W-11042/172/2020-JJM-IV-DDWS

**Government of India**
**Ministry of Jal Shakti**
**Department of Drinking Water and Sanitation**
**(National Jal Jeevan Mission)**

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Pt. Deendayal Antyodaya Bhawan,
CGO Complex, Lodhi Road,
New Delhi-110 003
Date: 10th April, 2021

To

Add. Chief Secretary/ Principal Secretary/ Secretary
In-charge of Rural Drinking Water Supply,
States of Andhra Pradesh, Gujarat, Haryana, Karnataka, Maharashtra Manipur, Rajasthan and Uttar Pradesh.

**Sub:** ICT Grand Challenge to develop "Smart Water Supply Measurement and Monitoring System" – implementation of 'ioT-pilot' in selected villages.

**Sir,**

I am directed to convey the appreciation for partnering in the ICT Grand Challenge to develop "Smart Water Supply Measurement and Monitoring System" and for taking prompt action in identifying & providing the list of villages for demonstrating through pilots. It is to inform that the four participants that have successfully demonstrated the proof of concept on a prototype test-bed in CDAC facility at Banglore. The participants will now have to demonstrate the solution in villages through pilots.

2. In order to facilitate the implementation, it is requested:

i.) assign a nodal officer and a 'small team' to work closely on 'ioT-pilots'. This will also build the capacity in the State for implementation of smart water suplly monitoring systems through exposure to sensor-ioT technology. This team may lead the implantation of ioT in the State;
ii.) facilitate the visit and meeting of participants in the identified villages for collecting preliminary information about piped water supply for installation of IoT sensors for quality and quality parameters;
iii.) provide drawings/ maps/ schematic drawings and details of pipe water supply system to participants. A format provided in Annex II is also prepared to facilitate the design. This format has already been shared earlier as well; and
iv.) allow installation of devices in the pipeline/ extension/ ESR/ Household delivery point etc.

3. In view of above it requested to constituted a small team as mentioned and provide details of Nodal officer may be provided to this department at the earliest.

Yours Sincerely,
10/4/2021
**(Pradeep Singh)**
**Director**
email: pradeep.singh78@gov.in

Encl.: As above

**Copy f.w.c. to:** Director C-DAC, Bangalore to provide copy of the letter to participants for liaising with states and take further necessary action to deploy the pilots.

**Annex.I**

Different nodes for deploying IoT devices in the villages identified for pilot/ filed test as per ICT Grand Challenge:

| Sl.No | Node Name | Functionality | IoT Devices | Numbers |
|---|---|---|---|---|
| **1.** | **Service Reservoir** | Source Node assesses the quality, quantity, flow control and time of water supply at the supply points (Source Points).<br><br>Source nodes must contain sensors for pH value, TDS, residual chlorine, nitrate and a flow meter to determine the quantity. | Bulk Flow Meter | 2 |
| | | | pH Sensor | 1 |
| | | | TDS Sensor | 1 |
| | | | Residual Chlorine Sensor | 1 |
| | | | Nitrate Sensor | 1 |
| | | | Fluoride Sensor (given the pilot location) | 1 |
| | | | Arsenic Sensor (given the pilot location) | 1 |
| **2.** | **Branch/DMA Node** | Branch/DMA assesses the quantity in the main branches leading to major hub/clusters of houses. | Bulk flow meters | Max 5, as per the site requirements |
| **3** | **Household furthest point in network** | Household (at last house in water distribution system) must contain a sensor for a flow meter and pressure sensor to determine the quantity and pressure regularity; | Consumer Flow meter | 1 |
| | | | Pressure sensor | 1 |

**Annex.II**

Following water supply details may be furnished for the various schemes in the tabular as well as layout drawing forms for ease in understanding the schemes.

Village Name:

Block Name:

District Name:

EE Name and Contact Number:

JE Name and Contact Number:

Sarpanch Name and Number:

Name of the Scheme:

| Sl.no. | Descriptions | Remarks |
|---|---|---|
| 1 | Number of Sources | |
| 2 | Source Name | |
| 3 | Source Location | Name of Place and Co-ordinates |
| 4 | Source Type – Natural Stream / Tube well/ Intake | Outgoing pipeline details from Inlet chambers |
| 5 | Raw Water Pipe Mains | Diameter, Material, Length |
| 6 | Water Treatment Plant Capacity | In MLD |
| 7 | No of Clear Water Mains | Pipelines from outgoing from WTP |
| 8 | Clear Water Mains Details | Diameter, Material, Length |
| 9 | Tube Well Details | Name of Place and Co-ordinates |
| 6 | Number of Tube Well (TW) | Numbers |
| 7 | Pumps Discharge | In LMP |
| 8 | Pump Head | In Meters |
| 9 | Pump Running Timing in a day | In Hours |
| 10 | Rising Main – outgoing from TW | Alignments |
| 11 | OHSR Location and Elevation | Name of Place, Co-ordinates and Elevation in Meters |
| 12 | OHSR Capacities | In Kilo Litre |
| 13 | Distribution Network from Source or OHSR to Households | Map showing pipelines alignments with Pipe Material, Diameter and Lengths. Outgoing lines from Source, Incoming and Outgoing Line of OHSR/GLR needs to be clearly shown along with the |
| 14 | Supply Hours | In Hours |
| 15 | Households in Villages | Numbers |
| 16 | HH with FHTCs | Numbers |
| 17 | Present Water Service level | In Litres |
| 18 | Water Quality Reports | From Laboratory for water monitoring |
| 19 | Pressures in distribution system | In Meters |

Note: 1) Any other details or DPRs may also be furnished, if required, for ease in understanding schemes. 2) All Villages/Scheme/Locations identified are must have good mobile networks.