Total Unit Rate per month Excluding GST	Per Unit Goods & Service Tax (GST) applicable in %	GST	Total amount incl. all taxes & duties
	Detailed Item Description					%		
HPOIL Gas AMBALA - KURUKSHETRA GA, HARYANA, Maintenance Charges								
1	<b>Comprehensive maintenance of TCPL make 1200 SCMH GED Compressor installed at HPOIL Gas - CGS, Jalbera (G1220073).</b> Lump Sum Comprehensive Maintenance, Servicing, repair and maintenance of TCPL MAKE 1200 SCMH GAS ENGINE DRIVEN (GED) CNG Compressor, Air Compressor, All Spares and Consumables like supply of engine oil, compressor oil, air compressor oil, coolant etc. required for smooth running of Machine CMC will consist of following parts: A) Preventive maintenance at regular interval <b>OR</b> as per requirement and recommendation of HOGPL. B) Break down maintenance as	11	Machine Months					

	and when required during CMC period. <b>Current HMR: 17252:09 hours as on 10.03.2025</b>							
2	<b>Comprehensive maintenance of KPCL make 1200 SCMH EMD Compressor installed at HPOIL Gas - CGS, Jalbera (PGS - 688)</b> Lump Sum Comprehensive Maintenance, Servicing, repair and maintenance charges OF KPCL MAKE 1200 SCMH ELECTRIC MOTOR DRIVEN (EMD) CNG Compressor, Air Compressor, All Spares and Consumables like supply of engine oil, compressor oil, air compressor oil, coolant etc. required for smooth running of Machine. CMC will consist of following parts: A) Preventive maintenance at regular interval <b>OR</b> as per requirement and recommendation of HOGPL. B) Break down maintenance as and when required during CMC period. <b>Current HMR: 13657:24 hours as on 10.03.2025</b>	11	Machine Months					
3	<b>1200 SCMH GED Compressor installed at HPOIL Gas CGS, Jalbera (Serial No.: G1220073)</b> <b>Top / Major Overhauling of compressor &amp; engine.</b> <b>Current HMR: 17252:09 hours as on 10.03.2025</b>	1	Nos.					
4	<b>CLUSTER I: Comprehensive maintenance of TCPL make 02 Nos. of 600 SCMH EMD-VIP Compressors installed at M/s Premium HP Centre,Saha and M/s Abhay Highways,Mohra CNG Stations in A-K GA. (Serial Nos.: M620027, M620029)</b> Lump Sum Comprehensive Maintenance, Servicing, repair and maintenance charges OF TCPL MAKE 02 Nos. of 600 SCMH ELECTRIC MOTOR DRIVEN (EMD) VIP CNG Compressors, Air Compressors, All Spares and Consumables like supply of engine oil, compressor oil, air compressor oil, coolant etc. required for smooth running of Machine CMC will consist of following	22	Machine Months					

**N.B: Vendor has to provide One Manpower in each shift for each Cluster and ensure round the clock operation of the above compressors at all outlets in cluster I & cluster II. The Manpower provided by Vendor to be stationed at any one outlet in respective Cluster and Mobility of Manpower to all outlets within the Cluster to be ensured. The comprehensive maintenance rate should include such Operation scope.**

1. Bidder shall note that any error in estimating these taxes & duties will be to Bidder's Account.

a. Goods & Service Tax @-----

Please indicate the breakup of above GST as under:

- i) CGST@\_\_\_\_\_
- ii) SGST@\_\_\_\_\_
- iii) IGST@\_\_\_\_\_
- iv) UGST@\_\_\_\_\_