



राज्य स्वच्छ भारत मिशन (ग्रामीण)
पंचायत एवं ग्रामीण विकास विभाग
नीर भवन, सिविल लाईंस, रायपुर, छत्तीसगढ़



क्र. 452/मि.सं./रा.स्व.भा.मि/पं.ग्रा.वि.वि/2019,

रायपुर दिनांक 29/07/2019

प्री-फेब्रीकेटेड बायोगैस संयंत्र स्थापना हेतु एजेंसी इम्पेनल करने हेतु विज्ञप्ति

राज्य स्वच्छ भारत मिशन (ग्रामीण), पंचायत एवं ग्रामीण विभाग द्वारा गोबरधन योजना अंतर्गत प्री-फेब्रीकेटेड बायोगैस संयंत्र स्थापना हेतु मुहरबंद लिफाफे में इम्पेनलमेंट ऑफर आमंत्रित किया जाता है। आवेदन प्रारूप कार्यालयीन समय में दिनांक 27.08.2019 को दोपहर 02 बजे तक निर्धारित शुल्क जमा कर प्राप्त की जा सकती है तथा दिनांक 27.08.2019 को सांय 06 बजे तक विधिवत भरे हुए प्रपत्र में जमा की जा सकती है। निविदा की शर्तें आदि वेबसाईट sbmgcg.in से प्राप्त की जा सकती है।

नेरु 3/2/19
मिशन संचालक

राज्य स्वच्छ भारत मिशन (ग्रामीण)
पंचायत एवं ग्रामीण विकास विभाग

अब नहीं तो कब ?

(EMPANELMENT OFFER NOTICE No. SBM-G/2019/Biogas-01)

EMPANELMENT OF AGENCIES

FOR SUPPLY OF

PRE-FABRICATED KVIC TYPE BIOGAS PLANT

IN THE STATE OF CHHATTISGARH

FOR 2019-20 & Onwards till validity of Empanelment

BY

SWACHH BHARAT MISSION – GRAMIN, CHHATTISGARH.

Telefax : (0771-4266292)

E-mail: sbmg.cg@gov.in

JULY 2019

PRICE: Rs. 3000/- (Rupees Thousand only)

EMD : Rs. 1 Lakh (Rupees One Lakh only)

Empanelment of Agency for Pre-Fabricated KVIC type Biogas Plant for Chhattisgarh

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INVITATION FOR EMPANELMENT

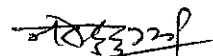
To accelerate the efforts to achieve universal sanitation coverage and to put focus on safe sanitation, the Prime Minister of India launched the Swachh Bharat Mission on 2nd October 2014. The mission having two Sub-Missions, the Swachh Bharat Mission (Gramin) and the Swachh Bharat Mission (Urban), which aims to achieve Swachh Bharat by 2019, as a fitting tribute to the 150th Birth Anniversary of Mahatma Gandhi, which in rural areas shall mean improving the levels of cleanliness in rural areas through Solid and Liquid Waste Management activities.

Objectives of SBM (G)

The objectives of the Mission are as follows:-

- i. Bring about an improvement in the general quality of life in the rural areas, by promoting cleanliness, hygiene and eliminating open defecation.
- ii. Accelerate sanitation coverage in rural areas to achieve the vision of Swachh Bharat by 2nd October 2019.
- iii. Motivate communities and Panchayati Raj institutions to adopt sustainable sanitation practices and facilities through awareness creation and health education.
- iv. Encourage cost effective and appropriate technologies for ecologically safe and sustainable sanitation.
- v. Develop, wherever required, community managed sanitation systems focusing on scientific Solid & Liquid Waste Management systems for overall cleanliness in the rural areas.
- vi. Create significant positive impact on gender and promote social inclusion by improving sanitation especially in marginalized communities.
- vii. To provide Biogas plants in the villages where in the waste in the form of cow dung which piles in the villages need to manage and convert into fertilizer at source and create unhygienic environment for the people living around it.
- viii. Bio digested slurry (liquid / semi-solid and dried) as an upgraded source of enrichment for manure to reduce and / or supplement use of chemical fertilizers; by linking biogas digested slurry with enrichment units such as vermi-composting plants and other organic enrichment facilities of slurry.
- ix. To meet 'lifeline energy' needs for cooking as envisaged in "Integrated Energy Policy" report of the Planning Commission.
- x. To help in combating and reduction in causes of climate change by preventing emissions of carbon dioxide and methane into the atmosphere.

Empanelment of Agency for Pre-Fabricated KVIC type Biogas Plant for Chhattisgarh



Specifications of approved Models of Institutional/beneficiary Type Biogas Plants -

Appropriate models and Size of institutional/beneficiary type biogas plants should be selected from the approved models by MNRE on the basis of factors such as preference/choice of the beneficiaries and considering technical requirements, such as location, distance between kitchen and cattle shed availability of water and feed-stock like cattle dung, other biomass wastes and sanitary toilets. Approved models for such plants are available for 1 to 25 cubic meter (M³) capacities for floating dome type plants. Specifications are as given below -


Appliances with Biogas Plant- ISI marked (BIS code IS - 8749: 1988) burners having a minimum thermal efficiency of 55% and only double burner biogas stoves / chullhas should be provided under the programme. Where the biogas stoves are to be purchased by the beneficiaries themselves, the names of ISI Marked stoves and their Manufacturers, prominent locations of availability, market places of biogas stoves and their spare parts, should be given in the publicity material.

MNRE, New Delhi, vide Office Memorandum dated 26/12/2014 has approved prefabricated models of KVIC floating dome type biogas plants made of High Density Polyethylene (HDPE), Fibre-glass Reinforced Plastic (FRP) and Reinforced Cement Concrete (RCC) material, for installation under this scheme.

