



# **BHAGYANAGAR GAS LIMITED**

(A JOINT VENTURE OF HPCL & GAIL)

## **BID DOCUMENT FOR**

**Tender for Engagement of Associate(s) for  
Engineering and executing the CGD Projects,  
Operations & upgradation of existing facilities at  
BGL.**

## **UNDER OPEN DOMESTIC COMPETITIVE BIDDING**

**Bid Document No.: BGL/538/2021-22**

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Bhagyanagar Gas Ltd.  
Limited

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**SECTION – 7**

**SPECIAL CONDITIONS OF CONTRACT (SCC)**

## **SPECIAL CONDITIONS OF CONTRACT**

### **1.0 GENERAL:**

- (i) The SCC should be read in conjunction with GCC, Scope of Works and SOR of the Tender Document.
- (ii) Where any portion of the GCC is repugnant to or at variance with any provisions of the SCC then, unless a different intention appears, the provisions of the SCC shall be deemed to govern the provisions of the GCC, and SCC shall prevail to the extent of such repugnancy, or variations exist.
- (iii) In the Contract documents, unless otherwise stated specifically, the singular shall include the plural and vice versa wherever the context so requires.
- (iv) Notwithstanding the sub-division of the Contract documents into separate sections and volumes every part of each shall be deemed to be supplementary to and complementary of every other part and shall be read with and into the Agreement so far as it may be practicable to do so.
- (v) All headings, subtitles and marginal notes to the clauses of the GCC, SCC or to the specifications or to any other part of Bid Document are solely for the purpose of giving a concise indication and not a summary of the contents thereof, and they shall never be deemed to be part thereof or be used in the interpretation or construction thereof.

### **2.0 ORDER OF PRECEDENCE:**

In case of an irreconcilable conflict amongst "General Conditions of Contract", "Special Conditions of Contract", "Scope of Work" or "Price Schedule / Schedule of Rates (SOR)", the following shall prevail to the extent of such irreconcilable conflict in order of precedence:

- (i) Letter of Acceptance / Contract Agreement.
- (ii) Fax / Letter of Intent / Fax of Acceptance.
- (iii) Instructions to Bidders.
- (iv) Special Conditions of Contract.
- (v) Scope of Work.
- (vi) General Conditions of Contract

### **3.0 QUANTITIES:**

The quantities mentioned in the "Price Schedule / Schedule of Rates (SOR)" are indicative only. They may increase or decrease based on actual execution.

Once the quantity mentioned against any SOR-Item is exhausted and the quantities in other SOR-Item are available, BGL shall execute the same up to the limit of contract value.

However, if the total contract value is exhausted before the end date of contract, BGL may increase the quantities of SOR-Items, without taking consent of the Consultant on the same rates, terms and conditions till the validity of contract.

### **4.0 PERIOD OF CONTRACT:**

The Contract shall be valid for a period of **TWO (02)** years from the date of FOI/ LOI / FOA/ LOA whichever is earlier.

If required BGL may also extend this contract for a further One Year beyond the contract period as per the requirement, on the same rates, terms and conditions which will be as per discretion of BGL and shall be binding on the contractor. However, contractor/Consultant shall not have any claim for revision of quoted rates in this regard for the extended period of the contract.

## 5.0 METHODOLOGY OF JOB EXECUTION:

### 1. Supply/Services Tendering:

Based on the requirement received from BGL, draft tender document is to be submitted within 15 days for BGL's approval and Tenders should be finalized within the time stipulated from the date of opening of technical bid.

The tentative activity wise schedule for the same is given as under:

Sl. No.	Activity	Maximum Period Allowed (days)
1.	Opening of Un-priced bids	0
2.	Scrutiny of bids and issuance of TQ/CQ (if any)	10
3.	Bidder's response to TQ/CQ (if any)	7
4.	Evaluation of responses to TQ/CQ and Finalization of TBA/CBA	6
5.	Vetting of CBA by F&A department	3
6.	Finalization of TCR for price bid opening	4
7.	Approval of CA and Price bid opening	3
8.	Preparation of CS	2
9.	Vetting of CS by F&A department	2
10.	Finalization of TCR for award	3
11.	Approval of CA and award	2
Total period allowed (max.)		42

Tender is to be hosted on BGL website, Govt. CPP portal, Consultant website & E-portal.

### 2. The time schedule of project and construction activities are as follows:

S.No.	Project Activities	Particulars
1	Project progress reporting	Once in month
	Material consumption	Monthly
	Planning & Scheduling	Monthly
	Material expedition ( Issuance of IRN/DCN)	Within 48 hours
	Budget Expenditure	2 weeks after intimation
	Material reconciliation	Monthly
	Clearing Supply Invoices / RA bills	1 week
	Closing of Contract	Within 8 weeks after final handingover
	Approval of QAP/ITP	Within 48 hours

	Submission of Job procedures	Within 1 week
	Capitalization	Quarterly
2	Construction activities	
	Daily Progress Report	Daily
	RFC status	Weekly
	Steel/PE laying & commissioning status	Monthly
	RFC vs NG gap(MJC) Analysis	Monthly ( 15th of month)
	Deviation Forms	Weekly
	RA Bill cycle	Monthly
3	O&M activities	Time bound manner

**Progress/Monthly report:**

PMC shall submit the monthly report of each GA shall clearly depict the progress of the works/services. The report shall be in a single format for all 3 GAs(Hyderabad, Vijayawada & Kakinada) Performance of works/services shall be made by the Contractor/Consultant in accordance with the stipulated time schedule prescribed by the Consultant/BGL

**6.0 PENALTY**

If the consultant fails to provide the required services penalty shall be imposed as under:

- Payment which would have been otherwise payable to the consultant for the said jobs/period shall not be paid.
- Site engineer has to ensure that execution shall be carried out as per the technical specification/codes and general engineering practices. If it is observed that execution has not carried out as per the technical specification/codes/general engineering practices and due to the lack of supervision which results in any damage/financial loss to the third-party utilities then Engineer-in-charge may impose suitable penalty at its discretion.
- Consultant shall submit the resumes of their personnel for Site manpower & store management and BGL will select the persons on its choice after conducting the interviews. If there is delay in mobilization of man power than the prescribed period, shall attract penalty of Rs. 2000/- per person per day. In case of delay in mobilization of manpower beyond 30 days, BGL reserves the right to terminate the contract.
- All resources deployed shall take prior consent of leave in advance from BGL Engineer In Charge. In case of absence of deployed resource from duty for more than 7 days without any prior consent of leave from BGL EIC, penalty @ Rs. 2000/- per day per person shall be imposed.
- Consultant shall certify Vendor/Contractor bills for the supplied materials/executed work within a week and submitted to BGL for making of payment. In case of delay in certifying the bills beyond a week, BGL reserves the right to may impose suitable penalty(1/2% of Contractor/Vendor bill).
- If there is delay in approval of QAP/ITP than the prescribed period i.e 48 hours from the date of receipt of document from the vendor shall attract penalty of Rs.2000/- per day for respective activity.
- If there is delay in submission of job procedure than the prescribed period. i.e 1 week from the date of intimation shall attract penalty of Rs.2000/- per day for respective activity.

- (h) If there is delay in issuance of Inspection release note/ Dispatch clearance note with documents than the prescribed period i.e 48 hours from the date of receipt of complete inspection documents, shall attract penalty of Rs.2000/- per day
- (i) In case the manpower provided by the company is not found to be on payroll of PMC, penalty shall be deducted towards each contractual resource deployed. i.e. Rs. 2000 per day per person for man-days deployed. In such case removal of such personnel & replacement shall be done by PMC immediately.

**Note:-** BGL reserves the right to reduce/ remove the manpower based on the requirement at the sites. Bio-data's of all the personnel deployed for the project shall be forwarded to BGL for approval.

**6.1 Preparation of accurate estimates in time (based on past data/ CPWD rate basis/ Market rate Analysis) for procurement of items, services and works is an important activity in Cost Engineering. Owner lays strong emphasis on accuracy of cost estimates and price difference between quoted price of L-1 bidder and estimated cost beyond (+/-) 10% shall call for exhaustive analysis and explanation from PMC. Deviation between cost estimates & recommended order value being more than (+/-) 10% not backed by justifiable reasons and beyond the control of PMC shall be treated as deficiency of services by PMC and an advisory will be issued to PMC highlighting such deficiency and for taking corrective action in future cases.**

**Further, in case of the deviation between final cost estimate provided by the PMC and recommended order value being more than (+/-) 15 %, recovery will be made from the payment of PMC as follows:**

**If x : the actual awarded value of a particular package**

**X : the total awarded value of all the packages in the project**

**Then R (Recovery for that particular package) shall be:**

**$(x / X) * (2\% \text{ of awarded PMC contract value})$**

## **7.0 MEASUREMENT OF WORKS AND PAYMENT TERMS:**

- 7.1 All the relevant clauses of GCC, ITB & SCC shall be applicable.
- 7.2 Payment shall start only after signing of Contract Agreement & Receipt of Contract –cum- Performance Bank Guarantee as per Tender document.
- 7.3 The consultant shall raise separate monthly invoices for each GA with required documentation for the works/services provided by the consultant and the monthly attendance shall be verified by the respective site In-charges.

