GOVERNMENT OF RAJASTHAN
Department of Information Technology & Communication

No.: F.5 (1388)/ DoIT/ Tech/ 2021/03338/2021   Dated: 17/09/2021

Minutes of 87th meeting of SeMT dated 09-09-2021

The Eighty Seventh (87th) meeting of the State e-Governance Mission Team (SeMT) was held under the Chairmanship of Principal Secretary, IT&C on 09th September, 2021 at 11:30 AM through Video Conferencing. List of participants is enclosed at **Annexure –"A"**.

The followings were discussed in the meeting:

1. Project : Procurement of computer hardware and allied items for advancement and upgradation of studios of applied art, painting and sculpture dept. (College Education Dept. for Rajasthan School of Arts, Jaipur)

The Committee was briefed about the proposal. In compliance to the point number 423 of budget announcement for year 2021-22 by Chief Minister of Rajasthan, a proposal of Rs. 265.08 Lakh for the reinforcement of basic facilities in Rajasthan School of Arts, Jaipur was submitted to Finance Dept. and Finance Dept. suggested to technically evaluate/ obtain technical approval on the project proposal form SeMT/ Dept. of IT&C.

Rajasthan School of Arts' Inter-Departmental summarized requirement of equipment submitted by Commissionerate, College Education are as follows-

S. No.	Department Name	Approx. cost of required equipment in Rs.
1	Applied art (Computer graphic and computer lab)	1,84,68,500/-
2	Sculpture Department (Ceramics studio)	38,63,500/-
3	Panting Department	41,76,000/-
	Total	**2,65,08,000/-**

Requirement of equipment for Computer Lab/ Computer Graphic for Applied Art Dept./ Painting Dept. are as follows-

(Rs. in Lakh)

S.No.	Item	Qty.	Approx. unit cost	Approx. total cost
1	Workstation	40	1.85	74.00
2	Laptop	12	2.00	24.00
3	Creative Software for the animation and Applied Art Dept. (*including Quick Heal/ Total Security Anti-Virus Tool – Total 15 @ Rs. 2,100/- each unit*)	1	Lump Sump	. 2.47
4	UPS – Power backup	22	0.03	0.66
5	Projector	1	1.50	1.50
	Total			**102.63**

*Technical specification suggested by Dept. of IT&C are attached as **Annexure-"B"**.*

Financial implication:
The overall Total Estimated cost of the project is Rs. 265.08 Lakh which also includes the cost of ICT equipment as Rs. 102.63 Lakh.

Fund Management:
Expenditure would be met from the funds available with College Education Dept.

The Committee accords technical approval on the proposal having ICT equipment's estimated cost of Rs. 102.33 Lakh (out of the total project cost of Rs. 265.08 Lakh) subject to the funds availability and approval of funds from Finance Dept.

2. Project : Upgradation, Enhancement and Maintenance of Silicosis Portal as per new Silicosis policy for four (4) years (Social Justice Dept. for Directorate of Specially Abled Persons)

The Committee was briefed about the proposal that GoR provides the financial assistance to the worker suffering from Silicosis or to their family. Without intervention of any comprehensive technology based developmental approach, there were many challenges like increase in number of illegitimated (spurious) transactions due to lack of monitoring of service delivery, large volume of paperwork, lack of tracking of authenticity of beneficiaries, delay in treatments, no central database for persons suffering with Silicosis or Persons working for Industries like Mining, Glass Manufacture, Construction, Ceramic, Gem cutting and polishing, etc.

In order to address above mentioned prevailing impediments and challenges, GoR has implemented earlier an end to end comprehensive integrated web application 'Silicosis Patient Registration' based on Bhamashah/ Jan-Aadhaar Platform which provides financial assistance to the worker suffering from Silicosis or to their family and also an online disbursement of funds directly into the bank account through DBT. It reduces paperwork with an online and auto flow of application either to Department of Mines & Geology or Labour Department based on business logics for taking respective actions in a secured manner.

Now, GoR launched the new Silicosis policy in the year 2019, in order to simplify the Certification process the Directorate of Specially Abled Person (DSAP) in consultation with the Medical and Health Department adopted a new process for Silicosis certificate generation, further the grant disbursement process is changed.

Administrative Department(s) involved and their role/ responsibility-

S. No	Dept.	Role/ Responsibilities		
1.	ACPs (DD) of DHQs	Responsible for User Management, Role Assignment.		
2	Medical & Health Dept.	This is further divided into the following:		
		S. No.	Role	Responsibilities
		a.	Medical Officer at PHC/ CHC	Primary Check-Up. Pull-up data of any patient (if required) and take actions. Uploading Digital X-Ray of Chest for consultation of designated radiologist.
		b.	Radiologist	Check the Digital X-Ray of patient and provide recommendation.
		c.	CMHO/ DTO	Generate Silicosis certificate as per recommendation of Radiologist
3.	Nodal Officer (ADM)	Perform Verification Process		
4.	Collector	Cancel Sanction e-Sign Sanction		

Categories of Applicant-
The applicants who are affected with Silicosis disease can be Labour, Mining Labour or Other.

Business Context-
State of Rajasthan needs a portal to provide grant to SILICOSIS patients who are residing in remote locations of Rajasthan State. The portal will not only help the poor workers of

mines/ quarries to get their share of social justice but also help to NGO/Government authorities for providing the grant to deserving candidate quickly.

The system will have five major parts-
- User Management Module,
- Silicosis Patient Registration through web/ mobile,
- Assessment by PHC/ CHC,
- Examination of X-Ray by Radiologist/Generation of the Certificate
- Grant of approval from District Collectorate.

Integration of the system-
The system will also be integrated with the services provided by GoR, the major services to be integrated are as follows:
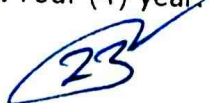- Single Sign On for using system (authentication and role management)
- Jan-Aadhaar platform for fetching applicant details.
- Email Services for sending notifications to email addresses.
- Short Messaging Services for sending notifications to mobile phones.
- E-Sign Services for signing silicosis certificate with digital signature.
- e-Mitra services integration
- IFMS Integration.

Scope of Work (SoW):
The scope of work for the implementation of the project covered a detailed list of deliverables, processes involved, end products, review and approval processes:

- Study of New Silicosis policy 2019.
- Study of Old Silicosis portal developed by RISL.
- Development of IT Enablement of Silicosis Patient Registration.
- Registration of patient through web portal and Mobile App.
- Disbursement of Grant through Bhamashah/ Jan-Aadhaar Platform.
- Interoperable with following integrations: Single Sign On, e-Mitra, e-Sign, Bhamashah/ Jan-Aadhaar, Integrated Finance Management System, SMS, Email.
- Set appointment with Camp/CHC/PHC.
- Primary health checkup of applicant at CHC/PHP/Camp.
- Uploading of Digital chest X-Ray for consultation with registered radiologist.
- Certificate Issuance.
- Grant disbursement.
- MIS Requirements-
  - List of applicants.
  - Usage Reports – District wise, CHC wise and etc.
  - Down load the report in PDF/Excel
  - Ageing Report
  - Summary Report
- Changes in Reports as per requirement.
- Enhancement, Operations and Maintenance of the Silicosis portal for 4 years.
- Any other changes as per requirement from Directorate of Specially Abled Person (DSAP).

Duration of the project: Four (4) year.

Financial Implication:

(Amount in Rs.)

S. No.	Type of Resource	No. of Re-source	Per resource cost per Month (Incl. of Taxes)	Per resource cost for 1 year (Incl. of Taxes)	Total cost for **4 years** (Incl. of Taxes)
1	.Net Developer	2	80,000/-	19,20,000/-	76,80,000/-
2	Helpdesk	1	25,000/-	3,00,000/-	12,00,000/-
3	Total Cost			22,20,000/-	88,80,000/-
4	RISL Service Charges 10% of Total Cost			2,22,000/-	8,88,000/-
5	GST 18% on RISL Service Charge			39,960/-	1,59,840/-
6	Grand Total (3+4+5)			24,81,960/-	99,27,840/-
				Say Rs.	99.28 Lakh

Fund Management:

Expenditure would be made from the funds available with Directorate of Specially Abled Person/ Social Justice Dept., GoR, Jaipur.

The Committee accords technical approval on the proposal having estimated cost of Rs. 99.28 Lakh; subject to the funds availability and approval of funds from Finance Dept.

