भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन नदी विकास एवं गंगा संरक्षण विभाग
केंद्रीय जल आयोग
नदी आंकड़ा संकलन-1 निदेशालय

Government of India
Ministry of Jal Shakti
Dept. of Water Resources, RD&GR
Central Water Commission
River Data Compilation-1 Directorate

NOTICE INVITING QUOTATION (NIQ)

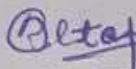**No: NIQ/RDC1/2024/01**   **Dated: 07.09.2024**

The Sealed quotations for **"Fabrication and Installation of physical model for NHP exhibition during 8th India Water Week 2024"** are hereby invited by the undersigned on behalf of the President of India. The quotations shall be received in the office of Director, River Data Compilation-1 Dte, CWC, West block -2, Ground Floor, Wing-5, RK Puram, New Delhi-110066 during the working hours on or before 12/09/2024 up to 14:00 hrs and shall be opened on the same day at 14:30 hours by the undersigned in presence of the interested quotations or their authorized representatives who desire to remain present at the time of opening of quotations.

Description of work	Estimated Amount (INR)	Last date & timefor Submission of quotation	Date & time for opening quotation	Location
Fabrication & Installation of Table mounted physical model showing all features such as Rainfall Simulator, Hills, River network, Dams, Reservoir, Canal Network, Agriculture field, habitation on the plains, roads and building, RTDAS system, SCADA System etc., in working condition with a size 8' X 4'.	4,00,000/-	12/09/2024 14.00 Hrs	12/09/2024 14.30 Hrs	O/o Director, River Data compilation-1 Dte, CWC, West Block -2, Ground Floor, Wing-5, RK Puram, New Delhi-110066

Term and Conditions: -

1. The physical model should be completed as per technical specification (Annexure-I) and handed over to this office before 15.09.2024 from the date of issue of work order.

2. The model should be in working condition and good quality material should be used for physical model.

3. The rates shall be kept valid for minimum period of 30 days from the date of opening of quotation.

4. The rates are to be quoted F.O.R. destination inclusive of packing forwarding, freight, insurance, if any, at the office of the undersigned. The rates should be inclusive of all local taxes such as Service Tax/GST etc.

5. Rates of Service tax/GST should be mentioned as applicable.

6. The rate of works should be quoted both in figures as well as in words.

7. The quotation number with date of its opening must be clearly mentioned on the top of the quotation and sealed cover.

8. Quotation may be dropped in the Tender/Quotation box kept in the office of the undersigned or may be sent by the registered post (Marked as quotation for development of physical model for NHP exhibition during 8th India Water Week 2024) to the undersigned to reach on or before the date and time stipulated for receiving the quotation. No quotation will be entertained after the stipulated time.

9. Any correction in the quotation should be clearly attested.

10. Request for any advance payment will not be entertained.

11. All taxes applicable as per rule will be deducted from the final bill.

12. The work carried out by the firm shall be guaranteed for a period of not less than six months from the date of completion of work.

13. The undersigned reserves the right to cancel/reject in part or full or any/all the quotation without assigning any reason thereof and without any financial involvement from either side.

14. 100% payment will be made through PFMS on completion of work in correct and good condition.

15. The successful bidders will have to available during the exhibition at Bharat Mandapam, Pragati Maidan, New Delhi.

16. Only those firms having PAN/GST/TIN clearance certificate etc. can be eligible to submit their quotation.

17. Any quotation, which does not comply with the above guidelines, runs the risk of being rejected.

18. In case of any dispute, the decision of The Deputy Director, RDC-1, Dte, CWC New Delhi shall be final and binding on all concerned.