For the effective implementation of the scheme with a view that the end user gets quality material at the best possible price, SBM-G Chhattisgarh would like to empanel agencies of prefabricated KVIC type Biogas Plant who are interested to supply pre-fabricated plants as per the specifications given by the MNRE and want to supply & install such biogas plants at village level across the State under SBM – G Dept. SBM- G will carry out the Bid Management process for Selection of such Agencies.

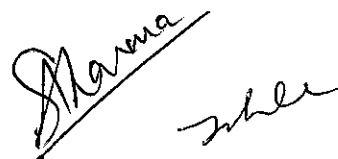
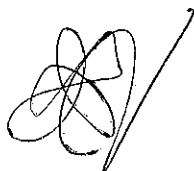
Empanelment offer is requested in complete accordance with the documents/attachments as per following guidelines. The Swachh Bharat Mission Gramin is on behalf of beneficiaries and Panchayats, calling the best price offer from the interested agencies to carry out the work as described in this document. The agency will have to provide the price offer as per the format only.

Empanelment of Agency for Pre-Fabricated KVIC type Biogas Plant for Chhattisgarh



At the end of this exercise, list of selected agencies will be prepared and the same will be provided to the applicant beneficiaries for installation of Biogas plant of their choice, through any of these empanelled agencies. The scope of work of empanelled agencies would include supply of prefabricated biogas plant at the site, commissioning of plant by laying of biogas pipeline, installation of biogas burner, and generation of biogas from the plants, beginning of biogas use by the beneficiaries and conversion of digested slurry into fertilizer. Also agency has to provide after sales service for a period of 5 years.

Notwithstanding any agency empanelled earlier, henceforth the agency found eligible at the end of this exercise will be allowed to install and commission the biogas plant for the beneficiary under the above stated scheme.



SCHEDULE FOR INVITATION OF Empanelment

NAME: Empanelment of Agency for HDPE Pre-Fabricated KVIC Type Biogas Plant for Chhatisgarh

To	Details
Issue of Empanelment Offer	From 31/07/19 at 16.00 hrs
Pre-Bid Meeting	05/08/2019 at 12.00 hrs.
Due Date	
Physical submission	27/08/2019 upto 18.00 hrs.
Technical Proposal Opening Date & Time:	28/08/2019 at 12.00 hrs.
Financial Offer Opening Date	30/08/2019 at 15.30 hrs.
Name of Biogas plant type for which applied	Floating Dome KVIC type HDPE Prefabricated Biogas plant
Department Name/Authority Name	Mission Director,
Proposal Submission Address	O/o Mission Director, Rajya Swachh Bharat Mission (Gramin), Neer Bhawan (PHED), Civil Lines, Raipur (C.G.), 492001
Proposal document Fee	Rs. 3,000/- (Rupees Three Thousand Only) in form of Demand Draft (Refer Note no.2 below)
Proposal Fee Payable to	"Mission Director, Rajya Swachh Bharat Mission (Gramin)", Payable at Raipur
Price Offer	The agency shall submit their best possible price offer in financial bid format only.
Validity period	1 year from the date of opening of proposal
Joint Venture/Consortium	Allowed
currency Setting	Indian Rupee (INR)

Note:

- 1 Please address all queries and correspondence to the Mission Director, Rajya Swachh Bharat Mission Gramin, Neer Bhawan, Civil lines, Raipur or email address: sbmg.cg@gov.in Please quote Ref. Number in all your correspondence.
- 2 All Demand Drafts must be drawn on All Nationalised Banks or Banks approved by Govt. of Chhattisgarh, payable at Raipur.
- 3 If the Office of the SBM-G happens to be closed on the day of receipt of the EMPANELMENT OFFERS as specified, the EMPANELMENT OFFERS will be received and opened on the next working day on opening of the Office upto the same time and at the same venue.







General Instructions

1. Party can download the EMPANELMENT OFFER document free of cost from the website, but will need to submit the EMPANELMENT OFFER document along with the DD for EMPANELMENT OFFER Document Fee at the time of physical submission.
2. Agency has to submit physical form for technical proposal and financial bid. Such submission will have to be accompanied by required forms and documents, and instrument for payment of EMPANELMENT OFFER Document Fee.
3. EMPANELMENT OFFER Document Fee and EMPANELMENT OFFER Security shall have to be paid of the amount stated.
4. The EMPANELMENT OFFER shall be valid for a period of at least 90 days for acceptance from the date of opening of the EMPANELMENT OFFER. The accepted rate/ offer shall be valid up to one year time limit as mutually agreed upon by the agency and the Department. EMPANELMENT can be extended, if department requires and agency agreed on same price and terms & conditions.
5. **Technical Proposal:** Interested Party shall submit their Original and one copy of **TECHNICAL PROPOSAL** complete with all technical details asked for, physically in sealed envelopes super-scribed with due date, time, project and nature of EMPANELMENT OFFER. Original printed document shall be considered as authentic. All pages of the offer must be signed.
6. The agency shall submit their best possible price offer in financial bid format only.
7. Services offered should be strictly as per specifications and standards mentioned in this EMPANELMENT OFFER Document. Please spell out any unavoidable deviations, article-wise, in your proposal under the heading "Deviations".
8. SBM- G reserves the right to accept/ reject any offer/ EMPANELMENT OFFER either in whole or in part irrespective of whether it is the lowest or not without assigning any reason whatsoever. SBM-G also reserves the right to select one or more suppliers for Empanelment if the other technically qualified agencies agreed on L-1 rates.
9. The price of one copy of the **EMPANELMENT OFFER Document is Rs. 3000/-**, which can be paid by crossed Demand Draft. The Demand Draft may be drawn in favour of "**Mission Director, Rajya Swachh Bharat Mission (Gramin)**" payable at Raipur.

