

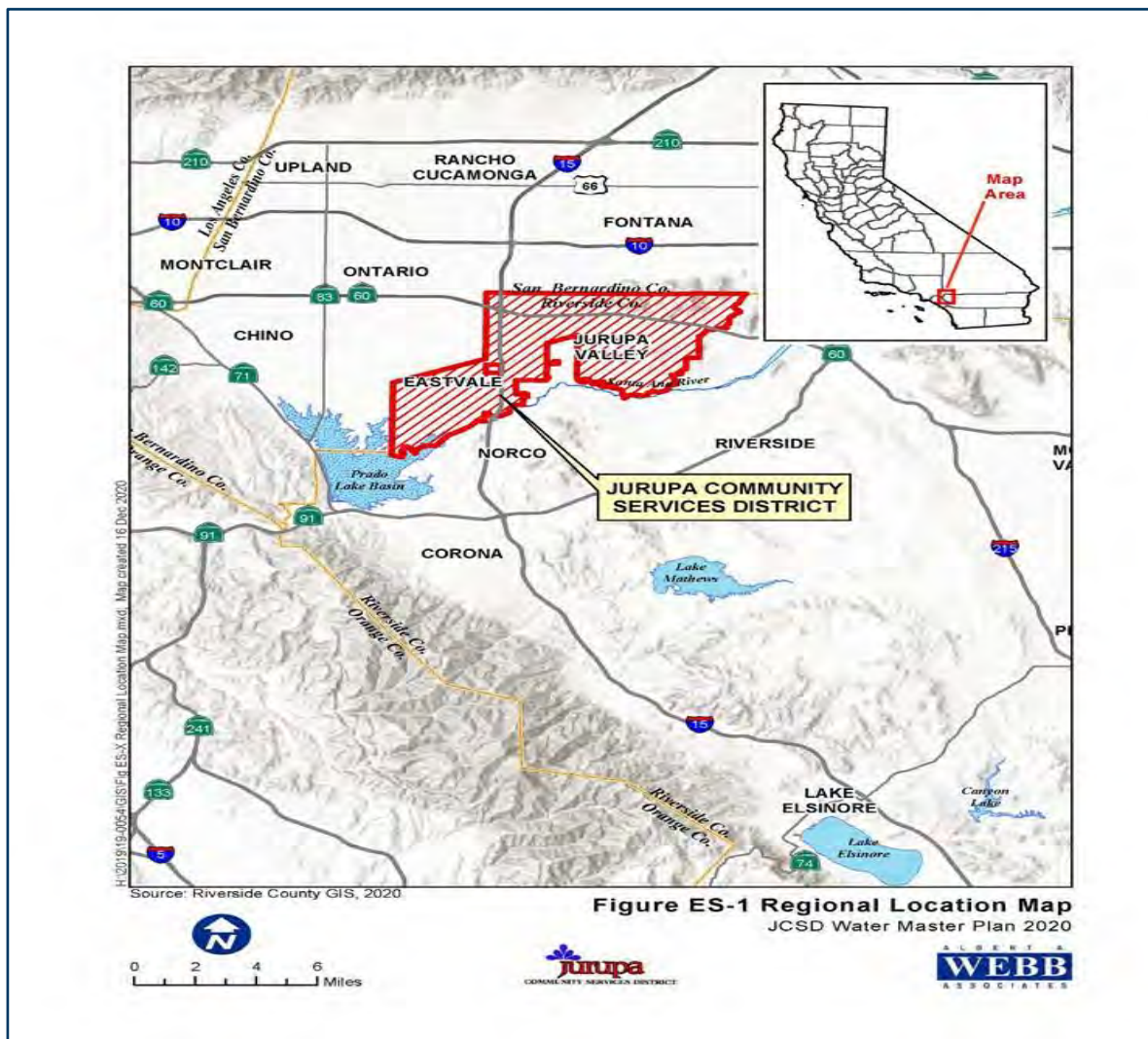
Scope of Work

Background

The Jurupa Community Services District was incorporated in 1956 to provide sewer services to the Jurupa area of western Riverside County. The District is governed by a five-member, independent, elected Board of Directors. Since 1956, JCS D has increased its service area from 26 square miles to 40.8 square miles. The District provides water, wastewater, park and recreation, graffiti abatement, frontage landscape, and street lighting services to approximately 133,000 residents and commercial facilities within its service area. The District's service area encompasses the Cities of Jurupa Valley and Eastvale (Figure 1).

The District provides water services to approximately 33,447 residential, commercial, and irrigation connections from local groundwater sources. The District has meters ranging in size from 5/8 through 10 inches.

Figure 1. JCS D Boundary and Surrounding Areas



Project Objective

The District is soliciting proposals for an Automated Metering Infrastructure (AMI) System.