3. Project : Proposal of Raj eVault (Dept. of IT&C)

The Committee was briefed about the proposal. The project "Raj eVault" was started to provide a smart and dynamic solution for digital content repository to deal huge amount of digital content (documents/ licenses/ECM generated files) of citizens and integrate the application with various departments and 3rd party applications to provide the unified and secured access of content for various authorization purpose to achieve the vision of digitization for the state government.

The Raj eVault is providing services to 18+ departments to store and maintain more than 27 Crore of the departmental documents/files as well as certificates/licenses issued to Citizens. Total space occupied by these documents is more than 67 TB.

The Raj eVault application has been now working for more than 5 years and is in need of major enhancements for its smooth functioning in future and support the document verification system.

Current Issues-
- The current version of IBM stack is out of support.
- The IBM stack is to be upgraded to the latest version along with the migration.
- The dedicated IBM/IBM Partner resource is not available for the support at server and application level.

Short Term Targets-
1. Implementation of Documents Verification System (CM Budget Announcement 2021-22) to be inaugurated on 2 Oct. 2021.
2. Application Enhancement: Setup, Configure and Upgrade/ Migration of the products mentioned in the table below on 4 environments (Development, UAT, Production & DR):

Sr.	Item	Current Version	Target Version
1	IBM DB2	10.5.1	11.5.0
2	IBM WebSphere application server	8.5.5.17	9.0.5.1
3	IBM FileNet Content Manager P8	5.2.1	5.5.5
4	IBM Content Navigator	2.0.3.4	3.0.8

Sr.	Item	Current Version	Target Version
5	IBM Security/ Tivoli Directory Server	6.3	6.4
6	IBM Case Foundation	5.2.1	5.3
7	IBM HTTP Server	8.5	9.0.5

3. Application Migration from State Data center (P3) to Bhamashah SDC (P4)
4. Development for Archival process for unused documents stored in Raj eVault
5. Implementation of UIDAI Guideline (managing Aadhaar Id in application)
6. Integrate with Digi Locker as Issuer
   - New services to be developed for providing all the available citizen documents (Existing and New) on Raj eVault to Digi Locker
   - On-board new citizen certificate issuing departments on Raj eVault to create central repository to integrate with Digi Locker.

Long Term Targets-
1. Redesigning the Raj eVault System as per the requirement
2. Raj eVault Policy for storing/managing the type of documents
3. Separate instance of critical projects like AG Office, Document Validation System, Jan Aadhaar etc.
4. DR site setup.
5. Procurement of IBM Case Foundation, WebSphere Application Server, to strengthen the performance of the existing system as per ongoing and future activities like document validation system, Raj eVault as Issuer etc.
6. Digitization of Department on-boarding process
   - Department to Register and create account
   - Choose SMS and Email Notification service
   - Dashboard and Reports
7. Admin Panel
   - Admin panel for Master Data Management, Configuration and Roles and Privilege Management
   - Approve/Decline Department
   - Enhancements in Dashboard and MIS

As per the detailed discussion with the IBM team for the above mentioned scope of work and directions received from higher authorities, the IBM has submitted a proposal with cost of Rs. 14 Crore.

Financial Implication:

(Rs. in Lakh)

Description		Total Cost Estimated (excluding taxes)
First Year		
Capital	IBM Case Foundation Software Licence–96 Core	1182.00
	One Time Upgrade Cost of IBM Stack	100.00
	Application Software Development for 6 months	67.00
	RISL Charges	134.90
	Total	**1483.90**
Revenue	Manpower for OEM Filenet Expert for 100 days	68.00
	Manpower for OEM DB2 Expert for 30 days	20.40
	IBM Partner Onsite Resource for Migration and O&M for 1 Year	30.00
	Consultant – Tech. Profile (6-10 Years of Experience)	33.50
	O&M	53.00
	Training and Other Miscellaneous Expenses	25.00
	RISL Charges	22.90
	Total	**252.80**
First Year Total		**1736.70**

Description		Total Cost Estimated (excluding taxes)
Second Year - Revenue	Second Year O&M	105.00
	Consultant – Tech. Profile (6-10 Years of Experience)	33.50
	RISL Charges	13.80
Second Year Total		**152.10**
Third Year - Revenue	Third Year O&M	105.00
	Consultant – Tech. Profile (6-10 Years of Experience)	33.50
	RISL Charges	13.80
Third Year Total		**152.10**
Grand Total		**2040.90**

In case Raj eVault is discontinued then:
- Each department need to manage its own documents with additional infrastructure. The infra is also then provided by DoIT&C. Hence removal of Raj eVault will increase complexity with no additional benefits.
- Each department need independent manpower for:
  1. Data migration
  2. Modifications in existing system
  3. Manage repository
- Each department need to manage integration with each department separately for Document verification, increasing additional impact on manpower, project management and eventually on budgeting.

Fund Management:
Expenditure would be met from the funds available with Dept. of IT&C.

The Committee accords technical approval on the proposal having estimated cost of Rs. 2040.90 Lakh (excluding taxes); subject to the funds availability and approval of funds from Finance Dept.

4. Project : Hire resources through NICSI route in a project mode for a period of minimum 03 years (Social Justice Dept.)

The Committee was briefed about the proposal. The SJED focuses on the welfare of Scheduled Caste, Scheduled Tribes, economical backward classes, other backward classes, special backward classes, specially abled destitute and economically weaker children women and aged citizens it has the mandate of creating an equitable society by catering to the needs of the most vulnerable population sections in the state.

A Project Management Unit of technology (PMU- Technical) Team is needed to be continued to support the Department to achieve its mandate. This PMU-Technical Team will focus on providing technology solutions related to Information Technology to the department.

Tenure of existing PMU-Technical Team is being over on 15-09-2021 and most of the schemes of the department are online. In absence of the PMU-Technical Team, handling of portals and delivery of benefits to the beneficiaries will be challenging task for SJED.

SJED has decided to hire resources through NICSI route in a project mode for a period of minimum 03 years (extendable up to 2 more years as per requirement) from 16-09-2021; as remaining time till 15.09.2021 is very short to complete necessary activities to on board resources through NICSI.

Scope of Work:

1. Technical Advisory Services-

- Transition of existing e-Governance Solution, the Social Justice Management System (SJMS) Application
- Support the Existing Solution
- Business Continuity Support
- Requirement Gathering
- Enterprise Architecture Design
- Solution Framework Design
- Best Practice Adoption
- Document Preparation [SRS (Including FRS & BRD) and Enterprise Architecture Document]
- Test Plan, Test Cases and facilitating UAT
- Program Management Support services
- Change Requirement assessment for finalizing enhancement, new module development, on-boarding of other Stakeholders during Support and development period
- Capacity Building and Training

2. Implementation and Support services-

- Design, Development, Testing, deployment of New Application Modules in Staging and Production Environment at SDC
- Integration with other existing applications of DOSJE and other associated departments
- Integration with other existing applications of Government of Rajasthan using standard API / Web Services
- Design and development of Mobile Application(s) for all schemes
- Data Validation and Migration
- Application Testing (Performance, Integration, Security Testing)
- Application health monitoring and bug fixing
- Application maintenance, Version Management and periodic backup during the entire support period
- Technical Support Services for application issue handling
- Design and development of new modules, enhancements during Support period

Man-power Deployment:

The PMU-Technical Team will consist following mentioned manpower at the Department of Social Justice & Empowerment (Ambedkar Bhawan) for a period of minimum 36 months (<u>and extendable up to 2 more years as per requirement</u>):

(Rs. in Lakh)

S. No	Resource Category	No. of Resources	Months/ Year	Total man-months for 3 years	NICSI MM Rate including NICSI charges	Per Year cost	Total project cost for 3 years
**Cost Estimation - PMU (Technology/Information Technology) (SJED, SAP, DCR, SCST Corporation)**
1	Technical Project Manager	1	12	36	1.93	23.16	69.48
2	Senior Devops	4	48	144	1.60	76.83	230.47
3	Devops	4	48	144	1.15	55.47	166.41
4	Quality Assurance/ Test Engineer	1	12	36	1.09	13.17	39.52
		10	120	360	5.77	168.63	505.88
	Add GST @ 18%					26.9	80.69
	Total Cost including NICSI Charges and GST					195.52	586.56

Summarized Financial Implication:

The PMU team for Technology may be engaged through NICSI for initial period of 36 months and extendable up to 2 more years as per requirement in project mode. Going through NICSI route will save time and agencies can come on board in short duration. The resources' fee is estimated to be ₹587.00 Lakh for 36 months including NICSI charges @ 7% and GST @ 18%. Details are as follows:

(Amount in Rs.)