7.4 Payment shall be released within 45 days on submission of invoices duly certified by EIC.

**7.5 TRAVEL, LODGING & BOARDING EXPENSES:**

On requisition of BGL, CONSULTANT(S) shall depute the manpower and submit schedule on mutual discussion with Engineer in charge.

**a) For Site – Manpower**

- a) Consultant shall submit the resumes of their personnel for Site manpower & store management and BGL will select the persons of its choice after conducting the interviews. The consultant shall depute qualified, relevant experience person in consent with BGL.
- b) The man-month shall be paid for 26 working days of service rendered in a month (if the no. of days working by personnel is more or less the no. of working days specified shall be calculated upon by considering the base of a month as 26 days)
- c) BGL will provide the accommodation in Guest house on sharing basis & however, if no such facility of Guest office is available, will be reimbursed by BGL on actual basis on production of receipt.
- d) For site visit(s) from any site office, BGL shall arrange local conveyance & however, if no such facility of transportation is provided, will be reimbursed by BGL on actual basis on production of receipt.

**b) For PMC personnel – Meeting/Inspection activities**

- a) The cost of travel within India shall be reimbursed subject to ceiling of 2nd AC fare/economic Air fare from city to city.
- b) The Lodging & boarding arranged by the CONSULTANT(S) at any out-station place subject to ceiling of following for reimbursement with all original documents, receipts, bills. No other bill shall be reimbursed. The following rates are without tax -:
  - a) Rs. 5000.00 per day for 'X' class cities
  - b) Rs. 4000.00 per day for 'Y' class cities
  - c) Rs. 3000.00 per day for 'Z' class cities.

**Note:-** Any relaxation or enhancement in travel would be at discretion of EIC on case to case basis depending on priorities, circumstances & emergency etc. EIC may give permission for travel, lodging, boarding & related reimbursement(s) with request from consultant well in advance.

**Outstation shall be treated for travel beyond 100 KMS (one way) from the city. Also, it would be with discretion of EIC on case-to-case basis depending on circumstances, location and types of jobs.**

7.6 The Contractor shall submit their Cenvatable Invoices to BGL, as stated hereunder:

- a. For Man-Hours
- b. Man-months
- c. For Reimbursements

**7.7 PAYING AUTHORITY:**

Finance In-charge of BGL

**Man-month Rate:** One (01) man-month will be taken as 26 working days at Job Site / Manufacturing Shop / Coordinator Work / Conformity Assessment / Audit work excluding



travel-time to reach workplace i.e. Job Site / Manufacturing Shop. The man-month rate is considered all inclusive. Therefore, any additional cost, whatsoever (towards backup management, professional, IT facilities, electronic gadgets, communication, transmittal, Stationery etc.) shall not be payable.

**Man-hour Rate:** Indicative/Tentative man hours considered against each activity is as detailed below, however actual man-hours consumed shall be decided on mutual discussion between BGL & Consultant.

S. No.	Description	Man Hours
1	Updation of existing DFR for each GA(Hyderabad, Vijayawada & Kakinada)	100
2	Updation of existing Capacity Determination of each GA (Hyderabad, Vijayawada & Kakinada) as per PNGRB requirement	100
3	Updation of existing ERDMP for each GA (Hyderabad, Vijayawada & Kakinada) as per PNGRB requirement	250
4	Updation of pipeline Integrity Mangement System for each GA as per PNGRB requirement	250
5	Engineering & preparation of drawing & design for COCO Mother/online station incl. office building, mechanical, instrumental, electrical,civil works, HAZOP study etc	1000
6	Engineering & preparation of drawings & design for CNG(RO/DODO/DBS/DS)/DCU, LNG - station layout( construction drawings , structural drawings, HAZOP study etc)	300
7	Engineering & preparation of GAD and layout for DRS/MRS/industrial/commercial/domestic connections	10
8	Engineering of conversion of DBS/DS to Online station	100
9	Design & engineering of Steel pipeline network ( including Underground, aboveground, SV stations, CP system, Spur lineconnection to DRS/MRS/CNG station/consumer terminals in all aspects & HAZOP study per Km	15
10	Design & engineering of MDPE pipeline network ( including Underground, aboveground,connection consumers in all aspects & HAZOP study per Km	1
11	Rerouting of gas charged steel/MDPE pipelines ( design & engg) per Km	10
12	Study Survey & Engineering for installation of Solar power plant at Mother station/COCO station	300
13	Updation of existing GIS Survey & reports as per PNGRB requirement	100
14	Asset evaluation for each GA	250
15	Collect & provide data to analyse operation performance of each GA	150

16	Lender engineering services for each GA every quarter	80
17	Study, Engineering & implementation of SCADA system in each GA	250

## **7.8 DEDUCTION AT SOURCE:**

- 1) Owner will release the payment to the Consultant after effecting deductions as per applicable law in force.
- 2) Owner will release payments to the Consultant after offsetting all dues to the Owner payable by the Contractor under the Contract.

## **8.0 PRICE REDUCTION SCHEDULE**

The PRS shall be as per the followings:

- 8.1 In case contractor fails to complete the work/ services within stipulated period as defined in Contract then unless such failure is due to force majeure as defined in Bid document, there will be deduction of @ 0.5% per week of delay or part thereof subject to maximum ceiling of 5% of order value.
- 8.2 Owner may without prejudice to any methods of recovery, deduct the amount of such PRS from any money due or which may at any time become due to contractor from its obligations or liabilities under the contract or by recovery against the performance bank guarantee. Both Owner and contractor agree that the above percentage of price reduction are genuine pre-estimates of the loss/ damage which Owner would have suffered on account of delay/ breach on the part of contractor and the said amount will be payable on demand without there being any proof of the actual loss/ damage caused by such delay/ breach. Owner decision in the matter of applicability of price reduction shall be final and binding.

## **9.0 ENGINEER-IN-CHARGE (EIC):**

BGL will designate the EIC for this contract and his name along with correspondence address will be mentioned in the FOA/LOA/Order.

- 9.1 Issue the contractor 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 contractor shall carry out and bound by the same.
- 9.2 To increase and or decrease the number of the work/service(s) required. The quantity of work / services(s) indicated in the schedule of rates is tentative. No compensation on account of decrease of scope of services shall be payable to the contractor whatsoever may be the reasons thereof.
- 9.3 Order the consultant 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 consultant shall be final and binding on the contractor

## **10.0 TAXES & DUTIES**

Bidder shall be entirely responsible for scope of work, all taxes, GST, license fees, freight, Insurance, Transit Insurance, any other duty on services or any other tax payable and/ or other levies etc. imposed by Central, state, municipal and local law and regulatory agency or authority including loading and unloading at BGL store. The rate in SOR is inclusive of all the above referred taxes/duties as defined in the tender document.

Any statutory variation in GST within the contractual period for the SOR items shall be to IGL's account. However, in case the contractual completion period gets extended for reasons solely attributable to contractor, the statutory variation shall be limited to contractual completion period only.

#### **11.0 TERMINATION FOR INSOLVENCY**

The Purchaser, may at any time, terminate the Contract by giving written notice to the Contractor, without compensation to the Contractor, if the Contractor becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Purchaser.

#### **12.0 TERMINATION FOR OWNER'S CONVENIENCE**

The Owner, by written notice sent to the Consultant, may terminate the Agreement, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Owner's convenience, the extent to which performance of the Consultant under the Agreement is terminated, and the date upon which such termination becomes effective.

BGL reserves the right to award the contract for a shorter duration than the specified or foreclose it with adequate advance notice not less than 30 days due to change in its business requirement.

#### **13.0 CONTRACT PERFORMANCE GUARANTEE:**

Contract Performance Guarantee (CPBG) clause will be as per the applicable Clause of GCC & ITB.

#### **14.0 SAFETY, HEALTH & ENVIRONMENTAL REQUIREMENTS**

It is client's objective to ensure that potential safety factors, health, and environmental effects are assessed for all projects, products, activities and acquisitions. For projects this is implemented by staged audits of safety, health and environmental aspects from concept stage to post commissioning in order to determine any shortcomings or non compliance.

The specific requirement includes the following:

##### **a. Project Safety Review**

A formal project safety review is to be carried out by CONSULTANT in consultation with owner and integrate across the various contracts. The CONSULTANT review team approved by Client / BGL will require data, input from key personnel from other contractors and access to all locations being used by contractor, subcontractors and suppliers. CONSULTANTS shall ensure that all recommendations and findings from safety reviews are implemented by contractors in a timely manner.

##### **b. Environmental Impact Assessment (EIA)**

CONSULTANT shall ensure that all recommendations resulting from the EIA/RRA studies carried out by CONSULTANT, on approval by owner, are incorporated in the tender documents for implementation by contractors.

##### **c. HAZOP**

PMC shall provide a team, with BGL's approval, for carrying out HAZOP study during design stage, construction stage, commissioning stage and shall ensure that all recommendations and

findings are implemented by contractors in a timely manner. Non Compliance of the HAZOP recommendations by Contractor shall be the responsibility of PMC.