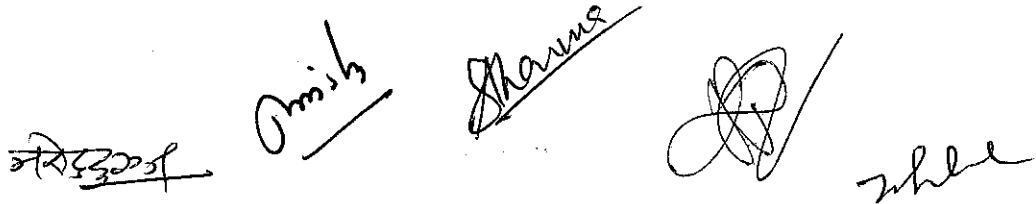
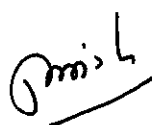


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1.0 Objectives of the EMPANELMENT OFFER

- To ensure that the design (model) of biogas plant meets the guidelines prescribed in Swachh Bharat Mission Gramin and The New National Biogas and Organic Manure Management Programme (NNBOMP) scheme.
- To ensure that the fabricator/manufacturer delivers the prescribed quality input material /components such as Digester, Dome as per the approved model, Double Burner, Guide pipe, gas pipeline, cock, gas stove, etc.
- To derive the lowest possible price for each type and capacity of technology through price discovery method.
- To ensure that the beneficiary gets proper after sales service support and other advisory services from the manufacturer/fabricator.
- To scrutinise and empanel the competent manufacturers/ fabricators for procuring, installation and commissioning of biogas plants near beneficiary's place across the State of Chhattisgarh.

2.0 Need for Empanelment

SBM-G, Chhattisgarh invites EMPANELMENT OFFER for empanelment of agencies on behalf of beneficiaries so that the beneficiaries are benefited by means of

- Better Quality material
- Adequate advisory services
- Reasonable price of biogas plant
- After sales services, etc.

Hence to get the above benefits with an objective to safe guard the interest of beneficiary need was envisaged to empanel agencies.

3.0 Scope of Work

3.1 Installation and Commissioning

- i.) The agency shall supply and install the prefabricated biogas plant near the beneficiary's house according to the guidelines of SBM-G, MNRE and IS for material prescribed.
- ii.) If there will be amendments in guidelines during the period of empanelment by SBM Gramin, Chhattisgarh the agency shall follow the same.
- iii.) The agency shall install the biogas plant using materials and components of minimum Indian standards prescribed only. The detail (Technical Specifications) is given in **Annexure -3 (A) and 3(B)**. The type of biogas plant is to be constructed based on the material input selected by the beneficiary, however the quality criteria should fall within the minimum Indian Standard suggested in the guidelines.

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- iv.) The agency shall install the biogas plant and connect with burner within the time period set by Authority.
- v.) The agency will take a trial run of the entire biogas plant and handover the same to beneficiary.
- vi.) The agency must handover, after commissioning of biogas plant, a complete and updated "Operational Manual" in local language.

3.2 After Sales Services, Repair and Maintenance

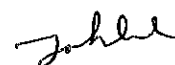
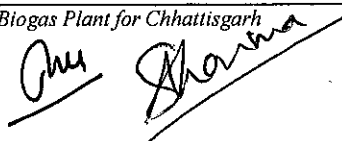
- i.) The warranty period for the components / equipment shall be for **five years** from the date of completion of the project.
- ii.) The agency will provide **after sales services for 5 years to the beneficiary.**
- iii.) The agency will **provide free replacement of component/equipment** if damaged **during the warranty period.** However, the agency can charge for replacement of spare parts and components which are out of warranty period.
- iv.) In the event of any instrument / component gets broken or damaged during installation and trial run at the site before handing over the biogas plant to the beneficiary the agency shall replace the same at free of cost.

3.3 Other Advisory Services

- i.) The agency shall provide operational training to the beneficiary or its nominated beneficiary member only.
- ii.) For the successful implementation of the biogas plant and to ensure envisaged benefits out of the same, the agency shall provide advisory services related with biogas plant, generation of gas and it's working to the beneficiary. The duration of all types of the advisory services will be for five years after the project completion date.

4.0 General Terms & Conditions

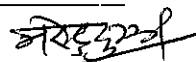
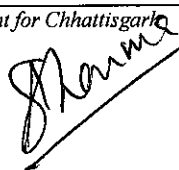
- 1) The agency should be an organization registered in India under the law applicable to them and should be working for last three years (audited report of last three years to be submitted).
- 2) A committee constituted by SBM-G will open the EMPANELMENT OFFER bids and submit report to Chairman of the committee for evaluation purpose and Chairman of the committee and decision of M.D., SBM-Gramin would be considered as final
- 3) Based on the same, Registration of Agencies and Empanelment will be done with the qualified agencies.



- 4) Selected agencies for Empanelment shall have to sign an agreement for assurance to supply and install biogas plants according to the specifications given by MNRE, failing which, M.D. SBM - G reserves the rights to cancel the EMPANELMENT.
- 5) Legal dispute, if any, would be subject to the Raipur jurisdiction.
- 6) Agency approaching this office is required to be well acquainted with the kind and scope of work before submitting tender.
- 7) The Agency has to sign and stamp each page of EMPANELMENT OFFER document to be submitted to SBM-G.
- 8) No unsolicited correspondence shall be entertained after the submission of the bid.
- 9) Additional terms and conditions may be incorporated at the time of issuing the work order, if needed, to safeguard the interests of SBM-G.
- 10) No Agency commission will be paid to any authorized agent in India.
- 11) Once the price offer rate is accepted by the agency, the accepted rate cannot be altered during the EMPANELMENT Agreement period.
- 12) The selected Agency is eligible only for payment for accepted price offer rates and not eligible for claiming any other charges.
- 13) SBM-G reserves the right to reject any / all offers without assigning reasons thereof.
- 14) No advance payment shall be made for execution of work order.
- 15) The payment for the installation and commissioning of biogas plant would be directly made by the beneficiary/DSBMG.