Particulars	Technology Team (NICSI)
1st Year Estimated Cost	1,95,52,078
2nd Year Estimated cost	1,95,52,078
3rd Year Estimated cost	1,95,52,078
Total Cost of PMU for **3 years**	**5,86,56,234**
Say Rs.	**587.00 Lakh**

Fund Management:

Expenditure would be made from the funds being received from Govt. of India (GoI).

Keeping in view of the fact of urgency of work, technical approval has already been accorded by Principal Secretary, IT&C as being the chairman of SeMT.

The Committee accords ex-post-facto technical approval on the proposal having estimated cost of Rs. 587.00 Lakh; subject to the funds availability and approval of funds from Finance Dept.

5. Project : Installation, Operation and maintenance of Telemetric Digital Water Level Recorder (TDWLRs) [Ground Water Dept. (GWD)]

The Committee was briefed about the proposal that Atal Bujal Yojana is a central sector scheme with an outlay of INR 6000 cr. Out of which INR 3000 cr. will be as loan from the World Bank and INR 3000 cr. as matching contribution from Government of India. The funds under the scheme shall be provided to the states as grant-in-aid. Thus there would not be any burden over state exchequer for implementation of this scheme. The World Bank financing will be done under the new lending instrument, that is, Program for Results (PforR) wherein funds under the scheme will be disbursed from the World Bank to the Government of India based on achievement for pre-agreed results.

Area of Coverage of the Scheme:

As informed by Director, NPMU – Atal Bujal Yojana, Department of Water Resource, Rural Development and Ground Water, Ministry of Jal Shakti, Government of India vide Government order no. T-81011/12/2020 – Atal Jal Section dated 11-09-2020, this scheme will be implemented in 17 districts of Rajasthan covering 38 Talukas and 1144 gram panchayats. However, 140 of these gram panchayats already have piezometer installed with TDWLR. Therefore only 1004 gram panchayats are required to be covered under the scheme. GWD is the nodal agency to implement the scheme in the state of Rajasthan.

Proposed New System:

A scheme has been formulated by Director, NPMU – Atal Bhujal Yojana, Department of WR, RD & GR, Ministry of Jal Shakti, Govt. of India vide Government Order No. T-81011/12/2020 – Atal Jal Section dated 11-09-2020. As per the guidelines issued for this program, 1004 Gram Panchayats in State of Rajasthan must have a piezometer fitted with Telemetric Water Level Recorder for real time monitoring of the water level in these Gram Panchayats. A website and mobile app is also required to be developed for the department to enable real time monitoring of the data being generated by TDWLR.

Objectives the proposed new system are:

- To improve efficiency by way of systematic record keeping and timely information.
- To enable data acquisition and data communication using GSM/GPRS between remote station and data center
- To integrate the data and the application software developed under this project with main departmental website and Atal Jal website.
- To store data in data logger/ remote stations for required time period.
- To check the existing duplication and redundancy.
- To implement routine functions leading to increase in productivity.

Scope of Work:

1. Complete supply, installation, testing, commissioning of Telemetric Digital Water Level Recorders (TDWLR) with telemetry system in the identified piezometers including arrangements for Protection box of appropriate size, security arrangements including civil works for construction/ repair of platform for fixing the protection box on the platform of prescribed size, sensors, data logger, software, hardware and ancillaries' equipment etc. (Note :- Piezometers already have platforms but if platform is damaged or somewhere platform does not exist then this civil work will be in the scope of the bidders).

2. Technical design, supply, installation, testing, commissioning of the Telemetric Digital Water Level Recorder (TDWLR) for real time hydrological data collection network and establish data communications using **GSM & GPRS telemetry** between the remote stations and Data Centre at Dept. of IT&C, Government of Rajasthan in prescribed form. This includes, but is not limited to acquiring service, and maintaining all aspects of the service during the project period.

3. Testing the data acquisition and data communication system using GSM/ GPRS between the remote stations and the data center, Dept. of IT&C. The SIM card shall be supplied by the bidder and the availability of network shall be the responsibility of the supplier. Bidder shall make ensure that network of SIM Provider Company is available at the desired location before installation and commissioning of TDWLR. If network is not available on the desired location; in that case, the bidder shall immediately inform the procuring entity. The Dept. of IT&C will provide the server to receive the data.

4. Establish a GSM & GPRS receiving system at Data Centre, Dept. of IT&C, Jaipur to collect GSM & GPRS data from TDWLR station network. This shall include Server with adequate firewall & antivirus protection that will support the seamless transfer of DWLR data stream from TDWLR to Data Centre, Dept. of IT&C, Jaipur, and required all acquiring hardware and software, installation, configuration. Data processing software (for e.g., Database software etc.) has to be provided by the bidder at Data Center, Dept. of IT&C, Jaipur.

5. Make necessary provisions in the Data Center for reception of GSM & GPRS data from all remote TDWLR stations to be installed under this project. Perform on-site assembly, start- up of the supplied goods.

6. Complete commissioning integration, testing & organization of the whole system.

7. Provide operation & maintenance services during Ten (10) years comprehensive warranty period, which shall include all components at the remote stations as well as all newly acquired equipment's in the Data Center, Dept. of IT&C, Jaipur; and all the Software & Hardware used for the data processing from remote locations (TDWLR) to Data Centre, Dept. of IT&C, Jaipur.

8. Bidder shall provide a Web & Mobile App based solution in which data is to be displayed in desired format at Departmental Website, MIS Portal of Atal Jal and NWIC.

9. Provide installation and maintenance reports as required by the Purchaser and any delay is not acceptable in time schedule provided by supplier.

10. Supply detailed operation and maintenance manual for each component in the system and compile Knowledge and working supply type Manual for training purpose. This includes operation and maintenance procedures.

11. A certificate shall be provide by t e. bidder that manufacturer of all equipment being provided will be supported for a minimum of ten years after the commissioning of the Telemetric Digital Water Level Recorder (TDWLR) system.

12. Calibration and validation of the installed system shall continue during the entire project period on half yearly basis.

13. The data logger/ remote stations shall have a memory to store the data for at least one year.

14. Supply a detailed operation and maintenance manual for each appropriate unit of supplied goods.

15. Security of installed equipment's against theft and vandalism will be the responsibility of the bidder till successful installation, testing & commissioning.

16. Although all accessories and fixtures required for installation of the equipment & their specifications have been specified in technical specifications however, bidder shall ensure the satisfactory performance & functioning of TDWLR system complete, for this if any accessory or items are required that shall be provided by bidder, the cost towards that is deemed to be included in the cost tendered by the bidder, no extra cost shall be paid to the bidder on this account.

17. Also bidder will be responsible to provide and install protection box on TDWLR instrument at all Piezometers. The cost of Installation, Testing and Commissioning of TDWLR station shall to be inclusive these protection measures cost. The typical schematic civil work drawing for installation of Digital Water Level Recorder is attached for reference. The bidder will be responsible for all Civil Works involved in the execution of the contract.

18. Ensure that all software licenses and maintenance agreements are in the name of Purchaser and should seek full support and updates for such software for the duration of the project period and Annual Maintenance Services Period. All the software licenses should be valid for the design life of the system that is ten (10) years from date of commissioning.

Thus, under the project following components are required to be purchased:
- o Telemeter/ Digital Water Level Recorder
- o Communication GSM SIM
- o Server and Storage in SDC

Specifications for Data Processing Hardware at Data Centre-
The bidder shall establish/ provide necessary software/hardware at Data Centre, Dept. of IT&C, Jaipur to collect and store the GSM & GPRS telemetry data received from TDWLRs. All the consumables (including batteries) shall be responsibility of the Bidder during the entire project period.

Transmission Data format to Departmental Website –
The format for GPRS communication is as specified below-

Table below gives the GSM/GPRS data parameters and their identification code format which is required to transmit the data from data logger to Data Centre, Dept. of IT&C, Jaipur, Departmental Website, MIS Portal of Atal and NWIC.

FORMAT
StationID, Latitude, Longitude, NameotPlace, PanchayatSamiti, District, Date, Time, MobileNumber, Battery, WaterTemp, CorrectedWaterLevel.

Data string will be ended with New-Line character and a separate data string will be for each measurement cycle.