07.09.24

(Altaf Hussain)
Deputy Director,
RDC-1, Dte, CWC, New Delhi
Wing-5, West Block-2,
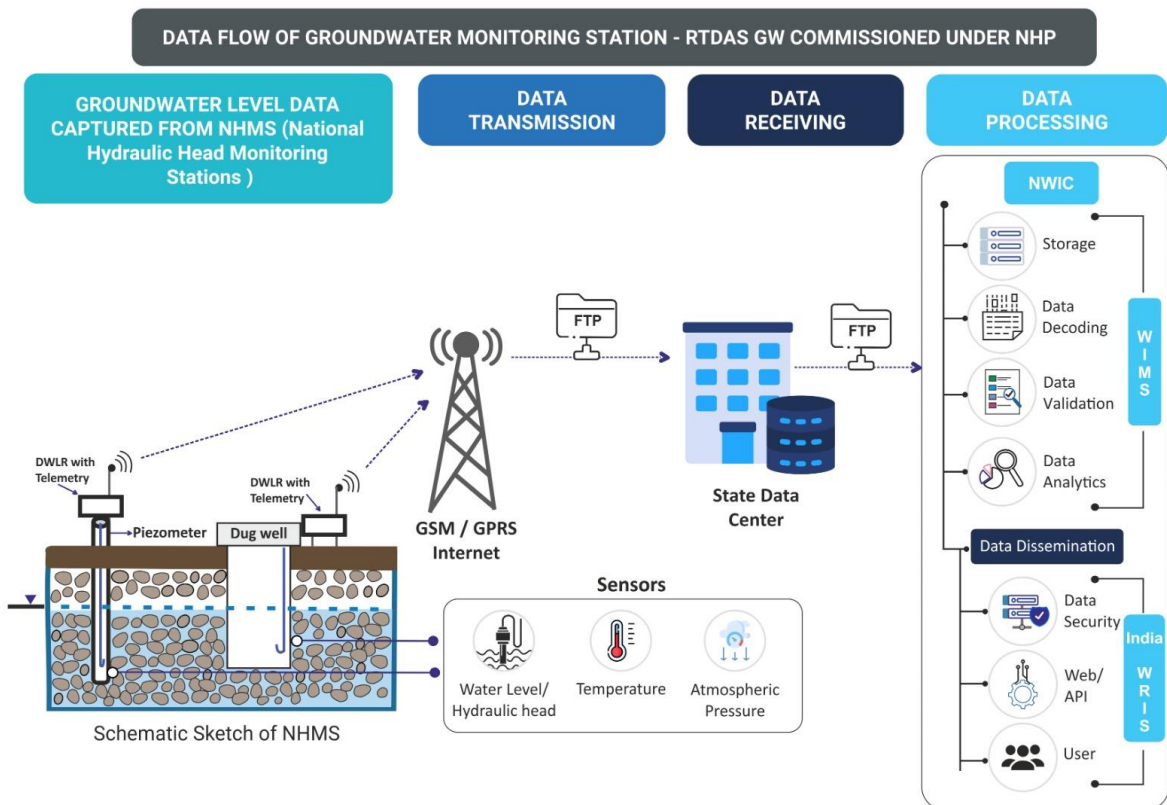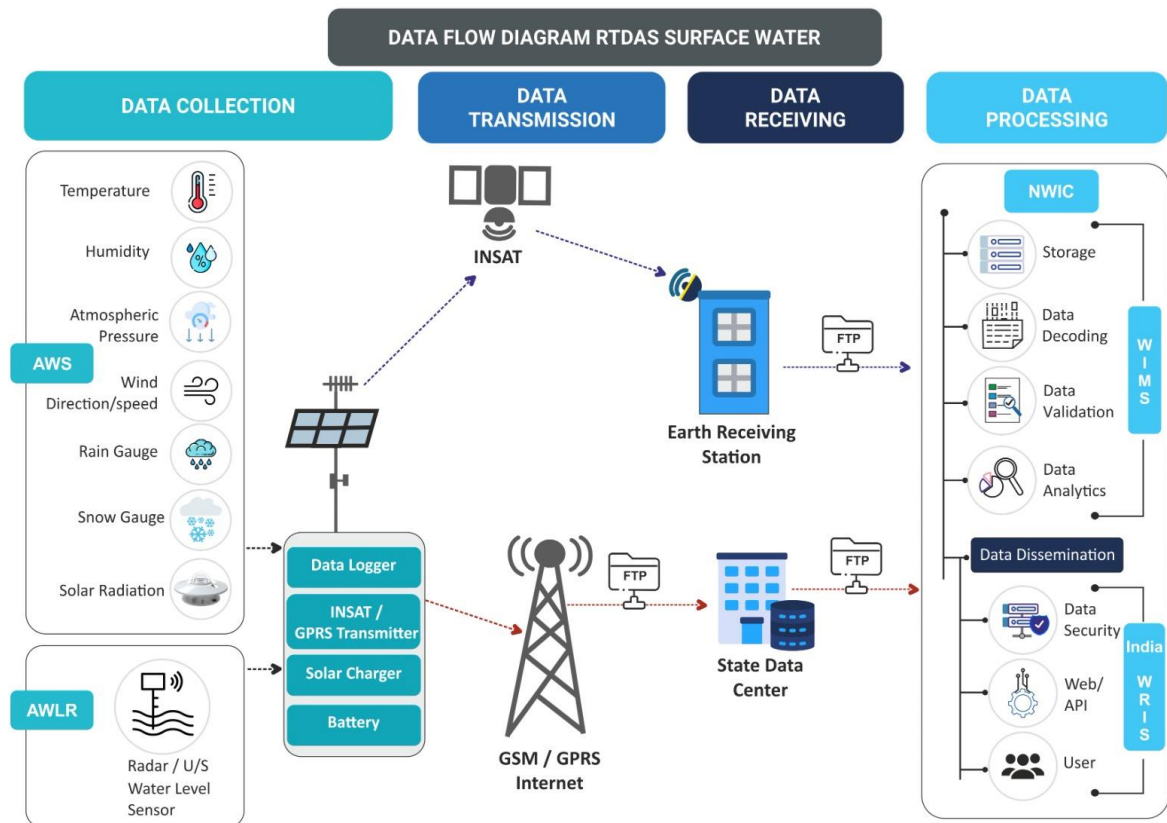RK Puram Sector-1,
New Delhi-110066