5.0 Terms of Reference for the Agency

- i.) Agency can submit its credentials relevant to the eligibility criteria specified as per **Annexure-2**. The interested agency shall submit their EMPANELMENT OFFER mentioning the types/ sizes of Pre-fabricated KVIC biogas plant in which they are interested for empanelment.
- ii.) The lowest price offer discovered would be applicable for a period of one year.
- iii.) The Authority may levy a penalty of up to a minimum of 2 % and maximum of 5% of the contract value of the jobs on the empanelled agency if found that the quality and quantity of work as per the specifications is not delivered. If material will not be supplied as per the specifications and standards given in the EMPANELMENT OFFER document as annexure 3(A) and 3(B) the same is to be instantly replaced by the Agency without any extra cost. Otherwise, the cost of such component would be recovered from the security deposit of the Agency for the particular assignment by SBM-G.

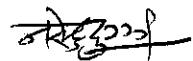
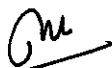


- v.) The Authority has right to cancel the Empanelment at any point of time during the Agreement period.
- vi.) The Authority has right to disengage the EMPANELMENT of the agency if found that work carried out by agency is not satisfactory.
- vii.) The Authority will carry out inspection through its nominated agency or official of the entire project as specified in **Annexure – 3(A) and 3(B)**. On getting the inspection report and if the project is found as per the norms the Authority will release the payment of the agency.
- viii.) The payment shall not be released if the biogas plant or any of its components is not as per the specification mentioned in the EMPANELMENT OFFER.

6.0 Selection Process

The agency will have to qualify technically based on the eligibility criteria given at point no. 7 in this document. EMPANELMENT OFFER of agency's not meeting the eligibility criteria will not be processed further. The documents to be submitted showing fulfillment of eligibility criteria are given in **Annexure-2**.

- i.) The EMPANELMENT OFFER of all such agencies who had faced serious complaints about their past work will get rejected before the scrutiny of EMPANELMENT OFFER.
- ii.) The price offer of all eligible agencies will be analysed. The agency who will offer the lowest price for the biogas plant of different sizes for the specified quality of input materials as per **Annexure -3 (A) and 3 (B)** will be empanelled. However, other eligible agencies will be called for negotiation and whoever wants to work at the lowest price will be empanelled.
- iii.) The best price offer would be based on the Lowest Price offered for different sizes of biogas plants.
- iv.) A list of selected agencies along with the best price discovered will be prepared and the beneficiaries will be advised to get installed and commissioned their biogas plant through any of the selected agencies only.
- v.) This empanelment will be for a period of one year and can be extended further after approval from SBM-G up to another one year or up to the next empanelment exercise whichever is earlier.



7.0 Minimum Eligibility Criteria

Minimum required registrations and certifications should be acquired by the Agency as per Annexure-1. The Agency must furnish a copy of valid manufacturing BIS license and GST Registrations.

(A) Agencies having Experience of last 3 years

- i.) Minimum 03 (three) years of experience in the business of fabrication/ manufacturing activity, involving supply, installation and maintenance.
- ii.) The agency should have minimum Average Annual Turnover of Rs.3.00 crore for the last 3 years (i.e. 2016-17, 2017-18 and 2018-19) from business activity.
- iii.) The agency should have installed and commissioned at least 100 numbers of biogas plants in last 3 years as on ending 31st March, 2019. List of the same should be provided.

OR

In case of fresh agencies having experience of less than one year should have valid authorization of the manufacturer having more than 5 years of experience to supply, install and commissioning of 100 Nos. of Biogas Plants.

- iv.) OEM must have MNRE approval/Certificate for HDPE prefabricated biogas plants. In case of Authorized dealer, the Certificate of MNRE for HDPE prefabricated biogas plants on the name of OEM should be provided.

8.0 Price Offer

- i.) To safeguard the interest of beneficiary and to streamline the cost of specified biogas plant of different sizes with double burner gas stove, the authority on behalf of beneficiary, is asking the agency to submit their best possible price offer for various items of biogas plant.
- ii.) The agency shall offer their best price for installation and commissioning of biogas plant as specified in the scope of work of this document for each type of biogas plant separately as per the format given at **Annexure-4**.
- iii.) The agency shall have to offer price for each biogas plant component mentioned in the format for different types and sizes separately. The price should be inclusive of all applicable taxes.
- v.) The price offer has to be submitted in prescribed format only.
- vi.) Agency shall confirm strict compliance with the following stipulation in respect of their offer.
 - a) Any effort by Agency or Agency's agent/consultant or representative howsoever described to influence the Authority in any way concerning scrutiny/ consideration/ evaluation/ comparison of the EMPANELMENT OFFER or decision concerning empanelment shall entail rejection.
 - b) EMPANELMENT OFFER should be submitted directly by the Agency.
 - c) Price offer of only qualified agency as per eligibility criteria shall be opened.

- vii.) Authority reserves the right to seek clarification/ justification from the agency on the price offer in case Authority deems it necessary. Based on the justification provided by the agency, if Authority feels that the price offer is unrealistic/ unfeasible in order to execute a project of this nature, Authority reserves the right to reject the said price offer. The agency shall be governed by the decision of Authority.