Example Data Spring

&738DIE76, 26.7341° N &77.0297° E, Rajgarh, Hindaun City, Karauli, 07/01/19 00:00, 9849556430, 1 3.5, 22.3,26.347
&738D I E76, 26.6035° N &75.9436° E, shivdas pura, Chaksu, Jaipur 07/01/19, 06:00, 9849556430,1 3.5, 24.5,26.347
&738D1E76, 27.2562° N& 75.4402° E, badhal, Jhotwara, Jaipur, 07/01/19, 12:00, 9849556430, 1 3.5, 26.8, 26.347
&738D1£76, 27.0500° N & 76.9269° E, Mahwa, Mahwa, Dausa 07/01/19 18:00, 9849556430, 13.5, 24.3, 26.347

S.No.	Channel no.	Parameter
1.	Station ID	Start of String should be '&" and Eight Characters Station ID provider by bidder
2.	Latitude & Longitude	Latitude & Longitude of the location of piezometer
3.	Name of Place	Name of Place of location of piezometer
4.	Name of Panchayat Samiti	Name of Panchayat Samiti of the location of piezometer
5.	District	District of location of piezometer
6.	Date and Time	Measurement date and Time in DD/MM/YY HH:MM in IST of the measurement cycle
7.	Mobile Number	Mobile no (10 digit) of remote station SIM
8.	Battery	Battery voltage in Volts with 1 right digit at measurement date and time
9.	Water Temp	Water Temperature in °C with 1 right digit at Measurement date and time
10.	Corrected WaterLevel	Water level after atmospheric pressure compensation in Mts. with 3 right digit at measurement date and time.

Note:
1. If any sensor is not connected then it should transmit ' --' characters in place of the sensor value.
2. Attached format is indicative, recommended for standardized data acquisition for Development of unified Water Information System.

The detailed highlights of the new proposed system are as follows:

- A High Capacity Central Server shall be provided in the State Data Center with adequate capacity to hold/process requisite data for better control of the data/ application.
- Supply, installation, testing and commissioning of Digital Water Level Recorders (TDWLR) with telemetry system in the identified piezometers including arrangements for protection box of appropriate size for security.
- Data acquisition shall be automatically done and stored in SDC and data center of DSPC, DoIT server. Subsequently, maintenance of data shall be done by the centralized team stationed in head office. The data shall be displayed on website of Ground Water Department and Atal Jal website.
- Data transmission shall be done using GSM SIM. Each TDWLR shall be fitted with a GSM SIM which would transfer desired data at regular intervals to SDC.
- The ownership of the data generated by each TDWLR shall be the responsibility of technical person posted in head office.

- A website and Mobile app shall be developed for displaying data in the format required by the department. The data shall also be sent for display on Atal Jal website also.
- Calibration and validation of the installed system shall be undertaken on half yearly basis.
- The data logger/ remote stations shall have sufficient memory to store the data as per requirement.
- The operations and maintenance support shall be provided for a period of ten years.

Resources Required:

On the basis of preliminary assessment, the likely requirement of resources for installation of TDLWRs under Atal Bujal Yojana in terms of servers, application software, manpower and miscellaneous items. Proposed application software for each section is provided as below:

S.No.	Application	Detail
1.	Dashboard and Application software (Website & Mobile app)	Telemetric Digital Water Level Recorder shall transfer water level from the remote location at predefined interval of time to Database server placed in SDC. This data would be utilized and displayed on the website/ mobile app of the Department.

Computers and allied items:

Under the new system, one server would have to be installed in State data center. Along-with one server, one storage device would also be required for in the data center to store data being received from TDLWRs from across the state-

(Rs. in Lakh)

Location of H/w	Operating Environment	Computer H/w & allied items	Estimated Amount
State Data Center	Windows	One Computer Server	10.00
		One Storage	10.00

The configuration of aforesaid items are tentative only. Detailed configuration of the server and other equipment would have to be worked after finalization of scope of new system.

Application Software:

Customized application software would be required to be developed for displaying the water level of each of the gram panchayat being covered under the project. A budgetary provision of Rs. 1.00 crore should be kept for software development and its maintenance for the period of ten years.

Networking:

Data would be required to be transferred from 1004 TDWLRs to state data center. This data transfer would take place using SIM card which would be placed inside each TDWLR. A provision of Rs. 1,500/- per annum per site would be required to be kept for transfer of data from each identified location covered under the project to State Data Center at Jaipur.

Training Requirements:

Training is an important aspect of computerization for a department. The initial appreciation training and hands on practice for working with the application software developed for the requirement of the Department should be an integrated component of the project. The training to the employees leads to optimum utilization of the resources and successful implementation of the software. The charges of the training on the software developed by RISL is included in the cost of application software.

Human Resources:

For smooth functioning of the new system, the equipment installed under the project would have to be manned properly. Technical manpower would be required to be hired for maintenance and supervision. The operational staff can be developed from within the existing staff of the Department. However, the technical staff would have to be sub-contracted.

On the presumption that the work of software development and training would be entrusted to outside agency, at-least one nodal person would be required to supervise the entire project from Ground Water Department.

Transportation/ Vehicle support:

The TDLWR would be installed at 1004 locations spread across 17 districts. It is proposed that at-least one vehicle may be hired under the project for the supervisory staff to travel to these locations.

Likely/ Estimated Financial Expenditure:

The likely expenditure on the project _estimated by RISL_ would be as follows:

(Rs. in Lakh)

SN	Particulars	Qty.	Rate	Total
1.	Digital Water Level Recorder	1004	Rs.60,000/- per device	600.00
2.	Dedicated Server and storage in State Data Center for 10 years	1	--	20.00
4.	Data Communication Cost	1004	Rs. 1500/- per annum	150.00
5.	Application Software (Website & Mobile app) development Cost along-with its maintenance for 10 years	1		100.00
6.	Vehicle with diesel cost	1	Rs. 30,000/- per month	36.00
7.	Facility Management Services for 10 years	2 Engineers	Rs. 25,000/- per month	60.00
8.	RISL Services Charges			100.00
	Total			**1066.00**

Technical specification suggested by Dept. of IT&C are attached as **Annexure-"C".**

The estimated project cost derived above is Rs. 1066.00 Lakh, however, Ground Water Dept. have budget provision of Rs. 857.00 Lakh as recommended by Departmental PeMT (due to the limit of the Budget in revised Project Implementation Plan (2020-25) for Rajasthan by Ministry of Jal Shakti, GoI for this activity). Dept. will procure items/ services in proportionate to the availability of the funds with them.

Duration of the project:

The scheme shall be implemented over five year period from 2020-21 till 2024-25.

Fund Management:

Expenditure would made from the funds received by GWD form GoI.

The Committee accords technical approval on the proposal having estimated cost of Rs. 1066.00 Lakh; subject to the funds availability and approval of funds from Finance Dept.

6. Project : **National Hydrology Project (NHP) [Water Resources Dept. (WRD), GoR, Jaipur]**

The Committee was briefed about the proposal focusing on the following points

1. National Hydrology Project (**NHP**) is a World Bank financed central sector scheme of Ministry of Water Resources, River Development and Ganga Rejuvenation (MoWR, RD&GR), GoI.

2. The original proposal of National Hydrology Project (**NHP**) for Water Resources Dept., GoR was technically approved with estimated cost of Rs. 12800.00 Lakhs; earlier in 66th meeting of SeMT convened on 17-03-2017.

3. Now, the Project Implementation Plan (PIP) of WRD, GoR has been revised along with **revised estimated cost of Rs. 15339.37 Lakh** by Ministry of Jal Shakti, Dept. of Water Resources RD&GR, National Hydrology Project (**NHP**), GoI; vide office Memorandum dated 19-04-2021.