The purpose of this solicitation is to select a qualified consultant to implement an Automated Metering Infrastructure (AMI) System, including endpoint and network hardware, software, meters, contract installation, training, and support services with cost estimates and schedule for implementing an AMI system that would best meet the needs of the District.

Overview

The District supplies potable water to approximately 33,447 meters throughout the water system.

Current District staffing includes:

Position	Number
Meter Technicians	5
Customer Service Managers	1
Customer Service Representatives	6

All Accounts by Premise Type:

Premise Type	Number (Approximation)
Non-Residential	2,972
Residential (Single & Multi)	30,475

Current Meter Inventory:

Meter Size	Number of Meters (Approximation)
5/8	3645
3/4	25991
1	2574
1 1/2	373
2	651 (includes hydrant meters)
3	82
4	33
6	24
8	15
10	6
Compound	53

Distribution of Meters by Reading Method:

Reading Method	Number of Meters (Approximation)
Manual	143
AMR	33203
AMI	0

Current Meter Reading Process

The current meter reading process utilizes AMR technology for read collection.

Scope of Work

The basic components of the System sought by JCSD include the following:

- Meter radio network transceiver device (“Endpoint”) capable of encoding, storing, and transmitting meter readings and other data, such as tampering alerts. Endpoints include meter interface units (“MIU”), meter transmission units, electronic receiver transmitters, transponders, and radios.
- A dedicated network or dedicated communications service to collect and transport meter readings and other information from the Endpoints to a head-end computer system.
- Handheld devices and software necessary to program and/or initialize the Endpoints and collect installation data.
- Head-end computer hardware and software, or a service, to collect, store, and manage the data that is delivered through the network.
- A meter data management system (“MDMS”) with the capacity to store meter reads and consumption data and allow that data to be queried, exported, and summarized, from which standard reports can be generated.
- A customer web portal to display interval consumption data and other information.
- The design, installation, and testing of information interfaces between the advanced metering infrastructure (“AMI”) system’s software components and JCSD’s customer information system (“CIS”) and other systems, such as its field work order system.
- All related documentation, including technical manuals and operating procedures.
- Training of JCSD’s employees in endpoint installation, maintenance, diagnosis, troubleshooting, and system use, operation, and maintenance.
- Ship and manage the inventory of AMI equipment during the course of the project deployment.
- Where appropriate, installation of fixed data collection units, including the communications links between those collection units and the head-end system.
- Provision of all necessary radio licenses, firmware, third-party software, or operating systems to ensure a complete and working system.
- Satisfactory testing of all software, hardware, and procedures prior to the deployment of the system according to the system testing and acceptance process set forth in the contract, and satisfactory testing of system performance at the completion of the Project or at major milestones.
- Coordination, scheduling, communications, and documentation of all installation services.
- Project management to ensure all products and services are coordinated.

JCSD does not intend to publish detailed technical specifications that address every feature or component of the desired solution. Instead, this request for proposals is structured to allow prospective contractors the flexibility to propose their best AMI solution to the District.

JCSD's goals were developed with our customers in mind while also creating efficiencies in the utility operations. We feel our consumers could benefit from our AMI efforts. The District desires a solution that will meet today's core functions and be expandable to accommodate our future needs. Below, you will find the District's goals and objectives for this Project:

- Increase Customer Awareness – JCSD would like to provide more information to our customers so they can better understand their usage, take responsibility for their usage, and offer alerting to help with leak detection and over-usage.
- Improvement of Customer Service Process – The District would like to improve the level of service provided today by offering more online services.
- Increase efficiency of Meter Reading – Our current meter reading process is time-consuming and requires too many human and capital resources.
- Assure long-term Meter Accuracy – JCSD would like to be assured that the meter chosen for this project will maintain its accuracy for the system's life.
- This Project will be conducted in phases, beginning with the initial deployment of 18,375 meters ranging from 0.75" to 10". Final phasing will be determined by the availability of grant funding but is currently anticipated as two phases. It is the intention of the District to replace existing 5/8" meters with 3/4" or 3/4" short meters in this process, dependent on use type.
- Better utilization of Human Resources – Many aspects of our current operation rely heavily on our employees' time; we want to use our people more effectively to provide customer service and meter system maintenance.
- Use of Analytics – To improve utility data management, we want the AMI data to work in our operational favor while helping our customers.

Technical Requirements

Contractors shall include a narrative summary in their response for each of the prompts listed in Subsections A through J of this section ("Questionnaire"). The Questionnaire is divided into ten main components: company overview, AMI solution, Endpoint, AMI network, head end system/software ("HES"), consumer portal, training, encoders, installation and Project management, and System technical support. The Questionnaire must be completed in its entirety as a requirement of this RFP.