9.0 Monitoring mechanism

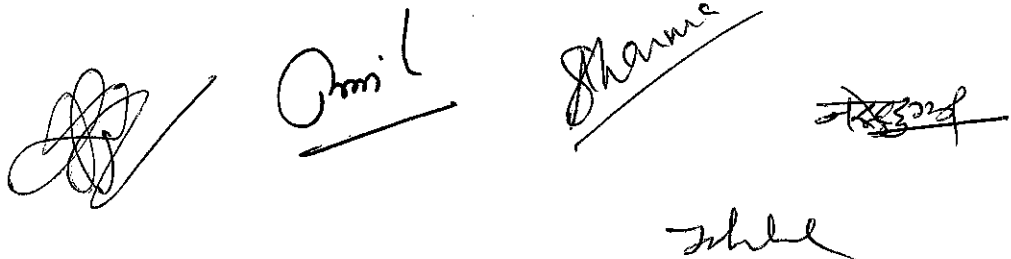
The Empanelled agency will intimate the Authority to carry out its inspection after completion of installation & commissioning of Biogas Plant in all respect. The Authority shall carry out the inspection through its nominated agency or official after the intimation received from empanelled agency in written.

The inspection may involve procedures like inspection of the site and material as also laboratory testing of the material at the cost of the Agency. If any deviation in the quality of the material is found during inspection, empanelment of such agency would be cancelled at that point of time.

10.0 Performance Security

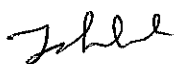
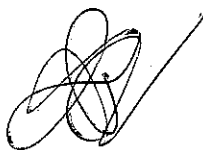
The empanelled agency will be given order as per the requirement by the Districts. After successful completion of work order 2 percent performance security will be deducted from payment as a security for 5 years.

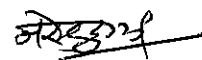
The Authority is taking this security on behalf of beneficiary to safeguard interest of beneficiaries. The performance security would be relieved by the Authority after five year from the project completion date. The work completion date shall mean the completion of inspection by the Authority or its nominated representative subject to satisfactory completion of the work.



ANNEXURE - 1
COMPANY PROFILE

Sr.	Particulars	Detail
1	Name of Organisation	
2	Nature of the Organisation	
A	In case of Public/Pvt. Ltd company (Certified copy of Certificate of incorporation for companies & Memorandum and Articles of Associations)	
B	In case of Partnership Firm (Partnership deed)	
C	In case of Proprietorship (Registration certificate, Factory registration, DIC -industrial registration)	
D	In case of society (Certified copy of registration deed with objects of constitution of society)	
E	In case of Corporation (Authenticated copy of the parent statute)	
3	Address with Phone No. and Fax No.:	
4	Name and Contact details of the Authorized Person	
5	Any other details in support of your office	
6	BIS license of OEM/ In case of JVS/Authorized dealer the BIS license of OEM should be enclosed.	
7	PAN (attach attested copy)	
8	GST (attach attested copy)	

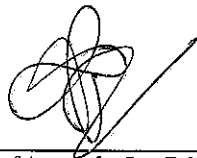





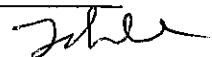
ANNEXURE - 2
CHECKLIST FOR FULFILMENT OF ELIGIBILITY CRITERIA

(A) Experienced Agencies

Sr.	Criteria	Documents/Detail required	Documentary Proof attached (Y/N)
1	Minimum 03 (three) years of experience in the business of fabrication/ manufacturing involving supply, installation and maintenance.	Certificate of incorporation, DIC registration, Business commencement certificate, Works to be demonstrated by Contract/Agreement/ Work Order from clients showing clearly 3 years of Experience	
2	Minimum Average Annual Turnover for the last two financial years (i.e. 2016-17, 2017-18 and 2018-19) should not be less than Rs. 3.00 crore.	i. Chartered Accountant certificate showing Minimum Annual Turnover of the agency in last 3 years (i.e. 2016-17, 2017-18 and 2018-19) clearly indicating the Turnover for that year and average turnover of two years ii. Audited Reports for last 3 years.	
3	The agency should have installed and commissioned at least 100 nos. of Biogas plants in Chhattisgarh in last 3 years.	Works to be demonstrated by Contract/Agreement/ Work Order/Completion certificate from client. Details of the same shall be submitted.	
4	The agency having less than one year experience in the business of fabrication/ manufacturing involving supply, installation and maintenance.	The agency should have valid authorization of Original Equipment Manufacturer who has experience of more than 5 years in manufacturing, supply, installation and commissioning of 100 number of Biogas plants.	







ANNEXURE-3 (A)
SUGGESTIVE TECHNICAL SPECIFICATIONS OF BENEFICIARY SIZE KVIC TYPE BIOGAS PLANT

Technical Specifications of HDPE material based pre-fabricated Beneficiary size KVIC Floating Design type Biogas Plants.

1. General Specification:

Beneficiary size HDPE make Pre-fabricated biogas plant with Central guide pipe, spring mechanism, inlet pipe, inlet connections, outlet pipe, outlet connections, Gas pipe and Biogas Double Burner.

2. Material Construction:

2.1 Material of construction used should be broadly in line with specifications of materials as per IS:12701: 1996 relating to rotational moulded polyethylene tanks.

2.2 The material of construction of Polyethylene Biogas digester and Gasholder shall be such that it does not impart any colour, odour nor any toxic effect and it shall not contaminate biogas slurry.

2.3 Polyethylene resin to be used for the manufacturing of Biogas digester and Biogas holder should be of rotational moulding grade.

2.4 The Polyethylene Biogas Digester and Biogas Holder shall be manufactured from carbon black compounded polyethylene.

(a) The percentage of carbon black content in the material shall be within 2.0 to 3.0.