4. Detailed revised Project Implementation Plan (PIP) of WRD, GoR approved by GoI is as follows:

(Rs. in Lakh)

S. No.	Revised PIP Name	Approved PIP (2021)
1	DAS for State of Rajasthan	1734.00
2	Upgradation of about 90 existing Hydromet network of Rajasthan	450.00
3	DWLR with Telemetry GSM	153.17
4	Supply and installation of 1500 TDWLR phase 2	2250.00
5	Supply and installation of 200 TDWLR phase 1	300.00
6	Construction of Piezometer	272.50
7	Procurement of ADCP	225.00
8	Automatic water quality sensor- 11 parameters (online)	85.00
9	Accreditation of water quality lab level-2	5.00
10	Implementation of W.Q standards	12.00
11	W.Q. Lab maintenance	37.60
12	Civil works for water quality Lab building at GWD and WRD	115.00
13	Furnishing of labs	42.00
14	Water Quality equipment for Labs	246.00
15	Manual SRG	9.85
16	Procurement of DGPS, Handheld GPS	37.00
17	River Cross Section Surveys	200.00
18	SCADA, Gate sensor and control room for Mahi Dam, Bisalpur Dam, Gudha Dam, Jawai Dam, Ranapratap Sagar Dam, Parbati Dam, Chhapi Dam and Som Kamla Amba Dam etc.	2400.00
19	Canal SCADA for system Gang/ Bhakra Canal/ NCP Mahi and Bisalpur Canals including master SCADA station, software and discharge measurement devices in the project	1435.00
20	Civil works for construction of State Data Center and training halls and other infrastructure, meeting hall with video conferencing and furnishing work	575.00
21	Consultancy for design. Architecture etc.	2.00
22	District Data Center	27.00
23	Regional Data Center	25.00

S. No.	Revised PIP Name	Approved PIP (2021)
24	Renovation/ Modernization of Material Testing Lab	90.00
25	Hiring of vehicles for State Data Center	5.00
26	Operational cost of Regional and District Data Centers	90.00
27	Operational cost of State Data Center	100.00
28	IT Equipment	171.45
29	Software and Antivirus	100.00
30	Establishment of State Chapter WRIS including integration with INDIA WRIS	148.80
31	Earth Observation Products	25.00
32	Digitization of command Area Maps, scanning of reports, documents	230.00
33	Servers for hosting website and data services	80.00
34	Development of Basin/ Sub Basin/ State Atlases	10.00
35	Development of Mobile Applications	30.00
36	Crete on line e-library (procurement of e-book, journals and other knowledge products)	15.00
37	River Basin plan for Mahi, Chambal etc.	300.00
38	Development of Drought Forecast & management system	400.00
39	Consultancy services for setup and operation of forecasting system	100.00
40	Benchmarking of Bisalpur and Narmada Canal project	675.00
41	Comparative study of different irrigation techniques and its impact on yield at Nanta Farm Kota	50.00
42	Development of decision tool for efficient utilization of water resources in Parbati canal and Dholpur piped irrigation project of Rajasthan	60.00
43	Real time inflow forecasting for Chambal, Banas and Mahi Basins	200.00
44	Study of Augmentation of Ground Water resources at pilot area at Kalwar village, Jhotwara, Jaipur	110.00
45	Construction/ Renovation of training center of IMTI Kota construction of automated water application model at Nanta farm of IMTI Kota	200.00
46	Modernization of class rooms, hostel, mess, premises etc.	150.00
47	Furnishing of center IMTI Kota	100.00
48	Software/ Models/ IT equipment	50.00
49	Trainings	400.00
50	Workshops and seminars	130.00
51	Study tours and exchange programs	155.00
52	Higher degree course and distance learning courses	30.00
53	Establishment cost of SPMU	106.00
54	Operational cost of SPMU including TA & DA, R&M of vehicles etc.	90.00
55	Hiring of vehicles for SPMU	50.00
56	Hiring of technical experts	200.00
57	Data entry operator/ multitasker	50.00
	Total (Rs.in Lakh)	**15339.37**

5. Due to approved revised PIP by GoI, changes occurred in the previous proposal technically approved in 66th SeMT convened on 17-03-2017 are as mentioned below:

(Rs. in Lakh)

S. No.	PIP Name	Previous Amt.	Revised Amt.
1	SCADA and Gate sensor for Mahi Dam, Bisalpur Dam, Gudha Dam, Jawai Dam, Ranapratap Sagar Dam, Parbati Dam, Chhapi Dam and Som Kamla Amba Dam	1223.40	2400.00
2	Upgradation of existing Hydrmet network of Rajasthan.	125.00	450.00
3	Civil work for water quality lab building at WRD and GWD	100.00	115.00
4	Water quality equipment for labs	178.50	246.00
5	Operational cost of State Data Centre (SDC)	60.00	100.00
6	I.T. Equipment*	159.45	171.45
7	Software and Antivirus*	73.00	100.00
8	Establishment of state chapter WRIS including integration with INDIA WRIS	125.00	148.80
9	Software/ Models/ IT equipment$	25.00	50.00
	Total	2069.35	3781.25

Note: Activities mentioned at serial No. 6, 7 & 9 could not be clubbed together due to-

* I.T equipment is to be taken for State Water information center.

$ Procurement is to be made for strengthening of institution. Water Resource Dept. have training institute at Irrigation Management Training Institute (IMTI), Kota.

6. The revised PIP consists of major addition of new activity "Supply and Installation of Telemetric Digital Water Level Recorder (TDWLR)" in two phases amounting Rs. 2660 Lakh. Details for the same are as follows:

(Rs. in Lakh)

S.N.	PIP Name	Amt.
1	Supply and installation of 200 TDWLR phase I	300.00
2	Supply and installation of 1500 TWDLR phase II	2250.00
3	Study of Augmentation of Ground Water Resources at pilot area at Kalwar village Jhotwara	110.00
	Total (Rs. in Lakh)	**2660.00**

*Technical Specifications of Equipment suggested for Water Resource Dept. by Dept. of IT&C are attached as **Annexure-"D".***

Financial Implication:
Over all revised estimated cost of the revised proposal is Rs. 15339.37 Lakh.
Fund Management:
Expenditure would be met from the funds allocated by GoI for the State Rajasthan.

The Committee accords technical approval on the proposal having estimated cost of Rs. 15339.37 Lakh; subject to the funds availability and approval of funds from Finance Dept.

Meeting ended with a vote of thanks to the chair.

This bears the approval of competent authority.

(Suneel Chhabra)
Technical Director &
Joint Secretary, IT&C

No.: F.5 (1388)/ DoIT/ Tech/ 2021/   Dated:

Copy for information and necessary action to:

1. P.S. to Principal Secretary, Finance Department, Rajasthan, Jaipur
2. P.S. to Principal Secretary, Dept. of IT&C, Rajasthan, Jaipur
3. P.S. to Secretary, Higher & Technical Education Dept., Rajasthan, Jaipur
4. P.S. to Secretary, Planning Dept., Rajasthan, Jaipur
5. P.S. to Secretary, Social Justice & Empowerment Dept., Rajasthan, Jaipur
6. P.S. to Commissioner & Secretary, Disabilities, Rajasthan, Jaipur
7. P.S. to Commissioner & Special Secretary, Dept. of IT&C, Rajasthan, Jaipur
8. P.S. to Director & Ex-Officio Joint Secy., Social Justice & Empowerment Dept., Jaipur
9. P.S. to Director (Technical), RajCOMP Info Services Limited, Jaipur
10. P.S. to Commissioner, College Education Dept., Rajasthan, Jaipur
11. P.S. to DDG & SIO, NIC, Rajasthan, Jaipur
12. P.A. to Joint Secretary (Expenditure-III), Finance Department, Raj., Jaipur
13. Shri Neelesh Sharma, Director (Finance), RajCOMP Info Services Ltd. (RISL), Jaipur
14. Shri Sanwar Mal, Financial Advisor, Dept. of IT&C, Jaipur
15. Shri Suneel Chhabra, Technical Director & Joint Secretary, Dept. of IT&C, Jaipur
16. Smt. Jyoti Luhadiya, Addl. Director (Group-XIV), Dept. of IT&C, Jaipur
17. Shri Suraj Bhan Singh, Project Director (Atal Bhujal), Ground Water Dept., Jaipur
18. Chief Engineer (QC) & Nodal Officer (SPMU-NHP), Water Resource Dept., Jaipur
19. Shri R.K. Mishra, Superintending Engineer, Ground Water Dept., Jaipur
20. Shri Mahendra Kumar Gupta, Suptdg. Engineer & Nodal Officer (N.H.P), GWD, Jaipur
21. Shri Dinesh Kumar, Suptdg. Engineer, Water Resource Dept., Jaipur
22. Principal, Rajasthan School of Arts, Rajiv Gandhi Siksha Sankul, JLN Marg, Jaipur
23. Shri Mahesh Kr. Gupta, S.A. (Joint Dir.), Social Justice & Empowerment Dept., Jaipur
24. Shri Pradeep Kumar Sharma, ACP (Dy. Director), Dept. of IT&C, Jaipur
25. Shri Banphool Agarwal, ACP (Dy. Director), College Education Dept., Jaipur
26. Director, LNMIIT, Jaipur
27. Guard File.