**d. Health, Site Safety and Security**

CONSULTANT shall be responsible, on behalf of Owner for ensuring a high standard of occupational health and site safety management and for ensuring the requirements for health, safety and security to be maintained by contractors, subcontractors and other personnel working at site. CONSULTANTS shall compile the safety requirement on contractors. The purpose of these safety requirements shall be to prevent any accidents, incidents or events that could result in injury or fatality to personnel from contractors, subcontractors or PMC, Owner or third parties and/or damage or destruction to contractor's or Owners property, equipment and materials. The requirements shall be intended to supplement any Governing Authority of India, state, municipal, local or other regulations applicable at the site which PMC shall be obliged to enforce on behalf of owner. PMC shall agree with Owner's representative at site any variations between these requirements. PMC shall monitor report and ensure that the above requirements are fully adhered to.

**e. Site Safety Organization**

CONSULTANT is to appoint a safety - officers with appropriate staff support whose responsibility is to monitor all safety activities on the job and report his findings to CONSULTANT. The safety officer shall make periodic safety inspections of the job site on a schedule that will provide ongoing coverage. The inspections should be made jointly with the superintendents of the contractors responsible for ongoing work in the areas to be inspected. Any infractions or poor safety practices uncovered by these inspections shall be promptly corrected. Safety requirements shall be enforced on the entire supervisory organization of the contractor and subcontractors. Each location shall require enforcement of approved safety rules and procedures by contractors and subcontractors.

**f. Disaster Management Plan & Emergency Action Plan:**

Consultant shall be responsible for preparation of the DMP & EAP for the CGD network in HYDERABAD. The report when submitted shall be approved by EIC and then accepted.

**15.0 DEFECT LIABILITY PERIOD:** 3 MONTHS from date of Completion of order as declared by EIC

**ANNEXURE A  
PAYMENT TERMS**

<b>Payment Terms for Schedule of Rates (SOR) w.r.t Engagement of Consultant(S) For PMC &amp; O&amp;M Services at Hyderabad, Vijayawada &amp; Kakinada for 02 Years</b>			
<b>Sr</b>	<b>DESCRIPTION</b>	<b>Deliverables</b>	<b>Payment breakup</b>
<b>1</b>	<b>DESIGN /ENGINEERING /CONTRACT MANAGEMENT RELATED OFFICE WORKS PMC SERVICES</b>		



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	Engineering, Designing for Steel & MDPE Pipeline; Design, Engg, Preparation of Lay out, PESO drawing, Engg drawing, GAD, for CNG stn. /MRS/DRS/DCU/LCNG/LNG; Asset evaluation; Lenders Engineering Services; various reports in line with PNGRB regulations; O&M activities and all other works specified in SCC & Scope for Hyderabad, Vijayawada & Kakinada GAs	on certification of EIC/Project Coordinator, Monthly basis	100%
<b>2</b>	<b>Tendering - Supply packages</b>		
	Preparation of Technical specifications & Bid document, Floating of tender /Tender for multiple items and/ for multiple cities Evaluation of Bids, Recommendation for Placement of orders, subsequent release order, dispatch clearances etc including approval of vendor drawing, data sheets, QAP, etc at site office/ Head office, Follow ups with suppliers, other works required to complete the supply and	Floating of NIT/Tender	40%
		Submission PBO recommendation of each package /Tender	20%
		Submission of award Recommendation	20%
		Submission of Draft Order of each package/Tender to the respective bidder/s	10%
		Closure of contract /package including issuance of Completion certificate to client /EIC for onward issue to the Bidder/s	10%
<b>3</b>	<b>Tendering - Works/Services packages</b>		
	Preparation of Technical specifications & Bid document, Floating of tender/Tender for multiple scope and/ for multiple cities/ Locations Evaluation of Bids, Recommendation for Placement of orders, release of subsequent orders etc - For Composite / Construction / works / Service package ,approval of vendor drawing, data sheets, QAP, etc at site office/ Head office, simulations if required, inspection of bought out items ,dispatch clearance and other works required to complete the contract, Closure of contract/report including submission of vendor evaluation, Completion certificate / execution certificate, feed back etc	Floating of NIT/Tender	40%
		Submission PBO recommendation of each package /Tender	20%
		Submission of award Recommendation	20%
		Submission of Draft Order of each package/Tender to the respective bidder/s	10%
		Closure of contract /package including issuance of Completion certificate to client /EIC for onward issue to the Bidder/s	10%
<b>4</b>	<b>SITE EXECUTION, SUPERVISION, MONITORING, SITE RELATED JOBS &amp; PMC SERVICES &amp; STORE MANAGEMENT</b>		



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	Carrying out the Site supervision of the work being executed at site for CGS/Steel / MDPE/ GI / CNG / De-compression facility/LNG Stn/LCNG/ GIS & O&M activities etc. for CGD project at each GA / locations / Cities along with projects store management (Preparation and posting of SIV/GRV / MIV/MRN etc.)	on submission of the certified attendance by of EIC/Project Coordinator/SIC, Monthly basis	100%
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**SECTION – 8**  
**SCOPE OF WORK**



## **SCOPE OF WORK**

### **1. SCOPE OF WORK**

1.1 M/s BGL Limited (BGL) has been entrusted by PNGRB for development of City Gas Distribution Network in following GA's. The GA's as are mentioned below:

- a. HYDERABAD GA, (Telangana State)
- b. VIJAYAWADA GA, (Andhra Pradesh State)
- c. KAKINADA GA, (Andhra Pradesh State)

In order to get support in development of infrastructure in above GAs to achieve Minimum Work Program (MWP) & O&M support services/ Scope for 02 years as stipulated below, BGL intends to appoint Project Management Consultant (PMC).

1.2 PMC & O&M support services/ Scope for two years would be as per the details provided here and as per the company's /PNGRB target for each GA and PMC scope of work would be in accordance with an aim to achieve the targets for 02 years.

### **2. GENERAL SCOPE:**

To assist in developing the CGD's network in these Geographical Areas, as mentioned at Sl. No. 1.1, i.e... *HYDERABAD, VIJAYAWADA & KAKINADA*. PMC's Scope of Services shall include but not limited to the following –

- i) Preparation of DFR as per requirement for each site, inputs / Business Plan including technical & commercial aspects like technology, line sizing, pipeline configuration, costing and estimation etc.
- ii) Basic Engineering, Hydraulics for steel and MDPE pipe lines and Design Basis as per latest guide lines of PNGRB.
- iii) Design & Detail Engineering for facilities as per the Target.
- iv) Preparation of drawings, Material Requisitions and Project Document Index.
- v) Carryout necessary calculations and conduct appropriate design procedure and analysis, as required, to optimize the sizing and selection of the equipment and specification of materials.
- vi) HAZOP Study, Capacity determination, ERDMP for the System.
- vii) Identify the interface points/battery limits and incorporate them on relevant drawings and documents.
- viii) Planning & scheduling for development of the project in each GA.
- ix) Provide technical assistance to BGL for obtaining various statutory permissions from statutory authorities like Forest, Railways, Irrigation, National/ State highways, CCOE (Chief Controller of Explosives) etc.
- x) Preparation of Material Take-offs (MTO), Material Requisition (MR), Service Requisition (SR) etc.



- xi) Preparation of Cost Estimate for all tenders and providing the analysis of estimation (if required for percentage tendering etc).
- xii) Preparation of tender documents, invite bids, expediting submission of offers evaluation of un-priced and price bids, PBO recommendation, recommendation for award of job as per BGL's C&P procedure, assistance during negotiations. Copy of BGL C&P procedure shall be provided after award.
- xiii) Expediting CPBG, Contract agreement, Indemnity bond etc.
- xiv) Preparation of letter of intent, work orders / purchase orders, contract documents/ agreements.
- xv) Amendment in PO/WO, returning of EMD of unsuccessful bidders.
- xvi) Review and approval of design/drawings/documents submitted by vendors/ contractors/ suppliers.
- xvii) Quality Assurance and Quality control of the work being executed.
- xviii) Inspection / Expediting of equipment / Materials being manufactured by vendors including contractors supplied items.
- xix) Processing of the vendors' bill including verification and certification of 100% measurement by PMC and submitting and making reconciliation statement with each RA bill
- xx) Review and approval of 'As Built Documents/Drawings submitted by the contractor.
- xxi) Construction Management & Supervision works at site/s.
- xxii) Supervision during Commissioning.
- xxiii) Project Cost Control, Management & Monitoring.
- xxiv) Carry forward the existing running jobs/purchase orders in continuity.
- xxv) Carrying out the technical & coordination works for lodging of insurance claims and realization of these claims from the insurance agencies. However, implementation of insurance policies and payment of its premium would be in scope of either Vendor/Contractor or BGL.
- xxvi) Providing liability and capitalisation in-respect of work executed on quarterly basis duly signed by PMC.
- xxvii) Preparing of replies of statutory auditors / Govt auditors and other statutory auditor in respect of work being executed by PMC.
- xxviii) Recommendation for closure of contract including reconciliation of Free issue materials, Bought out items, time extension, Final bill and Documentation
- xxix) Performance of Vendors/ Contractors

- a. Carry out the performance evaluation of vendors/contractors.
  - b. Along the order/contract closing statements, the consultant shall provide performance evaluation report of all the vendors/ contractors who have participated in the bidding process. The format for the same shall be provided to the bidder who will be appointed as the PMC.
- xxx) Quarterly closure of contract, health monitoring of contract.
- xxxi) Asset Evaluation
- xxxii) Lender Engineering Services
- xxxiii) IT related services
- xxxiv) Supervision of receipt of materials, issuance of materials to contractors, maintaining the records, etc., under Stores Management.
- xxxv) Engineering for any modification in exiting Steel/MDPE network as per site requirement, change management & HAZOP study before gas charge.