(b) The dispersion of carbon black shall be satisfactory

2.5 The materials to be used for prefabrication/ construction of such Biogas plants to be guaranteed by the manufacturers to have minimum useful life of 10 years

3. Gas Generation Capacity:

5.0, 10.0 and 20.0 Cu. Mtr. Biogas per day from the respective capacity Biogas plant..

4. Overall Dimensions: For KVIC floating Gasholder type biogas plants as given in Table-I.

Table I

Volumes and dimensions of digester and gasholder for KVIC floating dome/ Gasholder design type biogas plant for 40 days Hydraulic Retention Time (HRT) as already specified for various States/regions of the country

Sr. No.	Capacity of Biogas Plant (m ³ /day)	HRT (days)	Volume of Plant digester (m ³)	Volume of Gas holder (m ³)
1.	5	30	7.5	3.0
2.	10	30	16.0	6.0
3.	20	30	32	3.6

Empanelment of Agency for Pre-Fabricated KVIC type Biogas Plant for Chhattisgarh

Note: 1. Cattle dung has been considered the main feed material for design consideration of the above type of biogas plants.

5. Biogas Digester:

The HDPE material based Portable Pre-fabricated KVIC Floating Dome Type Biogas plants should have broad features/ specifications as under:

The digester shall be made of minimum 4.50 mm to 5.50 mm average wall and bottom thickness for digester, Gasholder, inlet & outlet pipe for 5 cubic meter capacity Biogas plants and higher for higher capacity Biogas Plants 8.0 mm and 10 mm minimum for 10 and 20 Cu. Mtr. Plant respectively. Similarly average thickness shall be 9 mm and 12 mm for 10 and 20 Cu. Mtr. Respectively. It shall also have provision to fix Central guide and Gas holder structure.

6. Biogas Holder:

It shall be made of 4.40 mm average minimum thickness with provision for outlet connections and higher thickness for higher capacity biogas plants as mentioned above under point 4. It shall also have provisions to accommodate extra weight in case of variation in end use point distance. It must have arrangements to connect ½" (12.7 mm) Gas outlet connection.

7. Central guide pipe:

Such Biogas plants shall have central guide pipe made up of MS with minimum thickness of 5.00 mm Central guide pipe shall be made in such a way that holds spider and also such that allow spring to move vertically up/down smoothly.

8. Spring Spider Mechanism:

It shall be provided with black corrosion resistant paint and with proper spring index which exerts sufficient pressure to displace biogas at 100 to 150 mm of water column. Spider made of MS material with the provision to connect with central guide pipe. It shall fit on to the Biogas holder in such a way that make Biogas holder's up/down movement freely and smoothly.

9. Inlet Pipe:


Inlet pipe shall be of minimum 4" UPVC/PVC with 4" PVC connection and Check Nut with gasket.

10. Outlet Connection:

Outlet connection shall be molded and shall be an integral part of Biogas Digester; it shall be compatible with 4" flexible UPVC/PVC pipe and joint may be finished in such a way that no leakage of biogas plant slurry takes place during the life span of the plant.

11. Gas Outlet Valve:

Gas outlet valve shall be of minimum ½" (12.7 mm) with inside threaded connections and leaving no chance of gas leakage at the base of joint with Gasholder.



12. Gas outlet connection:

It shall be ½" (12.7 mm) PVC/ UPVC connection with adequate gasket and check.

13. Gas Outlet Pipe:

Gas outlet pipe shall be of HDPE 16-20 mm.

14. Finishing:

The internal and external surface of the Biogas Digester and Biogas Holder shall be smooth, clean and free from other hidden internal defects, such as air bubbles, pits and metallic or other foreign material inclusions. The mould parting line and excess material near the Top Rim of Digester and Gas holder shall be cut and finished to the required level. Defects in fabrication if any, like air bubbles and pits at mould parting line and at top rim of the Biogas Digester, shall be checked by hot-air filler rod welding method leaving no chance of leakage.

15. Marking:

All the Biogas plants produced shall be distinctly marked with the following information:

- a) Manufacturer's name, initials or recognized trade mark;
- b) Product Code and Capacity in Cubic Metre along with daily quantity in Kg. of cattle dung to be fed. As well as serial number along with serial number of the unit/manufacturing line.
- c) Lot or Batch number and year of manufacture.
- d) All the plant produced would be given a distinction lot Number serial number as a mark of identification by the Manufacturer and moulded on the external surface clearly visible after installation.
- e) The above detail from a) to d) point shall be moulded on the external surface of the Biogas Digester during manufacture.

16. Installation:

Installation and commissioning of Biogas plants shall be done by the company/manufacturer's authorized and trained personnel. The beneficiaries of biogas plants shall be provided "Operation and maintenance" manual in the printed form/ version along with warranty and guarantee clauses.

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ANNEXURE 3 (B)
SUGGESTIVE TECHNICAL SPECIFICATIONS OF BIOGAS ACCESSORIES INCLUDING
APPLIANCES

Technical Specifications for biogas stove (Appliances)

ISI Marked Biogas Stoves confirming to IS: 8749-1998

Sr. No.	Type	Material of Body	Main Thickness of sheet of Body	Min. Weight of BG Stove in kg. in assemble (excluding peripheral pkg. Box)
(a)	Double Burner	Stainless Steel	22 gauge	5.500 kg

Minimum Physical Dimensions to be maintained

Length of Body ----- 650 mm
 Width of Body ----- 350 mm
 Height of Body ----- 103 mm
 Legs Height of Assembly ----- 50 mm
 Centre to Centre distance Between the two burners: 360 mm