(Sushil Parihar)
Addl. Director, IT&C

GOVERNMENT OF RAJASTHAN
Department of Information Technology & Communication

Annexure-"A"

87ᵗʰ Meeting of SeMT held on 09-09-2021– through VC - List of Attendees

S. No.	Name of officer	Designation
1.	Shri Alok Gupta	Principal Secretary, Dept. of IT&C, Rajasthan, Jaipur
2.	Shri Naveen Jain	Secretary, Planning Department, Rajasthan, Jaipur
3.	Dr. Samit Sharma	Secretary, Social Justice & Empowerment Dept., Rajasthan, Jaipur
4.	Shri Gajanand Sharma	Commissioner & Secretary, Disabilities, Rajasthan, Jaipur
5.	Shri Om Prakash Bunkar	Director & Ex-Officio Joint Secretary, Social Justice & Empowerment Dept., Rajasthan, Jaipur
6.	Shri Abhimanyu Kumar	Director (Technical), RISL, Jaipur
7.	Shri Sandesh Nayak	Commissioner, College Education Dept., Rajasthan, Jaipur
8.	Shri Tarun Toshniwal	DDG & SIO, NIC, Rajasthan, Jaipur
9.	Shri H.K Juneja	Joint Secretary (Expenditure-III), Finance Department, Raj., Jaipur
10.	Shri Sanwar Mal	Financial Advisor, Dept. of IT&C, Jaipur
11.	Shri Suneel Chhabra	Technical Director & Joint Secretary, Dept. of IT&C, Jaipur
12.	Shri Amar Jeet Singh	Chief Engineer (QC) & Nodal Officer (NHP), Water Resource Dept., Jaipur
13.	Shri Anil Kumar Singh	Group General Manager (Technical), RISL
14.	Shri Rameshwar Lal Solanki	Additional Director, Dept. of IT&C, Jaipur
15.	Shri Sushil Parihar	Additional Director, Dept. of IT&C, Jaipur
16.	Shri Mahesh Kumar Gupta	System Analyst (Jt. Director), Social Justice & Empowerment Dept., Rajasthan, Jaipur
17.	Shri M.K. Gupta	Suptdg. Engineer, Ground Water Dept., Jaipur
18.	Shri Dinesh Kumar	Suptdg. Engineer, Water Resource Dept., Jaipur
19.	Shri Pradeep Kumar Sharma	ACP (Dy. Director), Dept. of IT&C, Jaipur
20.	Shri Raj Kumar Singh	ACP (Dy. Director), Dept. of IT&C, Jaipur
21.	Shri Banphool Agarwal	ACP (Dy. Director), College Education Dept., Jaipur
22.	Dr. Rahul Banerjee	Director, LNMIIT, Jaipur
23.	Shri Nikhil Meena	Assistant Programmer, Dept. of IT&C, Jaipur

Technical Specifications of Equipment suggested by Dept. of IT&C for College Education Dept. (Rajasthan School of Arts, Jaipur) are as follows:

1. Workstation-

Item	Minimum Technical specification
Processor	Intel Core i7 (10th Generation) minimum 8 Core, 2.00 GHz base frequency or higher, cache 16 MB or higher
Chipset	Compatible Intel Chipset
Operating System	Pre-installed Genuine OEM Microsoft Windows 10 Professional (64 bit) with OEM recovery partition/ recovery DVD
Graphics	Graphic card with 6 GB of dedicated memory
RAM	32 GB DDR4 2666 MHz or higher
Storage	1 TB SATA Drive
Ports	Minimum 4 USB ports or higher out of which Min 2 USB 3.0 OR higher, Display Port/ HDMI Port, audio jack for headphone & mic
Display	24 Inch Full HD Resolution, TCO Certified
Antivirus	Preloaded (Latest version) Internet Security of Trend Micro/ Symantec/ Sophos/ Kaspersky with 3 years Subscription
Certification	ROHS Compliance, BEE/ Energy Star certified, EPEAT Certified
Keyboard & Mouse	OEM USB Keyboard & OEM USB Mouse with pad
Network interface	Integrated 10/100/1000
MS Office	MS office education edition
Integrated	Web Cam, Speaker & Mic.
Accessories	All necessary cables (Power & data cables) to be included

2. Laptop-

Item	Minimum Technical Specification
Processor	Intel Core i7 (10th Generation), Minimum 6 core, minimum 1.10 GHz base frequency or higher, cache 12MB or higher
Operating System	Pre-installed Genuine OEM Microsoft Windows 10 Professional (64 bit) with OEM recovery partition/ recovery DVD
Display	14" or higher diagonal +/-5% HD Display
Memory (RAM)	16 GB DDR4 2400 MHz or higher
Hard Drive	1 TB SATA Drive
Speaker & Microphone	Inbuilt speakers and integrated digital microphone
Connection Type	Minimum 2 USB 3.0 or higher, 1 VGA/ HDMI, Headphone/ microphone combo/ separate, 1 multi-format SD media card reader
Network card	Integrated 10/100/1000 GB Ethernet LAN with 3 Mtr. CAT6 Patch Cord
Wireless Connectivity	Bluetooth 4.0 or above & integrated Wi-Fi 802.11 b/g/n
Graphics	Integrated HD Graphics
Web Cam	HD Web Camera (Front facing)
Battery	Minimum 4 Hrs. Battery Backup (three years warranty)
Power Adapter	Standard OEM power adapter
Antivirus	Preloaded Internet Security of Trend Micro/ Symantec/ Sophos/ Quick Heal/ Kaspersky with 5 Year Subscription
MS Office	MS office education edition
Keyboard	OEM standard keyboard with gesture support
Certification	ROHS Compliance, Energy Star, Certified for supplied OS, EPEAT Certified
Accessories	Carry Bag

3. Creative Software for animation and applied Art Dept. (Educational License)-

Sr. No.	Software
1.	Coral Draw- 2019
2.	Photoshop
3.	Adobe Illustration
4.	Adobe in Design

5.	Adobe XD
6.	Adobe Fresco
7.	My Fonts.com
8.	Clip studio paint
9.	Adobe Master collection CSG or CC
10.	Quick Heal Total Security (3 Users)
11.	MS Office 2019
12.	Adobe Premiere pro CC
13.	Adobe after effects
14.	Coral Draw- 2019
15.	Photoshop
16.	Adobe Illustration
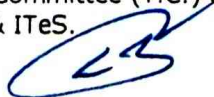
4. UPS 1 KVA-

Item	Minimum Technical Specification
UPS Capacity	1 KVA
Protection	Full Protection
User Display	Display for input & output Voltage and battery charging
voltage	230V +-10%
Range	160V - 280V
Power factor	0.6 or higher
Back up time	300 VAH for 60 Minutes backup on 1 PC (Inbuilt Batteries) (Brands Exide/ Quanta-Amron/ HBL/ YUasa/ Hitachi
Indicator	Mains On/ On Battery/ Low Battery/ Fault/ Overload
Plug and cable	Input cable of 1.5 Mtr with 3 pin Indian plug and output have 4 nos. of 5 pin Indian socket
Battery Type	Sealed Lead Acid Valve Regulated
Alarm	ON Battery/ Fault, Over Load, Low Battery
Certifications	BIS Certification for the quoted Model
Test report	OEM should submit test report for the quoted model issued by state/ central laboratory (not old from last 5 Years)

5. Ultra-Shot Throw Projector-

Item	Minimum Technical Specification
Resolution (Minimum)	WXGA (1280 x 800)
Technology	3 LCD
Lumens	Min 3000 ANSI Lumens
Aspect ratio (Minimum)	16:9/ 16:10
Contrast ratio	15000:1 or better
Lamp Hours life	Min 5000 hours or more
Wireless Remote Control and Pointer Device	Remote Control: OEM own Pointer Device : Branded with Laser Pointer (Red)
Accessories	Ceiling mount kit, HDMI Cable (15 Meters)
Input	D-Sub 15 Pin: 1, Stereo mini jack audio in, Composite in, HDMI in, VGA in, RGB in
Output	Stereo mini jack audio out, RGB out, HDMI/ VGA out
Connectivity	Wireless LAN, Wired Network, RS-232C, USB
Projector Screen	100 inch Motorized Projection screen

College Education Department mentioned so many advanced equipment(s) for upgradation of applied art, painting and sculpture department in their project proposal with specific to the course curriculum offered, however Technical Committee (T.C.) of Dept. of IT&C here provided only its views for the equipment(s) related to IT & ITeS.