## **2.1 ENGINEERING:**

### **2.1.1 Process Design**

This will comprise of the following and delivered to BGL both in hard and soft forms:

- i) Process Design Basis including Process Description, Operation & Control Philosophy.
- ii) Equipment process data sheets.
- iii) Equipment list.
- iv) Process flow diagrams.
- v) Piping and Instrumentation Diagrams (P&IDs), HAZOP study.
- vi) Instrument list and data sheets.
- vii) Utilities requirement and their specifications.
- viii) Piping material specifications.
- ix) Line schedule.
- x) Process description.
- xi) Operation Manual and control philosophy.

### **2.1.2 Pipeline / Piping**

- (i) Preparation of Design basis.
- (ii) Issuance of alignment sheets and other construction drawings including those for crossings along the pipeline route based on survey details by survey contractor.
- (iii) Preparation of MDPE Network diagram, line sizing, valve locations considering scope of PNG supply, DRS location, completion of loop connecting DRS to DRS through main line, ensuring gas supply through alternative routes
- (iv) Review & approval of GI drawing for Apartments, Individual Houses, Commercial installations such as Hotels, canteens, etc.
- (v) Preparation of specifications for line pipe, line materials, terminal materials and transportation, terminals & pipeline laying, HDD crossings.

- (vi) Review of vendor/contractors' documents.
- (vii) Preparation of specifications for line pipe coating and transportation, terminals & pipeline laying, HDD crossings & HAZOP Study.
- (viii) Preparation of equipment layouts.
- (ix) Preparation of General Arrangement Drawings
- (x) Preparation of material requisitions and purchase requisitions.
- (xi) Technical & financial evaluation of bids.
- (xii) Provide PBO recommendations & draft PO

### **2.1.3 CNG Stations / Compression Facility**

- (i) Preparation of Plot Plan and layout drawing including existing OMC retail outlets for PESO approval / execution
- (ii) Preparation of different drawings like; Cable and tube trenches, electrical panel, loading/unloading points, UPS etc. for CNG facilities.
- (iii) Preparation of Design basis & P&IDs.
- (iv) Preparation of specifications for all items and components of various packages like Compressor packages, Dispensers, Cascades etc. including optimization.
- (v) Preparation of General Arrangement Drawings.
- (vi) Perform pipeline stress analysis to determine the system flexibility.
- (vii) Carryout piping stress and flexibility analysis for the station piping.
- (viii) Preparation of material requisitions and purchase requisitions for Online & Booster Compressors, Dispensers, Cascades etc.
- (ix) Design and detailing of online CNG stations, mother stations, Daughter & Daughter Booster station, supply through cascade, etc.
- (x) Preparation of Composite works tender for carrying out the Civil, Mechanical, Electrical, Structure, Instrumentation etc. work at different type of CNG stations Viz. Daughter, Daughter Booster, Online, Mother, COCO, CODO, DODO etc.
- (xi) Drawing & Data sheet approvals of various bought out items of composite works contractor

### **2.1.4 Electrical / Pipeline CP System**

- (i) Preparation of technical specification
- (ii) Preparation of electrical load details for City Gate stations, CNG Stations & CP/SV stations.
- (iii) Comparative study for power supply at SV/CP station.
- (iv) Review of soil resistivity reports prepared by the contractors.
- (v) Preparation of specifications for cathodic protection (CP) system, both TCP & PCP.
- (vi) Preparation of data sheets and material take-off.
- (vii) Preparation of material requisitions and purchase requisitions.
- (viii) Preparation of tender specification for electrical and CP works.
- (ix) Review of vendor/contractors' documents.
- (x) Preparation of electrical design drawings.

### **2.1.5 Mechanical**

- (i) Preparation of Mechanical Design Basis.
- (ii) Preparation of technical specification for all Mechanical items / welding procedures.

- (iii) Preparation of equipment data sheets and material take-off.
- (iv) Preparation of material requisitions and purchase requisition
- (v) Technical evaluation of bids and Preparation of tender specifications for mechanical works.
- (vi) Review of vendor/ contractors' documents.
- (vii) Layout, General arrangement drawings of piping for various stations like city gate station, CNG stations, SV Station, Tap-offs etc.
- (viii) Preparation of technical specifications for all mechanical related items.

#### **2.1.6 Instrumentation**

- (i) Review of P&IDs and control philosophy and Preparation of matching Instrumentation and SCADA/ Data transmission from meter to BGL Server/Storage & Billing philosophy.
- (ii) Communication of various data from CNG stations, MRS, DRS etc. to central server at BGL HO or any other suitable locations.
- (iii) Review & approval of DRS / MRS specifications / drawings
- (iv) Review of instrumentation, civil works, composite tenders, electrical, CP and telecom systems
- (v) Preparation of Design Basis.
- (vi) Finalization of instrument data sheets and prepares material take-off.
- (vii) Preparation of system specifications, material requisitions and purchase requisitions
- (viii) Technical evaluation of bids.
- (ix) Review of FAT and SAT test plans and procedure documents.
- (x) Preparation of drawings required for construction.

#### **2.1.7 Civil Works**

- (i) Preparation of design basis including requirements for firefighting and safety aspects.
- (ii) Preparation of plot plans for City Gate Stations, CNG Stations, SV Stations.
- (iii) Preparation of area drawings.
- (iv) Preparation of material requisitions and purchase requisitions.
- (v) Preparation of technical specifications.
- (vi) Preparation of design of foundation of the equipment, building etc.
- (vii) Preparation of material take-off.
- (viii) Technical evaluation of bids.
- (ix) Preparation of tender specifications for topographical surveys and general civil works.
- (x) Review of vendor / contractors' documents.
- (xi) Preparation of drawings required for construction.
- (xii) Detailed technical specifications for equipment foundations, roads, drains, buildings, compounds wall etc. Preparation of MTO and MR for all items.
- (xiii) All Civil & structural works related to City Gate Stations, CNG Stations, and SV Stations., DRS, MRS, pipeline related activities such as Markers, Valve chambers etc.
- (xiv) Ensuring restoration of roads as per Tender specifications.

#### **2.1.8 Architecture**

- i) Detailed technical specifications for equipment foundations, roads, drains, compounds wall etc.

- ii) Preparation of architectural drawings for CNG Stations, CP/IP/SV Stations, Control Room, Administrative Building, etc.
- (iii) Preparation of material take-off and MR for all items.
- (iv) Preparation of tender specifications.
- (v) Site grading plan and layout of roads/storm water disposal / sewage disposal at above locations.
- (vi) Fire-fighting facilities at above locations.

#### **2.1.9 Structural**

- (i) Preparation of design specification.
- (ii) Preparation of layout drawings for buildings
- (iii) Preparation of drawings for platform, staircase, canopy, shed etc.
- (iv) Preparation of material take-off.
- (v) Preparation of specifications for structural works.
- (vi) Preparation of design & fabrication drawing for steel structures.
- (vii) Preparation of drawings required for construction.

#### **2.1.10 Solar Power plant:**

- (i) Study, site survey, design & detail engineering in all respect.
- (ii) Preparation of tender documents, invite bids, expediting submission of offers evaluation of un-priced and price bids, PBO recommendation, recommendation for award of job as per BGL's C&P procedure, assistance during negotiations.
- (iii) Supply, Installation and commissioning of Solar system
- (iv) Assessment of building stability study for installation of Solar power plant at Mother stations and any suitable locations of all 3 GAs Viz. Hyderabad, Vijayawada & Kakinada.

#### **2.1.11 Capacity Determination:**

Capacity determination report for each GA to be submitted as specified in the PNGRB regulations.

- (i) Simulation of Natural Gas network using GAS Works software and determination of CGD network capacity for each GA.
- (ii) Submission of Individual Report as per PNGRB Requirement for each GA – editable copy and 2 nos. hard copies
- (iii) Complete network Drawing super imposed on the Authorised GA map of each GA - editable copy & 2 nos. hard copies.

#### **2.1.12 Survey (Soil Investigation, Geo-Technical, Hydrological Survey)**

- (i) Preparation of tender specifications & documents for above survey works.
- (ii) Techno commercial evaluation of bids.
- (iii) Supervision during surveys such as Area survey, Crossings, Alignment finalization, Steel pipeline survey etc.
- (iv) Review of soil investigations/ survey reports.
- (v) Review of Topographic surveys of SV Stations, City Gate Stations and CNG Stations.
- (vi) GIS Survey & report as per PNGRB Regulations requirement.