Annexure-I

Model components

- Rainfall simulator
    - No rainfall
    - Light rainfall
    - Heavy rainfall accompanied by synchronised
        - Lightning flashing using strobe lights
        - Roar of thunder through speakers
        - Strong wind blows from industrial fans
- Hills
    - Show bound peaks
    - Lower portion with jungle, habitation, agriculture etc.
- River network flowing from hills through plains and into the sea
    - ADCP for river discharge measurement at a cross section with graphical display of discharge
- Dams on the rivers
    - Reservoir
        - Boat on reservoir showing bathymetric survey
        - Display of results showing sedimentation in reservoir
    - Gates that open under conditions
- Canal network taking off from barrage carrying water to the fields
- Agricultural fields with canals
- Agriculture and Habitation on the plains
    - Floodplain to show difference in elevation, lower near the river and some rise after a certain distance
- Roads and buildings distributed over the place
    - On the higher areas at a distance from the rivers as well as the floodplains (at lower elevations near the rivers)
    - Houses near the river on the floodplains to get inundated during floods
- Pumps in agricultural fields for irrigation
- Mobile phones in habitations in the floodplains
- Real Time Data Acquisition System Surface Water
    - Sensors
        - Automatic Rain Gauge
        - Automatic Water Level Recorder
            - River
            - Dam
            - Canal
        - Acoustic Doppler Velocity Meter (on Tilpara Canals)
        - Automatic Weather Station
            - Rainfall
            - Maximum and Minimum Temperature
            - Relative Humidity
            - Solar Radiation
            - Atmospheric Pressure
            - Wind Velocity and Direction
            - Pan evaporation
        - Automatic Snow Pillow (on snow bound hills)