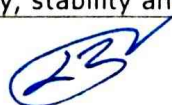**Technical Specifications of Equipment suggested for Ground Water Dept. by Dept. of IT&C are as follows:**

(A) Specifications of Telemetric Digital Water Level Recorder (TDWLR), hydrostatic Type (GW) with Telemetry System-

Feature	Value
Site Conditions	
Ambient Temperature	From 0 to 60 degrees
Humidity	5-100 %
Altitude	0-1500 meter
Sensor :- TDWLR Water Level Sensor with Temperature Sensor	
Sensor Type	**Submersible pressure transducer with Non-Vented Pressure Sensor** with Barometric Pressure Correction for Individual Sensor
Measuring Range	0 to 200 mt of water level
Installation depth (Sensor Cable length)	0 to 200 mt
Dimension	Outer diameter of sensor unit: <80mm, (for sensor)
Material	Stainless Steel (SS-316) or other better corrosion resistant material
Ingress Protection	IP68 for sensor
Accuracy	0.1% FSO
Temperature Coefficient	<0.01% full scale/ degree centigrade for water temperatures between 10 to 40 degree centigrade
Resolution	1 mm or better
Reproducibility	0.05% full scale or better
Long Term Stability	0.1% Full scale and should ensure long term stability without any field calibration requirements except barometric compensation
Temperature Measuring Range	0 to 60^0 C
Operating humidity	Up to 100%
Temperature Measuring Accuracy	Better than ± 0.2^0 C
Burst pressure	> 3 time full scale
Overload Pressure	2 Time full scale or better without effect on calibration
Over voltage protection	Should include lightening, over-voltage and surge protection
Output	SDI-12, RS-485, 4-20 mA or compatible with data logger.
Direct Read Sensor Cable	The cable shall have following features: • Strength members for good longitudinal stability of cable • The cable and contacts should be fixed or quick connect • Cable screen to be connected to the data logger ground terminal to minimize electrical interference. • A cable suspension bracket allowing the TDWIR to be adjusted to the required depth, in a stable and reproducible manner. • Corrosion and moisture free as the equipment has to work under water condition. • Cable should have good flexibility and durability. • Should be of Polyurethane Jacket or better. • The electrical wires shall have sufficient conductivity to allow for extension of the cable up to 200mts without degrading accuracy, stability and data communication.

Data Logger

Atmospheric Pressure correction	In case of Non-vented pressure sensor, data logger should be applied Atmospheric Pressure correction automatically
Resolution of Measurement	16-bit ADC or better with +/- 1 LSB accuracy 1 mm or better
Measuring interval and measuring modes	Should be programmed to store data from 1 minute one reading to 24 hours one reading with future start option.
Settling up Time	<30 minutes after submersion.
Recording Capacity	Shall store data of at least 1 year
Memory Type	Non-Volatile flash memory of at least that can store one year of data (with) 15 minute logging interval) & expandable up to minimum 1 GB using USB/ SD Card
Power Supply	Should be equipped with lithium or alkaline battery pack, giving at least 2 years operation (with one transmission and four recordings per day). Battery must be replaceable in the field or in local offices of the implementing Agency or supplier. Replacement of batteries must be readily available in India.
Battery Voltage Monitoring	Monitoring and transmission of Battery Voltage level
Data logger Location	Data logger should be located on top (on ground surface).
Built in clock	Accurate to ± 1 minute per month
Displayed Time Resolution	1 second or better
Over-voltage Protection	Should include lightening, over-voltage and surge protection
Protection	IP68 with Impact Resistant for Water level sensor
	IP65 (for data logger) with Impact Resistant
Enclosure for Pressure sensor and data logger	Data logger should be concealed into a single enclosure, which is water proof and corrosion proof.
Sensor Dimension	Outer diameter: <50mm
Material	Titanium, Stainless Steel or other corrosion resistance material
Installation	The system should be provided with a suspension bracket, allowing secure installation within or outside the Piezometer's headwork (in case of box type the data logger should be with lock & key arrangement well protected with M.S. protection box and security arrangement including civil works to repair/ construct the Piezometer platform) including appropriate cable mounting accessories to allow the sensor to be adjusted to the required depth in a stable and reproducible manner. Protection cover be IP65 or higher
Ambient Condition	Up to 60°C and 100% humidity
Port for configuration	One serial port for communication with laptop for programming
Ports for telemetry	Port for communication with GSM & GPRS telemetry
Operating System	Windows software for system configuration/ communication
Licenses	All required licenses shall be included
Real time clock	Time synchronization facility shall be provided with IST
Accessories	Serial cable and adaptor if required along with all accessories and fixing units etc.
Display Unit	Data logger shall have a display unit which will show the real time data (24X7)

Communication Interface

Computer Interface	The Logger must be capable of connection to a computer via USB 2.0/ USB 3.0 and supply should include the necessary interface cables. Contact less data transfer over Wi-Fi.
File Format	The format of the data downloaded by communication interface shall be in standard format

GSM & GPRS Transmitter	
Transmission System	GSM/ GPRS/ edge-based data transmission system
Frequency range	900 MHz: 824-960 MHz/ 1800MHz: 1710-1880 MHz 4G and better
Performance	Data Reception availability of 95% or better
Communication Direction	Utilize GPRS network for two-way connection with FTP server, TCP/IP (INTERNET) connection and SMS
Transmission trigger	Data collection to be triggered by interrogation from Data Center, or by event-based transmission triggered by remote site
Power Saving	Ability to disable interrogation system in order to save power at remote site
Communication	Data transmission to execute HTTP Pot or FTP, SMS to transmit data the Data Center or any suitable method.
Protocol Accessories	All associated equipment, including all cables, mounting hardware and security arrangement.
DRS Cable	DRS cable of meter length capable to connect DWIR with laptop for data receiving.
Software for Data Logger	
Operating System	Windows software for system configuration, transfer and analysis of data to computer
Version	English language version
License	All required Licenses included
General Features	
Battery	The battery should be easy to replace & easily available in market
Tools	Complete tool kit for installation and routine maintenance
Manuals	Full documentation and maintenance instructions in English

(B) Specifications for Data Services-

S No.	Parameter	Functionality requirement
1.	Data collection performance	Bidder should ensure seamless data and responsible for Real-time data _col lection at all TDWLR stations& shall ensure seamless data transfer. The data from TDWLR stations will be transmitted through GSM/ GPRS in the standard format to server at Data Centre at Dept. of IT&C, Jaipur. From Dept. of IT&C, Jaipur to Departmental and MIS Portal of Atal Jal and NWIC. The processed data on Departmental Website will be in standard/ prescribed form/ format. All the required Software and Hardware shall be provided by bidder.
2.	Data maintenance	All activities pertaining to installation, data services, Operation & Maintenance at remote TDWLR stations, Dept. of IT&C, Departmental Website, MIS Portal of Atal Jal and NWIC will be maintained by the bidder during warranty and maintenance period and will include a log of activities during every station visit.
3.	Data display	Bidder shall provide a Web and Mobile App based solution in which data is to be displayed in desired format.
4.	Reports & Bulletins Storage system	Storage of all data, in the proper manner and easy to access. This data shall be backed up in such a way that it is not possible to lose data that has already been stored with the use of mirrored or replicated storage.

5.	Help desk	Bidder to operate a help desk to respond to queries from purchaser. Help desk will be able to solve any problems related to data collection, processing, and dissemination to the purchaser. Help desk shall be available from 10 am to 6pm, Monday - Saturday.

(C) Specifications for Data Transmission System (Telemetry)-

1. The transmission system should be tightly integrated with the TDWLR system, along with compact remote field mounted systems consisting of Sensor, Sensor cable, data logger, modem and antenna.

2. The system should be watertight (IP68 for sensor & IP65 for data logger or equivalent) and impact resistant;

3. The system should allow easy access for monitoring measurements without removing complete system.

4. System must be power supplied by standard lithium/alkaline batteries for operation time of at least two years by one set of batteries (one transmission per day, 4 measurements per day) und must be placed in a water resistant (IP65 or equivalent) enclosure. The replacement of batteries during Three years warranty would be responsibility of the bidder, at bidder's cost.