### **2.1.13 SAFETY**

- (i) HAZOP study during detail engineering, construction & commissioning.
- (ii) Assistance in preparation of Disaster Management Plan, Onsite and Offsite Emergency Action Plan, Safety Manual for commencement of commissioning of the respective CGD systems.
- (iii) Ensuring the safe execution of works at site.
- (iv) Preparation of safety pamphlets, Do's & Don'ts etc. required to be distributed to statutory authorities, residents during construction.
- (v) Review & approval of procedures for safe working such at heights, etc.

### **2.2 PROCUREMENT SERVICES**

The PMC will be responsible for preparing all the Tender documents for all the Purchase and Work Orders. The tender documents will incorporate the BGL standardized "General Conditions of Contract" and "Instruction to Bidders" which will be provided by BGL to PMC. The tendering will be done strictly as per BGL Procurement Procedure including compliance to various timelines specified therein and Notification / guidelines being issued by Ministry, Government of India and Central Vigilance Commission etc. from time to time. The envisaged activities include:

- i) Preparing and floating tender inquiries (in newspapers, BGL website, PMC website, Government of India web sites etc.) as per the latest guide lines including formulation of Bid Evaluation Criteria. All tenders are required to be published on BGL web site.
- (ii) Issue ICB/ domestic enquiries to the bidders. Expediting offers from bidders.
- (iii) Carry out techno- commercial evaluation of bids and prepare CBA/TBA and the purchase recommendation in-line with BGL procedures.
- (iv) Consultant shall make efforts for getting maximum number of techno-commercial valid offers (at least 3) for all material requisitions/tenders to ensure proper competition. However, for exceptional cases where this is not possible consultant will provide appropriate reasoning / justification for not ensuring the same.
- (v) Prepare draft Purchase Order/Work Order for issuance by BGL, Further, PMC will ensure preparation of LOA / Purchase Order / Outline Agreement within 07 days from the date of issue of FOA.
- (vi) Prepare purchase status reports and Monitor procurement progress.
- (vii) Approval of supplier Drawings / Designs in time.
- (viii) Ensuring proper transportation, logistics and material management.
- (ix) **Master Vendor List:**

A master vendor list is to be prepared for supply of all materials and equipment, contracts. This list will be based on consultant's experience with Indian and worldwide vendors. Efforts will be made to include as many Indian vendors as possible. Vendors on Holiday/Banning list of BGL/Consultant during tendering shall not be considered.

- (x) **Warranties and Guarantees:**

PMC shall obtain from the vendors/suppliers, the best possible warranties and guarantees covering workmanship and materials for the benefit of the owner and will take all steps to ensure that such warranties and guarantees are enforced. (Same shall be within the framework of BGL C&P Procurement procedure)



Procedure). The PMC shall be completely responsible for all warranties / guarantees related to the design & engineering being done by them.

(xi) **Enquiries:**

The PMC shall assign a central procurement team to manage and conduct the purchase of all equipment and materials. Enquiry activities shall be controlled by the consultant. Consultant shall be responsible for issuing enquiries to those vendors on approved vendor lists, expediting receipt of quotations, evaluating the bids and submitting recommendations to owner for approval.

- (xii) Press Advertisement fee would be reimbursed to the PMC including GST in case of tender advertisement released by PMC and Proceeds of tender fees shall be forwarded to the owner by the PMC.
- (xiii) Reasons for cost variation between estimated costs submitted with recommendation for price bid opening and Order value.
- (xiv) The cycle time for completion of each intermittent activity for pre-ordering/ post-ordering will be maintained so as to achieve timely completion of the project as per targeted completion schedule
- (xv) PMC is to ensure that CPBG / Contract Agreement should be furnished by the successful bidder within stipulated time as per respective bidding document.
- (xvi) PMC to conclude the tender within the time as mentioned in BGL Procurement Procedure
- (xvii) Material/ Purchase Requisitions (MR / PR) are to be processed
- (xviii) Consultant will prepare MR in such way that surplus generation is 3 % or less, wrt the total procurement.

## 2.3 **INSPECTION**

- i) Preparation of Inspection and testing plan (QAP).
- ii) Preparation and Submission of all drawings / documents required for manufacturing to vendors / contractors. Granting approval to all drawings / documents submitted by vendor for start & during manufacturing. PMC shall also expedite submission of required drawings, QAP, procedure etc. by vendors in order to expedite the procurement of materials.
- iii) Preparation of inspection and expediting procedure.
- iv) Preparation of vendors manufacturing and delivery schedules.
- v) Expediting of vendors for timely action on sub-contracted items.
- vi) Approval of vendor's procedures in time for manufacturing.
- vii) Material identification and marking.
- viii) Inspection of bought out items.
- ix) Inspection of items to be used from BGL surplus stores.
- x) Witnessing of performance/acceptance tests as applicable.
- xi) Preparation of periodic inspection and expediting reports.
- xii) Issuance of final "Inspection Release Note" after inspection.
- xiii) For Inspection / tour outside India:
  - a) Stage inspection will be carried out selectively based on purchase requisition.
  - b) For critical/major items final test including hydro tests, FAT etc. shall be witnessed and certified. However, for components, non-critical/minor equipment and bulk materials acceptance shall be on the basis of review of relevant test certificates/actual inspection as decided by the inspector in

consultation with BGL (Critical/ major items include Steel Line pipes, CNG Compressors, MRS / DRS, Dispensers, Ball valves etc.)

- c) To & Fro, DA shall be borne by BGL as per rules prevailing in BGL. Prior approval of BGL shall be required.

## **2.4 CUSTOM CLEARANCE AND TRANSPORTATION**

- i) Assistance to BGL in registration of all imported orders with custom authority.
  - ii) Assistance to BGL in establishing clearing agents/ transportation contractor and site handling contractors.
  - iii) Assistance to BGL in resolving customs/ transportation issues.
  - iv) Assistance to BGL in storage-cum-erection cover and transit insurance cover for all equipment and materials.
  - v) Coordination of the activities of indigenous vendors, transporters and insurance agents by maintaining a regular contact with them for inland transportation of materials.
  - vi) Monitoring of material movement for critical items till receipt at site.
- All expenses related to Customs duty, clearances, handling, storage, demurrage, and transportation charges shall be borne by BGL.

## **2.5 CONTRACTING**

- (i) Prepare Bidder Evaluation Criteria (BEC) & list of contractors for various works.
- (ii) Prepare Tender documents for all works.
- (iii) BEC recommendation.
- (iv) Release of NIT for publication/Issue Enquiries to the contractors. All enquiries are to be published in the websites of BGL / PMC. Expediting for submission of offers.
- (v) Carryout technical and commercial evaluation of bids and prepare TBA/CBA, recommendation, Uploading of TBA, CBA and FOA.
- (vi) PBO (Price Bid opening) recommendation and Price award recommendation etc.
- (vii) Prepare FOA/Work Order. Further, PMC is to ensure preparation of LOA within 07 days from the date of issue of FOA.
- (viii) Prepare contract documents.
- (ix) Prepare tendering status report.
- (x) The consultant shall follow BGL's C&P Procedure, GCC, ITB etc. for all contracts (Consultant before submitting the bid, if desire to study the C&P procedure, General Conditions of Contract –GCC & Instruction to Bidders-ITB can refer the copy of same at BGL office.)
- (xi) The cycle time for completion of each intermittent activity for pre-ordering/ post-ordering will be maintained so as to achieve timely completion of the project as per targeted completion schedule.
- (xii) PMC is to ensure that CPBG / Contract Agreement should be furnished by the successful bidder within stipulated time as per respective bidding document.
- (xiii) PMC to conclude the tender within the time as mentioned in BGL Procurement Procedure.
- (xiv) PMC to extend its full support to BGL in preparation of documents to put up BGL claim or to present BGL position in case of any arbitral issue with the contractor / supplier.



- (xv) Return of EMD to unsuccessful bidders.
- (xvi) Quarterly closure and health monitoring of contracts.
- (xvii) Quarterly closure of contracts.
- (xviii) \*\*Closure of supplies & services reports including submission of vendor evaluation, Completion certificate / execution certificate, feedback etc for such supplies & contracts which are under execution / yet to be completed (not floated by the consultant)

## **2.6 COST ENGINEERING**

- i) Prepare periodic cost status reports (monthly).
- ii) Prepare MR and detail cost estimates for bid comparison purposes.
- iii) Preparation of accurate estimates in time (based on past data/ CPWD basis/ Market rate Analysis) for procurement items and works is an important activity in Cost Engineering. Owner lays strong emphasis on accuracy of cost estimates and price difference beyond (+/-) 10% shall call for analysis. In case of deviation between cost estimates & L1 price bid being more than (+/-) 10% not backed by justifiable reasons and not beyond the control of PMC shall be treated as deficiency of services by PMC. In such instances no payment shall be made to PMC for re-tendering.
- iv) Provide assistance in settling all commercial issues with all the vendors/ contractors till the final closeout.

## **2.7 AS-BUILT DRAWINGS / Documentation**

- a. Receipt of as-built drawings/ documents from contractors/ vendors and forward the same to BGL duly reviewed, certified & approved by PMC.
- b. The project related documents for future reference and records shall be handed over to BGL. Submission of final documents shall be under the following heads:
  - i. As built drawings.
  - ii. Separately highlighting recommendations of Hazop Study.
  - iii. Problems faced during the project execution and mitigation measures taken and reasons for future.