- o Data logger and transmitter
- o Mobile network tower for GPRS/ GSM (at least two - one near data collection platform and one near state data centre)
- o State Data Centre
  - Building
  - Display of graphical data
- o Satellite (INSAT DS)
- o Earth Receiving Station
- o National Water Informatics Centre
  - Building
  - Display of graphical data
- Real Time Data Acquisition System Ground Water
  - o Piezometers
  - o Sensors
    - Digital Water Level Sensor
    - Water Quality Sensors
      - Temperature
      - Total Dissolved Solids
      - Electrical Conductivity
  - o Data logger and transmitter
  - o Mobile network tower for GPRS/ GSM (at least one near data collection platform and one near state data centre)
  - o State Data Centre
    - Building
    - Display of graphical data
- Supervisory Control and Data Acquisition System (SCADA) at Dam
  - o RDTAS Instruments
    - Automatic Water Level Recorder
    - Automatic Rain Gauge in upstream catchment
  - o SCADA control room with display
  - o Spillway gates in dams for releasing water when it exceeds pre-defined level
- Supervisory Control and Data Acquisition System (SCADA) at Barrage controlling gates for release of water into the canals
  - o RDTAS Instruments
    - Automatic Water Level Recorder
    - Automatic Rain Gauge in the canal command area with agriculture
  - o SCADA control room with display
  - o Gates on canal head works at the barrage for releasing water into the canal when crops require irrigation

DATA FLOW DIAGRAM RTDAS SURFACE WATER

DATA FLOW OF GROUNDWATER MONITORING STATION - RTDAS GW COMMISSIONED UNDER NHP

Model operation

- Data transmission from RTDAS to State Data Centre through sequential flashing
  - For Surface Water RTDAS
    - Path 1
      - Sensor flashing
      - Data logger and transmitter flashing
      - Mobile tower flashing

- Data reception centre at State Data Centre flashing
  - Path 2
    - Sensor flashing
    - Data logger and transmitter flashing
    - Satellite flashing
    - Earth Receiving Station Flashing
    - Data reception centre at National Water Informatics Centre flashing
    - Data reception centre at State Data Centre flashing
  - For Ground Water RTDAS
    - Path 1
      - Sensor flashing
      - Data logger and transmitter flashing
      - Mobile tower flashing
      - Data reception centre at State Data Centre flashing
- Case 1: No rainfall
  - Fields irrigated with pumped water
  - Water level in piezometer displayed through graphics going down
  - Bathymetric survey in reservoirs
    - Boat moving across reservoir along straight line path
    - Sedimentation shown through graphical display
- Case 2: Light rainfall
  - Rain gauge capturing water
    - Rainfall shown through graphics
  - Water flows through rivers
    - River water level rise shown through graphics
  - Reservoir storing water
    - Reservoir water level rise and increased water storage shown through graphics using Area Elevation Capacity Curve
  - Canal water supply gate opened by SCADA
    - Canal water level and discharge rise shown through graphics
  - Water supplied to agricultural fields by the canals
  - Ground water level rising in piezometer
- Case 3: Heavy rainfall with lightning and thunder, strong wind blows
  - Rain gauge and water level recorder showing sudden rise in readings
  - Dam spillway gates opened using SCADA as water level exceeds pre-defined water level in dam
  - River water level rises and is shown on graphical display
  - As water level in river rises and exceeds certain level, alert is sent to mobile phones and it beeps
  - Groundwater level rising in piezometer but at a slower rate than Case 2.

Schedule of Quantities

Name of Work: - "Fabrication and Installation of physical model for NHP exhibition during 8th India Water Week 2024"

S1/No	Description of work	Qty.	Unit	Quoted Rate (Rs.)	Quoted Amount (Rs.)
1	Fabrication & Installation of Table mounted physical model showing all features such as Rainfall Simulator, Hills, River network, Dams, Reservoir, Canal Network, Agriculture field, habitation on the plains, roads and building, RTDAS system, SCADA System etc., in working condition with a size 8' X 4'.				
	Total quoted amount*				
	In words ( ) * Rates **Should be inclusive of all taxes**.				