Sr. No.	Item (Major Components)	Description
1	Body	As per ISI – IS: 8749-1988 with latest amendments
2	Gas pipe	As per ISI – IS: 8749-1988 with latest amendments
3	Gas Valve	As per ISI – IS: 8749-1988 with latest amendments
4	Leg	As per ISI – IS: 8749-1988 with latest amendments
5	Knob	As per ISI – IS: 8749-1988 with latest amendments
6	P.S. Ring	As per ISI – IS: 8749-1988 with latest amendments
7	Burner	As per ISI – IS: 8749-1988 with latest amendments
8	Nozzle Plug	As per ISI – IS: 8749-1988 with latest amendments
9	Brass Jet	As per ISI – IS: 8749-1988 with latest amendments
10	ISI marked	As per ISI – IS: 8749-1988 with latest amendments
11	Warranty	As per ISI – IS: 8749-1988 with latest amendments

General:

Construction of all parts of the equipment shall be sound and of high standard of workmanship and appropriate finish. Construction shall ensure durability and shall comply with the safety requirements. The knob should be of good quality which could also be tightened with screw in addition to having standard design. The supplier should provide two set of knobs extra with each Biogas Stove affixed to the main packaging. The assembly (Cock cum injector) attached to knob should be of brass. Air shutter should be of aluminium. Gas mixing pipe attached with burner should be of GI pipe.

Biogas Plant Accessories

HDPE pipes for use in Biogas plant

Empanelment of Agency for Pre-Fabricated KVVC type Biogas Plant for Chhattisgarh

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Size and specifications

HDPE PIPE for convey Biogas from plant to the kitchen:

HDPE pipe having 20 mm nominal diameter, duly ISI marked, confirming to ISI 4984-1995 made from virgin high density polyethylene material having pressure rating of PN 10 material grade PE-63, in bundle (coils) of 25 meters length of each having marking of ISI mark and HDPE grade at every one meter length having outer diameter min. 20 mm, inner diameter min. 15 mm (Wall thickness 2.5 mm \pm 0.2).

Biogas main valve (15 mm Dia.):

Biogas main valve (15 mm Dia.) made from brass material with brass based ball. Valve should be leak proof and having suitable length of handle for operation. Minimum weight of brass body and ball should be 157 gms and of handle 32 gms.

Cock cum nipple (15 mm Dia.):

Cock cum nipple (15 mm Dia.) made from brass with brass based ball with proper threading inside. Brass Cock-cum-Nipple should be leak proof and having suitable length of handle for operation. Minimum weight of brass body and ball should be 110 gms and of handle 12 gms.

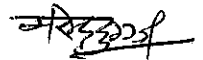
Flexible Rubber Tube (8.0 mm ID):











ANNEXURE-4

DOCUMENTS RELATED TO WORK EXPERIENCE OR AUTHORIZATION FROM THE MANUFACTURER HAVING MORE THAN 5 YEARS EXPERIENCE.

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ANNEXURE-5
PRICE OFFER FOR HDPE PORTABLE PREFABRICATED KVIC TYPE FLOATING
DOME BENEFICIARY SIZE BIOGAS PLANT FOR 40 DAYS HRT

EMPANELMENT OFFER Notice No.:

To:

Mission Director
 Swachh Bharat Mission – Gramin
 Raipur

Dear Sir:

I/ We hereby offer best price to the beneficiary for HDPE Portable Prefabricated KVIC Type Floating Dome beneficiary size Biogas Plant for 30 Days HRT as per the Terms of Reference given in this EMPANELMENT OFFER Document. The rates are quoted in the prescribed format given below:

(Amount in Rs.)				
Sr.	Particulars	5 Cu M	10 Cu M	20 Cu M
1	Biogas Plant			
(a)	Biogas Digester-			
(b)	Biogas Holder(Dome)			
(c)	Spring Spider mechanism			
(d)	Inlet Pipe with funnel			
(e)	Inlet Connection			
(f)	Outlet Connection			
(g)				
	Subtotal			
2	Accessories	5 Cu M	10 Cu M	20 Cu M
(a)	Gas Outlet Connection			
(b)	Gas Outlet Valve			
(c)	HDPE pipe (25 m)			
(d)	Cock cum Nipple			
(e)	Rubber Tube			
(f)	Biogas Stove			
(g)				
	Subtotal			
	Total Cost (1+2)			
Add:	Transportation			
Add:	GST @ 5%			
Add:	Any Other			
	Total Price Offer			

Note: The price offer is inclusive of cost of manufacturing, supply, installation, commissioning, transportation, excavation and any miscellaneous expenses to complete the work.

Signature of Agency

Empanelment of Agency for Pre-Fabricated KVIC type Biogas Plant for Chhattisgarh

ANNEXURE – 6
PROFORMA OF GENERAL POWER OF ATTORNEY

(To be signed and executed on non- judicial Stamp Paper of Rs. 10/-)

Be it known all to whom it concern that:

1. Shri/Smt _____ S/O _____
Residing at _____
2. Shri/Smt _____ S/O _____
Residing at _____
3. Shri/Smt _____ S/O _____
Residing at _____

I/ We all the Partners/ Directors/ Board members/ trustees/ Executive council members/ Leaders of M/S _____ having its registered office at _____ hereby appoint Sri _____ residing at _____ as my/our attorney to act my/our name and on behalf and sign and execute all Documents/ Agreements binding the firm for all contractual obligations (including reference of cases to arbitrators) arising out of contracts to be entered into by the company/ Corporation/ society/ trust/ firm with the Office of(Authority), Swachh Bharat Mission Gramin, Raipur in connection with its EMPANELMENT OFFER no. _____ dated _____ For _____ due for opening on _____.

In short, he is fully authorized to do all, each and everything requisite for the above purpose Concerning M/s _____ and I/We hereby agree to confirm and ratify his all and every act of this or any documents executed by my/ our said Attorney within the scope of the authority hereby conferred on him including references of cases to arbitration and the same shall be binding on me/ us and my/ our company/ Corporation/ society/ trust/ firm as if the same were executed by me/ us individually or jointly.