## **2.8 PROJECT MANAGEMENT AND CONTROL**

### **2.8.1 Planning and Scheduling**

- (i) Preparation of Work Breakdown Structure.
- (ii) Preparation of Project Network Diagrams.
- (iii) Preparation of Project Activity List, Milestones, etc.
- (iv) Preparation of Project Overall Percentage Schedule: Monthly Breakups, and Cumulative Breakups.
- (v) Preparation of Percentage Schedule Monthly Breakups for each-element / discipline of WBS.
- (vi) Preparation of Project Cost Estimate for each purchase and work order.
- (vii) Preparation of Project Financial Commitment Schedule in accordance with the envisaged- / actual dates for order placement.
- (viii) Providing liability in-respect of work executed on quarterly basis duly signed by PMC
- (ix) Preparation of Project Planned Cash Out Flow in accordance to the envisaged / actual

dates of delivery / construction.

- (x) Preparation of Project Communication / Coordination Plan.
- (xi) Preparation of Inspection Schedule and Plan.
- (xii) Preparation & Submission of Monthly Progress Reports.

### **2.8.2 Project Management**

PMC shall be responsible for the entire Project Management wherein they will be required to work in close coordination with BGL Project team. For efficient and timely completion of the project PMC shall perform following activities:

- (i) Establishment of Communication Procedures in concurrence with BGL
- (ii) Establishment of procedures for various activities to be performed for various WBS elements viz. Tendering, Ordering, Manufacturing, Inspection, Delivery, etc.
- (iii) Defining the "Scope of Work" for various groups.
- (iv) Attending the Monthly Project Review Meetings with BGL.
- (v) Surveillance on all project related activities.
- (vi) Monitoring progress of the project and submits periodic status reports to BGL.
- (vii) Coordination with vendors / contractors, relating to the procurement of items and execution of the work. Providing timely inputs in terms of materials and drawings to the contractors for carrying out the construction activities.
- (viii) Preparation of various reports/ draft reply letters as required from time to time by BGL and for onward submission to Government & statutory authorities.
- (ix) Providing information on best international practices being followed across the globe for CGD projects as and when the information is desired by BGL for effective and timely project completion.

### **2.8.3 PROJECT MONITORING AND CONTROL**

- (i) Preparation of detailed project schedule.
- (ii) Identification of all activities falling on the critical path of the project.
- (iii) Identification of all activities requiring close co-ordination /synchronization.
- (iv) Preparation of a look-ahead model/ catch-up plan for the project from time to time.
- (v) Generation of all project monitoring reports for the project drawing attention towards critical jobs, activities and functions.
- (vi) Identification of all activities/steps required for execution of the project within approved cost.
- (vii) Identification of all activities/steps required for execution of the project within stipulated time
- (viii) Highlight pitfalls, if any, caused by the Project Consultant/ - any agency hindering efficient execution of the project
- (ix) Monitoring of contractor logistics for line pipe, manufacturing, coating and laying
- (x) Generation of MIS reports for the project, and identify critical path on fortnightly basis.
- (xi) Providing all inputs / performing all project monitoring activities as desired by the BGL Management/Project Group from time to time for timely completion of the project.
- (xii) Carrying out quality audits and Identifying the root causes of the problems encountered in Line pipe manufacturing, Coating plants and Pipeline construction activities.

## **2.8.4 MATERIAL MANAGEMENT, MONITORING AND CONTROL**

Planning for material requirement, procurement action and ensure availability at all 03 GA's site without affecting work progress is the responsibility of the PMC.

## **2.8.5 STORES & MATERIAL MANAGEMENT**

- i Separate project stores to be maintained by Consultant.
- ii Receipt of equipment/materials from suppliers and certify their invoices for payment.
- iii Inspection of the condition of goods received and issue Goods Receipt Voucher.
- iv Maintaining record and submit report every month, indicating the stores in stock, material in transit, material issued to contractors and balance material to be received as per PO's issued.
- v Issuance material for construction to contractors and prepare Stores Issue Vouchers.
- vi Receipt of unused material returned by the contractors and preparation of Material Return Note.
- vii Preparation reconciliation statements to enable owner to check and take over balance stores, along with requisite inspection certificates/ documents etc.
  - a. Preparation of GRV's (Goods Receipt Voucher) in real time on receipt of material at site store and SIV.
  - b. MTN (Material Transfer Note) – in / out on shifting of material from existing inventory in BGL.
  - c. Handing over of project surplus materials to BGL and its valuation at the time of project Completion.
- viii The said stores shall be managed by the PMC. However, Stores Infrastructure viz. space, furniture, to be provided by BGL.
- ix Receipt of materials, GR creation and inspection. However, for Project Materials, inspection is in the scope of PMC.
- x Submission of weekly Receipt & issue Reports to respective OICs, Project Dept. and C&P Dept.
- xi Material Reconciliation statement along with each RA bill.
- xii Signing of each RA bill by PMC
- xiii Binning / stacking / issue of materials, SIV posting.
- xiv Perpetual Inventory for Project and O&M materials on quarterly basis. Discrepancies if any between physical quantity and record quantity to be notified to BGL with proper reasoning for further action.
- xv Circulation of list of non-moving items on quarterly basis to concerned of BGL.
- xvi Assist BGL for identifying surplus / obsolete etc. items.
- xvii Dispatch activities in case of OSRD / MTN-OUT materials. However, packing and freight charged shall be borne by BGL.
- xviii Submission of Monthly insurance declaration statement for receipt and stock items to underwriters with a copy to BGL.
- xix For such cases where insurance claim 'on transit and stock items for which insurance coverage is undertaken by BGL, (PMC) will provide the technical and other assistance, support, report etc for lodging the claims
- xx Proper housekeeping of stores at closed and open area.
- xxi Assist auditors / BGL personnel during physical verification.
- xxii Accounting and storing of scrap materials.
- xxiii Assists all concerned during disposal activities of scrap/surplus/ obsolete etc. items

## **2.9 COMMISSIONING, STARTUP AND PERFORMANCE TESTS**

### **2.9.1 Mechanical Completion**

- (i) Recommendation for approval of operating manual, program, etc., and supervises the mechanical completion.
- (ii) Recommendation for approval of construction completion certificate.
- (iii) Approval of required procedures, plans, schedules and necessary certification for construction completion by the other contractors.
- (iv) Approval of manual for respective contractors for implementation of all necessary procedures to ensure safety of personnel working on construction activities at the same time as field inspection, testing and commissioning is in progress.

**2.9.2 Commissioning and Start-up:**

- (i) Approval of commissioning procedure,
- (ii) Co-ordinate the start-up team to supervise and monitor the commissioning, start-up performance test and initial operation of the facilities consisting of representative of Owner operating personnel, equipment suppliers.
- (iii) Identification of defects and deficiencies during commissioning.
- (iv) Supervision and monitoring of all commissioning and start-up activities and all performance tests runs.
- (v) Review and approval of test reports.
- (vi) Preparation of commissioning record

**2.10 Factory Acceptance Tests & Site Acceptance Tests**

- (i) Witness & certification of Factory Acceptance Tests in the premises of vendor for supply materials viz, CNG Compressors, dispensers, DRS, MRS, Steel pipe, valves, PE pipes SS tubes etc.
- (ii) Witness & certification of Site Acceptance Tests of CNG compressors

**2.11 PROJECT DOCUMENTS / COMPLETION / CLOSE-OUT REPORT**

After successful completion and commissioning of the project, PMC shall perform following activities:

- (i) Follow up with vendors and contractors for as-built drawings / documents in required software and hardcopy format, review/approve the same and forward BGL.
- (ii) Recommendation for closure of Contract such as Time extension, Reconciliation of materials, Final bills, Deviations etc.
- (iii) Submission of all project related documents to BGL for future reference and records. Submission of final documents shall be under the following heads:
  - (a) As built drawings
  - (b) Detail operating manual
  - (c) Separately highlighting recommendations of the EIA, Hazop Study & Risk Analysis etc.
  - (d) Problems faced during the project execution and mitigation measures taken in future.
- (iv) Submission of all evaluation sheets of performance for all vendors, contracts in line with established procedures to which orders were placed.
- (v) Hard & Soft Copies of contracts Closeout Report incorporating the following;
  - (a) Project brief
  - (b) Pipeline Network Diagram

- (c) Chronology of. Approvals
- (d) PMC Head Office & Site Office Organogram
- (e) Names of PMC Personnel working for the project along with all contact details.
- (f) Pipeline configuration and Spread details
- (g) Deviations if any and mitigation measures taken
- (h) Details of various types of Crossings
- (h) Names of Standards referred and used in design and Engineering for various items, Construction, Inspection
- (i) List of key milestones and date of actual achievement.
- (j) List of POs/ WOs including vendor name and contact detail.
- (k) Experience gained during Project Execution and improvements for future projects.
- (l) Construction Photographs.