5. The system must have integrated energy management system using free programmable time slots for measurement and transmission to minimize power consumption;

6. The connectors should be water-tight (IP68 or equivalent).

7. A standard USB/ RS232 communication interface should be available for set up and configuration and must be easily accessible.

8. Data logger shall be provided with Atmospheric Pressure sensor at individual station, & Atmospheric Pressure correction shall applied automatically on the raw water level reading from non-vented water level sensor. The details of correction procedure shall be fully documented in user manual.

9. The software should be provided to allow download of the data from the TDWLR data logger to a Laptop/hand held devices in the field. The downloaded data shall be in standard format. All the required Software to view the data on Laptop in the field will be provided by the Bidders.

10. Facilitate contactless data transfer over Wi-Fi at remote station (TDWLR).

Ground Water Dept. will have to take appropriate decision at its own level for following points-

- Inclusion/ exclusion of LED Display unit on the TDWLR.
- Preventive Maintenance, if required by the Dept.
- Duration of the AMC.

ANNEXURE-D

Technical Specifications of Equipment suggested for
Water Resources (WRD) by Dept. of IT&C are as follows:

(A) Specifications of Telemetric Digital Water Level Recorder (TDWLR), hydrostatic Type (GW) with Telemetry System-

Feature	Value
Site Conditions	
Ambient Temperature	From 0 to 60 degrees
Humidity	5-100 %
Altitude	0-1500 meter
Sensor :- TDWLR Water Level Sensor with Temperature Sensor	
Sensor Type	**Submersible pressure transducer with Non-Vented Pressure Sensor** with Barometric Pressure Correction for Individual Sensor
Measuring Range	0 to 200 mt of water level
Installation depth (Sensor Cable length)	0 to 200 mt
Dimension	Outer diameter of sensor unit: <80mm, (for sensor)
Material	Stainless Steel (SS-316) or other better corrosion resistant material
Ingress Protection	IP68 for sensor
Accuracy	0.1% FSO
Temperature Coefficient	<0.01% full scale/ degree centigrade for water temperatures between 10 to 40 degree centigrade
Resolution	1 mm or better
Reproducibility	0.05% full scale or better
Long Term Stability	0.1% Full scale and should ensure long term stability without any field calibration requirements except barometric compensation
Temperature Measuring Range	0 to 60^0 C
Operating humidity	Up to 100%
Temperature Measuring Accuracy	Better than $\pm 0.2^0$ C
Burst pressure	> 3 time full scale
Overload Pressure	2 Time full scale or better without effect on calibration
Over voltage protection	Should include lightening, over-voltage and surge protection
Output	SDI-12, RS-485, 4-20 mA or compatible with data logger.
Direct Read Sensor Cable	The cable shall have following features: • Strength members for good longitudinal stability of cable • The cable and contacts should be fixed or quick connect • Cable screen to be connected to the data logger ground terminal to minimize electrical interference. • A cable suspension bracket allowing the TDWIR to be adjusted to the required depth, in a stable and reproducible manner. • Corrosion and moisture free as the equipment has to work under water condition. • Cable should have good flexibility and durability. • Should be of Polyurethane Jacket or better. • The electrical wires shall have sufficient conductivity to allow for extension of the cable up to 200mts without degrading accuracy, stability and data communication.

Data Logger

Atmospheric Pressure correction	In case of Non-vented pressure sensor, data logger should be applied Atmospheric Pressure correction automatically
Resolution of Measurement	16-bit ADC or better with +/- 1 LSB accuracy 1 mm or better
Measuring interval and measuring modes	Should be programmed to store data from 1 minute one reading to 24 hours one reading with future start option.
Settling up Time	<30 minutes after submersion.
Recording Capacity	Shall store data of at least 1 year
Memory Type	Non-Volatile flash memory of at least that can store one year of data (with) 15 minute logging interval) & expandable up to minimum 1 GB using USB/ SD Card
Power Supply	Should be equipped with lithium or alkaline battery pack, giving at least 2 years operation (with one transmission and four recordings per day). Battery must be replaceable in the field or in local offices of the implementing Agency or supplier. Replacement of batteries must be readily available in India.
Battery Voltage Monitoring	Monitoring and transmission of Battery Voltage level
Data logger Location	Data logger should be located on top (on ground surface).
Built in clock	Accurate to ± 1 minute per month
Displayed Time Resolution	1 second or better
Over-voltage Protection	Should include lightening, over-voltage and surge protection
Protection	IP68 with Impact Resistant for Water level sensor
	IP65 (for data logger) with Impact Resistant
Enclosure for Pressure sensor and data logger	Data logger should be concealed into a single enclosure, which is water proof and corrosion proof.
Sensor Dimension	Outer diameter: <50mm
Material	Titanium, Stainless Steel or other corrosion resistance material
Installation	The system should be provided with a suspension bracket, allowing secure installation within or outside the Piezometer's headwork (in case of box type the data logger should be with lock & key arrangement well protected with M.S. protection box and security arrangement including civil works to repair/ construct the Piezometer platform) including appropriate cable mounting accessories to allow the sensor to be adjusted to the required depth in a stable and reproducible manner. Protection cover be IP65 or higher
Ambient Condition	Up to 60°C and 100% humidity
Port for configuration	One serial port for communication with laptop for programming
Ports for telemetry	Port for communication with GSM & GPRS telemetry
Operating System	Windows software for system configuration/ communication
Licenses	All required licenses shall be included
Real time clock	Time synchronization facility shall be provided with IST
Accessories	Serial cable and adaptor if required along with all accessories and fixing units etc.
Display Unit	Data logger shall have a display unit which will show the real time data (24X7)

Communication Interface

Computer Interface	The Logger must be capable of connection to a computer via USB 2.0/ USB 3.0 and supply should include the necessary interface cables. Contact less data transfer over Wi-Fi.
File Format	The format of the data downloaded by communication interface shall be in standard format

GSM & GPRS Transmitter	
Transmission System	GSM/ GPRS/ edge-based data transmission system
Frequency range	900 MHz: 824-960 MHz/ 1800MHz: 1710-1880 MHz 4G and better
Performance	Data Reception availability of 95% or better
Communication Direction	Utilize GPRS network for two-way connection with FTP server, TCP/IP (INTERNET) connection and SMS
Transmission trigger	Data collection to be triggered by interrogation from Data Center, or by event-based transmission triggered by remote site
Power Saving	Ability to disable interrogation system in order to save power at remote site
Communication	Data transmission to execute HTTP Pot or FTP, SMS to transmit data the Data Center or any suitable method.
Protocol Accessories	All associated equipment, including all cables, mounting hardware and security arrangement.
DRS Cable	DRS cable of meter length capable to connect DWIR with laptop for data receiving.
Software for Data Logger	
Operating System	Windows software for system configuration, transfer and analysis of data to computer
Version	English language version
License	All required Licenses included
General Features	
Battery	The battery should be easy to replace & easily available in market
Tools	Complete tool kit for installation and routine maintenance
Manuals	Full documentation and maintenance instructions in English

(B)   Specifications for Data Services-

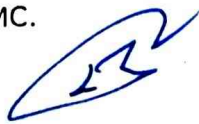| S No.	Parameter	Functionality requirement
1.	Data collection performance	Bidder should ensure seamless data and responsible for Real-time data _col lection at all TDWLR stations& shall ensure seamless data transfer. The data from TDWLR stations will be transmitted through GSM/ GPRS in the standard format to server at Data Centre at Dept. of IT&C, Jaipur. From Dept. of IT&C, Jaipur to Departmental and MIS Portal of Atal Jal and NWIC. The processed data on Departmental Website will be in standard/ prescribed form/ format. All the required Software and Hardware shall be provided by bidder.
2.	Data maintenance	All activities pertaining to installation, data services, Operation & Maintenance at remote TDWLR stations, Dept. of IT&C, Departmental Website, MIS Portal of Atal Jal and NWIC will be maintained by the bidder during warranty and maintenance period and will include a log of activities during every station visit.
3.	Data display	Bidder shall provide a Web and Mobile App based solution in which data is to be displayed in desired format.
4.	Reports & Bulletins Storage system	Storage of all data, in the proper manner and easy to access. This data shall be backed up in such a way that it is not possible to lose data that has already been stored with the use of mirrored or replicated storage.

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- Preventive Maintenance, if required by the Dept.
- Duration of the AMC.

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