Witness (With address)

Signature of the Partners/ Directors/ Board Members Executives/ Trustees/ Council members

- 1)
- 2)
- 3)

S/O



ANNEXURE-7
DETAILS OF COMPETENT/CONCERNED PERSONNEL OF AGENCY
(DISTRICT WISE)

Sr. No.	Name of Person	Qualification	Exp. in years in providing advisory services	District in Chhattisgarh	Contact No.	Signature
1						
2						
3						
4						
5						

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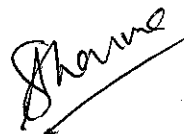
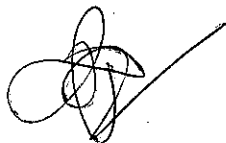
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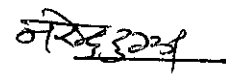
Technical Specifications for Floating Dome Type Biogas Plants

1. Capacity of the plant : 5.0 Cu. Mtr./ Day
2. Material of Construction : HDPE/ LLDPE
3. Feed Required Per Day : 120-125 Kg. / day cow dung or 50-60 kg./ day Kitchen waste.
4. Biogas Digester & Gas Holder : Dia. 1700 mm X Height 3500 mm \pm mm 2.5 %
Dimensions :
Material of Construction : HDPE/ LLDPE
Other requirement : There shall be provision to provide inlet and outlet connection for the inlet feed and digested slurry.
5. MS Retainer Structure :
Dimensions : Height 1800 mm X Width 800 mm X 4 Nos.
Material of Construction : MS with corrosion resistant paint
6. Central Guide Mechanism :
 1. Central Guide Pipe
Dimensions : Outside Dia. 100 mm x Height 1600 mm
Material of Construction : Mild Steel
 2. Central Guide Bush
Dimensions : Length 150 mm X Width 150 mm X Height 150 mm with centrally welded Bush of Dia. matching with Guide pipe.
Material of Construction : MS with black corrosion resistant paint.
7. Inlet Connection :
Size & Material : 4" PVC with required rubber gasket/PE with flanged connection.
8. Inlet Pipe :
Size & Material : 4" PVC/ PE
9. Outlet Gas Pipe :
Size & Material : 16mm HDPE pipe however, Dia. of pipe may be more depend on site condition/ distance etc..
10. Burner : Burner of capacity 40 Cu. ft./ Hr.



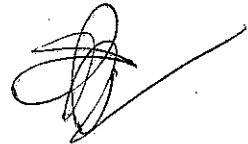
Technical Specifications for Floating Dome Type Biogas Plants

1. Capacity of the plant : 10.0 Cu. Mtr./ Day
2. Material of Construction : HDPE/ LLDPE
3. Feed Required Per Day : 200-250 Kg. / day cow dung or 100-125 kg./ day Kitchen waste.
4. Biogas Digester & Gas Holder : Dia. 2125 mm X Height 6000 mm \pm mm 2.5 %
Dimensions :
Material of Construction : HDPE/ LLDPE
Other requirement : There shall be provision to provide inlet and outlet connection for the inlet feed and digested slurry.
5. MS Retainer Structure :
Dimensions : Height 2680 mm X Width 1000 mm X 4 Nos.
Material of Construction : MS with corrosion resistant paint
6. Central Guide Mechanism :
 1. Central Guide Pipe
Dimensions : Outside Dia. 100 mm x Height 2800 mm
Material of Construction : Mild Steel
 2. Central Guide Bush
Dimensions : Length 250 mm X Width 250 mm X Height 250 mm with centrally welded Bush of Dia. matching with Guide pipe.
Material of Construction : MS with black corrosion resistant paint.
7. Inlet Connection :
Size & Material : 6" PVC with required rubber gasket/PE with flanged connection.
8. Inlet Pipe :
Size & Material : 6" PVC/ PE
9. Outlet Gas Pipe :
Size & Material : 1" HDPE pipe however, Dia. of pipe may be more depend on site condition/ distance etc..
10. Burner : Burner of capacity 80 Cu. ft./ Hr.







Technical Specifications for Floating Dome Type Biogas Plants

1. Capacity of the plant : 20.0 Cu. Mtr./ Day
2. Material of Construction : HDPE/ LLDPE
3. Feed Required Per Day : 400-500 Kg./ Day for Cow dung and 200-250 kg./ day for Kitchen waste.
4. Biogas Digester :
Dimensions : Dia. 3000 mm X Height 7400 mm \pm mm 2.5 %
Material of Construction : HDPE/ LLDPE
Other requirement : There shall be provision to provide inlet and outlet connection for the inlet feed and digested slurry.
5. MS Retainer Structure :
Dimensions : Height 3450 mm X Width 1275 mm X 4 Nos.
Material of Construction : MS with corrosion resistant paint
6. Central Guide Mechanism :
 1. Central Guide Pipe :
Dimensions : Outside Dia. 110 mm x Height 3500 mm
Material of Construction : Mild Steel
 2. Central Guide Bush :
Dimensions : Length 250 mm X Width 250 mm X Height 250 mm with centrally welded Bush of Dia. matching with Guide pipe.
Material of Construction : MS with black corrosion resistant paint.
7. Inlet Connection :
Size & Material : 6" PVC with required rubber gasket/PE with flanged connection.
8. Inlet Pipe :
Size & Material : 6" PVC/ PE
9. Outlet Gas Pipe :
Size & Material : 1" HDPE pipe however, Dia. of pipe may be more depend on site condition/ distance etc..
10. Biogas Burner : Biogas burner of capacity 80 Cu. ft./ Hr.