**2.12 For SOR SITE SUPERVISION/INSPECTION ACTIVITIES:**

- 1 To develop construction schedule along with execution agency based on the execution plan, drawings and work order.
- 2 Supervision and inspection of site activities and execution of the work as per tender specifications, establishment of working procedures, QA/QC procedures, documentation and signing of inspection reports, certification of bills / invoices of contractors / vendors.
- 3 Provide adequate number of qualified / experienced engineering staff ( RCM at each GA (having the qualification of BE/BE Tech with 10 years of experience in construction and Site Engineers for Carrying out the Site supervision for Steel / MDPE/ GI / CNG / De-compression facility/LNG Stn/LCNG/ GIS work etc. for CGD project at each GA / locations / Cities with 04 years' experience for Diploma engineers and 02 years for BE engineers and 02 years' experience with Level –II certification for evaluation of NDT results for steel and plant piping).
- 4 To look after the progress with overall responsibility of achieving the targets, including, Planning, availability of material, store management, work Scheduling, WO - Closure recommendation, Billing, recommendation, Appl, Budgeting/ Cash flow requirement, Capitalization, Liabilities on qtr. basis etc.to render day-to-day site supervision, quality control during execution of all the works.
- 5 Material testing and performance tests shall be witnessed and approved.
- 6 To ensure compliance of statutory requirement viz. minimum wages act. Workers compensation act. PF & ESI acts, safety acts, accident/insurance acts, license acts, etc.
- 7 Carrying out stage / final inspection at place of manufacture/fabrication and installation.
- 8 To ensure conformity with lay down / latest specifications, quality standards and trade practices.
- 9 Carrying out welder's qualification test, electrician's trade test, safety drills visitor's identification, etc.
- 10 Preparation of weekly, fortnightly and monthly progress report (in approved format), exception reports, deviation report etc.
- 11 Carrying out expediting as required and preparation reports.



- 12 Maintaining material consumption records, take detailed measurements at site, check RA and final bills of the contractors.
- 13 Furnishing completion/inspection certificates, organize handing over / taking over of complete works.
- 14 Punch list points raised by O&M & Safety department during handing over / taking over needs to be attended in time bound manner.
- 15 Assistance during the commissioning as and when required.
- 16 Providing technical support/supervision for trouble shooting and post-commissioning works.

### **2.13 For O&M SUPPORT SERVICES:**

In addition, regular O&M activities to be carried out. During regular O&M activities of Steel & MDPE pipelines and PNG maintenance, different modification jobs/miscellaneous jobs are needed to be carried out as and when required for optimization of operational activities, compliance of various audit points etc. BGL intends to hire the service of reputed Project Management Consultant (PMC for consultancy/engineering solutions for operation and maintenance towards improve in efficiency, modification, upgradation, statutory compliance and standards for CGD network, pipe line, CNG Stations, DRS, MRSetc. and its installations in all 3 GAs.

- i. Collect and provide data as deemed necessary by BGL to analyse operational performance.
- ii. Providing services for Maintenance of Steel & PNG network. Liasoning with Steel & PNG related works for supply, restoration of PNG and assisting in overall operation and maintenance of the Steel & MDPE Pipelines.
- iii. Monitor all essential parameters of the SV stations and report any discrepancy in operational parameters. Logging of PNG records (Periodic, daily and annual/ breakdown), regular maintenance incidents/activities etc. Quick response to Steel & MDPE pipeline damages and PNG complaints for needful course of action/rectification in time.
- iv. Providing services for coordinating with BGL O&M team, to meet any emergency situation to rectify/arrest the CNG/PNG leaks.
- v. Taking care of CNG facilities in the stations by attending the operational problems at CNG Stations including CGS Cum Mother Station.
- vi. Technical assistance in maintaining or upgrading the Cathodic protection system of steel line.
- vii. Supervision & assisting in maintenance (schedule/preventive/breakdown) of compressors and dispensers.
- viii. Assisting BGL in conducting training programs for upgrading operational practices, participate safety trainings.
- ix. Identification of any encroachments /vulnerable locations along the pipe line and timely intimation to BGL officials.
- x. Any type of mechanical activities which are necessary to optimise operational excellence.
- xi. Monitor all essential parameters of the electrical equipment and report any discrepancy in operational parameters.
- xii. Any type of Civil, architectural & miscellaneous jobs in the already operational pipelines, mother station & existing CNG stations.
- xiii. Any other works which are not mentioned under scope has to be carried out as per directions of EIC for smooth operations. The personnel provided for support services must strictly adhere with and follow the latest SOP's (Safe Operating Procedures) provided/displayed by BGL.

**BGL reserves the right to utilize the above category services, if required at any other locations in Hyderabad, Vijayawada & Kakinada depending upon the operational need of O&M department.**

**Note: Ongoing jobs are to be continued and any design, engineering works related shall be considered under manhour basis & site work with measurement & closure of contracts shall be covered under man months SOR item.**

## **2.14 ASSET EVALUATION**

Consultant shall perform all studies and analysis, undertake field service/investigations if require, and prepare necessary documents/ reports to achieve satisfactorily, the objectives of the preparation of guidelines. These activities, shall be carried out in due consultation with BGL, which will be the nodal point for facilitating the assignment.

## **2.15 LENDER ENGINEERING SERVICES**

Consultant shall perform following activities under Lender engineering services:

- I. Pre-financial closure phase (Technical & Commercial due diligence)
  - Review of project feasibility
  - Review of project design
  - Project commercial appraisal
  - Review of agreements
  - Review of cost-breakup and schedules
  - Review of BOM and technical specifications
  - Verification of approvals and Clearances
- II. Implementation phase
  - Physical progress monitoring
  - Verification of actual cost incurred
  - Scrutiny of Test reports
  - Periodic site inspections
  - Review of draw down requests
- III. Post commissioning phase
  - Review of O&M arrangements
  - O&M schedule review
  - Comments on Adequacy of spares
  - Periodical performance assessments
  - Periodical O&M site inspections

## **2.16 IT Services**

Consultant shall study the entire IT system of BGL and shall implement proper IT system for the automation of the City Gas Distribution for better customer satisfaction, facilitates future marketing and business strategies and ensures efficient collection of customer data.

- a) CNG optimisation software and automation at CNG stations & communication of various data from CNG stations, MRS, DRS etc. to central server at BGL HO or any other suitable locations.

- b) Set up of various dashboards/reports for different operations.
- c) Application / Software development & QR code generator/scanner necessary for automation.
- d) Implementation of SCADA/ Data transmission from meter to BGL Server/Storage & Billing philosophy.
- e) Integration of existing SAP system of BGL.

### **3.0 EXCLUSIONS FROM SCOPE OF WORK**

- a) Permissions for pipeline laying and land acquisition.
- b) Re-engineering activity due to change in work philosophy, location, etc. due to any reason not attributable to PMC, whatsoever in nature for which extra payment at mutual terms and conditions shall be payable.
- c) Any type of survey work.
- d) Implementation of Insurance policies shall be carried out either by BGL or by Vendor/Contractor. Due to any technical reason for lodging of insurance claims and realization of the same, if any person to be deputed by PMC from Head Office /or Place of Posting, the travel expenses including man-day rate shall be paid/reimbursed at actuals and person deputed beyond the GA area, only travel expenses at actual shall be reimbursed as per PMC company rules.
- e) Compliance of Industrial relation functions and labour laws at work sites.
- f) Tender / NIT advertisement fees shall be in BGL's scope and shall be reimbursed at actual along with taxes, as applicable. Tender fee received against sale of tender document from various agencies shall be forwarded to BGL.
- g) Customs clearance Charges, transportation and store expenses.
- h) Any type of statutory approvals from various Central / State Govt. Organizations / agencies, etc.
- i) Arranging Store Space, Safety and Security of Store Materials.
- j) Involvement in marketing efforts required for CNG & PNG business

### **4.0 ADDITION, REDUCTION IN SCOPE AND RE-TENDERING:**

- a. In case there is addition or deletion in Scope of Work, fees for the same shall be as per the mutually discussed and agreed upon terms and conditions.
- b. Additional works arising out of BGL's policy change or change of decisions / work philosophy, location etc. or for reasons not attributable to PMC shall be considered as extra works (Engineering and designing work) and will be paid on Man-hr basis on mutually agreed qty.
- c. Re-working/Re-tendering (non-responsiveness, less competition, higher quoted price etc) /Re-designing etc. if any, shall be done without extra cost to BGL.

### **5.0 OBLIGATIONS OF CLIENT:**

To enable PMC to carry out the scope of services detailed under Scope of this RFQ, BGL shall assist / meet the following obligations in time & free of cost to PMC:

- i. Furnishing all information, design data, drawings, reports, etc., relevant to the above assignment and any other information required by PMC from time to time for carrying out activities under its scope of work.
- ii. Furnishing information of plot details for OLS, wherever required.



- iii. Drawings for Retail Outlets (RO's) where OLS/DBS is to be installed, wherever required.
- iv. Furnishing information regarding individual load of industrial & commercial connections.
- v. Providing area survey drawing / details for domestic & commercial connections along with list of houses / commercial connections to be connected.
- vi. Obtaining permissions from statutory / local bodies including liasioning with State /Central Govt. agencies/ local bodies.
- vii. All necessary assistance / approvals, etc. for smooth execution of the project on time.
- viii. Providing Survey drawings / details for steel pipe network and CNG station (as applicable).
- ix. Store Infrastructure facilities to be arranged by M/s BGL.

#### **6.0 OTHER CONDITIONS:**

- i. The CONSULTANT shall perform the work under this CONTRACT with diligence and conforming to the best international practices available in this area.
- ii. The Consultant shall perform their obligations conforming to rules, regulations and procedures prescribed by law.
- iii. The consultant shall take approval/concurrence from BGL on major and critical issues.
- iv. There may be minor changes in scopes and extra activity may be carried out during the implementation for the completion of the project. The consultant shall not be entitled for extra payment for the same.
- v. The Consultant shall suggest measures to cut-down cost and time over run without compromising the quality of work required in implementing the project.
- vi. The Consultant should intimate in advance any client's obligations for timely completion of activities (e.g.) requirements of statutory norms, regulatory authorities etc.
- vii. The Consultant shall provide approved drawings etc. well in time to the contractor for commencing and proceeding with the work as per agreed schedule.
- viii. Approvals will be given by BGL for Design-basis, P&IDs.
- ix. Issuance of Purchase orders, executing agreement with vendors/ contractors, releasing of payments as per PO / WO terms, opening of Letter of Credits in favour of vendors etc. as per PMC recommendations and contract conditions for all cases will be done by client.
- x. All technical assistance required by BGL (viz: but not limited to preparation of drawings, documents, reports etc) for obtaining permissions and clearances from statutory authorities shall be performed by the consultant at no extra cost to BGL.
- xi. The consultant shall attend (& contribute) to Project & Construction Review meetings taken by BGL management at Project/ Corporate/ Site offices of BGL and also at Vendor's/ Contractor's offices from time to time for expeditious completion of the project within the quoted price only, which shall be participated at appropriate level by PMC.
- xii. The consultant shall put in requisite efforts to achieve accelerated time schedules for project completion, if so required, at no extra cost to BGL.
- xiii. PMC's primary responsibilities, however not limited to, for arbitration cases till the

final award of arbitration:

- a) Examining & providing reply of claims etc.
- b) Participation in arbitration proceedings.

Due to technical reason for above arbitration cases, if any person to be deputed from Head Office, the travel expenses including man-day rate shall be paid/reimbursed at actuals and the person where he has been posted being deputed beyond the GA area, only travel expenses at actual shall be reimbursed as per PMC company rules”

- xiv. The consultant will be notified about their performance on periodic basis.

## **7.0 SOR items**

***Unit of Measurement (UOM) for PMC services & related jobs under SOR-1 shall be manhour basis (MAH). The rate to be quoted in Indian rupees per man hour basis.***

### **SOR-1**

For Design, engineering related works as listed in SCC, scope of work, ongoing jobs and any other project & O&M activities. There will not be any over time and/or any kind of hidden charges. The payment shall be purely of SOR man hours spent for BGL works (Approved time sheet may be submitted).

There will be no extra payment for consumables, stationaries, couriers and other office expenses of PMC.

### **SOR-2**

#### **Tendering-Supply Packages**

Preparation of Technical specifications & Bid document, Floating of tender /Tender for multiple items and/ for multiple cities Evaluation of Bids, Recommendation for Placement of orders, subsequent release order, dispatch clearances etc including approval of vendor drawing, data sheets, QAP, etc at site office/ Head office, follow ups with suppliers, other works required to complete the supply and further Closure of contract/ submission of vendor evaluation, Completion certificate / execution certificate, feed back etc

### **SOR-3**

#### **Tendering-Works/Services Packages**

Preparation of Technical specifications & Bid document, Floating of tender/Tender for multiple scope and/ for multiple cities/ Locations Evaluation of Bids, Recommendation for Placement of orders, release of subsequent orders etc - For Composite / Construction / works / Service package ,approval of vendor drawing, data sheets, QAP, etc at site office/ Head office, simulations if required, inspection of bought out items ,dispatch clearance and other works required to complete the contract, Closure of contract/report including submission of vendor evaluation, Completion certificate / execution certificate, feed back etc

**SOR-4**

Carrying out the Site supervision of the work being executed at site for CGS/Steel / MDPE/ GI / CNG / De-compression facility/LNG Stn/LCNG/ GIS & O&M activities etc. for CGD project at each GA / locations / Cities (Hyderabad, Vijayawada & Kakinada) along with projects store management

Consultant shall submit the resumes of their personnel for Site manpower & store management and BGL will select the persons on its choice after conducting the interviews. The consultant shall depute qualified, relevant experience person in consent with BGL.

**UOM for Site supervision/inspection job shall be MM. However, the other associated expenditure lodging, boarding, accommodation, travel, site expenses shall be governed as per special conditions of contract.**

**Man-month is defined as 26 working days in a month**

Manpower may be transferred to other locations at the sole discretion of BGL for operational requirements; for which no extra payment shall be paid during the entire contract period.



Bhagyanagar Gas Ltd.  
Limited

**Tender for Engagement of Associate(s) for Engineering and  
executing the CGD Projects, Operations & upgradation of  
existing facilities at BGL**

**Bid Document No. BGL/538/2021-22**

Volume  
II of II

**SECTION – 9**  
**SCHEDULE OF RATES (SOR)**



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REFER E-TENDER NO.: BGL/538/2021-22 IN  
E-TENDERING WEBSITE /PORTAL -  
(<https://petroleum.euniwizarde.com/>)  
FOR SCHEDULE OF RATES



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**Bid Document No. BGL/538/2021-22**

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**Bhagyanagar Gas Limited  
SCHEDULE OF RATES (SOR)  
Financial Bid / Priced Bid**

**Bid Document ref: BGL/538/2021-22, dtd. 24.02.2022**

**Item: Tender for Engagement of Consultant(S) for PMC & O&M Services at Hyderabad, Vijayawada & Kakinada for 02 Years**

Name of the Vendor							
SOR Sr. No.	SOR DESCRIPTION	SAC Code	U O M	Estimated QTY	Unit Rate, Rs.	Unit Total amount in figures, INR	Unit Total amount in words, INR
1	DESIGN /ENGINEERING /CONTRACT MANAGEMENT RELATED OFFICE WORKS PMC SERVICES						
	Engineering, Designing for Steel & MDPE Pipeline; Design, Engg, Preparation of Lay out, PESO drawing, Engg drawing, GAD, for CNG stn. /MRS/DRS/DCU/LCNG/LNG; Asset evaluation; Lenders Engineering Services; various reports in line with PNGRB regulations; O&M activities and all other works specified in SCC &		MAH (MANHO URS )	20000		-	

	Scope for Hyderabad, Vijayawada & Kakinada GAs						
2	Tendering - Supply packages						
	Preparation of Technical specifications & Bid document, Floating of tender /Tender for multiple items and/ for multiple cities Evaluation of Bids, Recommendation for Placement of orders, subsequent release order, dispatch clearances etc including approval of vendor drawing, data sheets, QAP, etc at site office/ Head office, follow ups with suppliers, other works required to complete the supply and further Closure of contract/ submission of vendor evaluation, Completion certificate / execution certificate, feed back etc		Nos.	10		-	
3	Tendering - Works/Services packages						

	Preparation of Technical specifications & Bid document, Floating of tender/Tender for multiple scope and/ for multiple cities/ Locations Evaluation of Bids, Recommendation for Placement of orders, release of subsequent orders etc - For Composite / Construction / works / Service package ,approval of vendor drawing, data sheets, QAP, etc at site office/ Head office, simulations if required, inspection of bought out items ,dispatch clearance and other works required to complete the contract, Closure of contract/report including submission of vendor evaluation, Completion certificate / execution certificate, feed back etc		Nos.	10		-	
4	SITE EXECUTION, SUPERVISION, MONITORING, SITE RELATED JOBS & PMC SERVICES & STORE MANAGEMENT						



**Tender for Engagement of Associate(s) for Engineering and  
executing the CGD Projects, Operations & upgradation of  
existing facilities at BGL**

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**Bid Document No. BGL/538/2021-22**

Carrying out the Site supervision of the work being executed at site for CGS/Steel / MDPE/ GI / CNG / De-compression facility/LNG Stn/LCNG/ GIS & O&M activities etc. for CGD project at each GA / locations / Cities (Hyderabad, Vijayawada & Kakinada) along with projects store management ((Preparation and posting of SIV/GRV / MIV/MRN etc.)		MM (MANMO NTHS)	240		-	
Total amount incl. of all taxes duties excl. of GST,INR					-	
GST,INR						
Total amount incl. of all taxes duties & GST,INR						

**NOTE :**

- 1 **TOTAL CONTRACT PERIOD CONSIDERED 02 YEARS( 24 MONTHS)**
- 2 **10 NOS. OF ENGINEERS FOR SITE WORKS SUPERVISION/SERVICES (Site I/c, Planning Manager, Discipline Engineers) & store management CONSIDERED FOR 24 MONTHS OF DURATION.  
However, Consultant manpower shall be deployed in consent with BGL  
TOTAL MANMONTHS = 10 x 24 = 240 MAN-MONTHS**