Contractor shall perform a radio frequency ("RF") propagation study to determine the installation locations for any and all data collection units and repeaters. If communication equipment is to be installed on third-party sites, the successful

Contractor shall obtain or assist the District in obtaining, at minimum, 20-year rights for installing and operating equipment on third-party sites; these rights will be transferred to the District at no additional cost at the time of successful system acceptance testing.

Contractor shall provide in the cost proposal cost estimates for the installation, operation (including electric service, if required, and backhaul communications), and maintenance costs of each type of network data collection or repeater device proposed. For sites where the District has no facilities, estimates must include tower or roof leasing costs for a District-dedicated or shared network. Provide costs for solar power in the cost proposal, if available.

If the Contractor is proposing a cellular-based solution, they shall provide a propagation study showing coverage throughout the District service area and including a detailed plan for coverage in areas lacking sufficient cellular coverage. Contractor shall respond to all relevant sections of the Questionnaire. If a section is relevant only to a fixed-base solution, the Contractor shall respond with details on the aspect of the cellular-based solution that performs the same function. Further, the Contractor shall detail all cellular provider costs with a rate lock (including any escalator) of at least ten years.

If the Contractor offers both fixed-based and cellular solutions, the District requests that the Contractor submit a fixed-based solution at minimum but will accept an additional cellular-based proposal.

A. COMPANY OVERVIEW

1. Provide Contractor's company history and industry background related to metering, automated meter reading, AMI, and software.
2. Describe the role and experience of any subcontractors participating in this Project and the history of the Contractor and subcontractor business relationship.
3. Describe the Contractor's relationship with the manufacturer to be utilized for this Project. List the manufacturing facility, facility location (country and state/province), ISO9000 or equivalent certifications for the Endpoint manufacturing facilities.

B. AMI SOLUTION OVERVIEW

1. Provide a schematic of the proposed AMI solution including its system's components and configuration (Endpoints, data collectors, repeaters, backhaul, MDMS, analytics software, consumer engagement, field installation tools, valves, sensors, application programming interface ["API"] integration options, etc.)

2. Briefly describe the architecture and normal functioning of the proposed AMI solution, including its system components (Endpoints, data collectors, repeaters, backhaul, MDMS, analytics software, consumer engagement, field installation tools, valves, API integration options, etc.)
3. Describe security measures, such as encryption, error checking and retransmission, transmission of prior reads, etc., used to ensure the accuracy and security of the data transmitted with the proposed AMI solution including its system components (Endpoints, data collectors, repeaters, backhaul, MDMS, analytics software, consumer engagement, APIs, etc.)
4. Describe any security certifications currently held related to the proposed solution. Indicate the frequency of and type of audits and penetration tests conducted by the Contractor on the proposed system. Contractor shall supply with its proposal its current Statement on Standards for Attestation Engagements (SSAE) No. 16 or the equivalent.
5. Describe the frequencies used to for interactions between the MIU and data collection units (“DCUs”). Indicate what FFC license (s), if any, the system will require. If licenses are required, describe process and responsibility for obtaining/maintaining license. Indicate the expected length of time to acquire such licenses. Contractor shall be responsible for obtaining all necessary licenses on behalf of the District and in the District’s name. Include the cost of licenses in the cost proposal. Local frequency licenses shall be assigned to the District. For national frequencies, the District must be provided an irrevocable right to use the license for its System, so long as the system is in service. Indicate the separate charges, if any, for this right in the cost proposal.
6. Describe procedures that will be used to regularly check for, identify and remove interlopers on its licensed frequency(ies) or overpowered signals on unlicensed frequencies. Indicate who will be responsible for this effort. If JCSD, describe provisions offered by Contractor or its system to assist in this effort. If Contractor, indicate the length of time such protection will be offered in association with this proposal/contract.
7. Describe the proposed read rate of the proposed system. Indicate if meter readings from MIUs are time-synchronized (e.g., meters are all read at the top of the hour). If so, explain how this is achieved and the clock in the MIU is set. Indicate the accuracy of the synchronization

(e.g., +/-15 seconds).

8. Indicate the default interval at which the MIU interrogates the meter (e.g., once per hour), and whether the interval can be changed for individual meters or a selected group of MIUs at the same time. If so, indicate the settable range of this interval. Describe the procedures required to change the interval and reset it. Indicate if changing the interval can be accomplished over the air from the head-end software.
9. If changing the interval will change the expected MIU battery life, provide specific parameters or examples (e.g., "15-minute interval will reduce expected battery life by X").
10. Indicate the default interval for transmitting readings from the MIU (e.g., once per day), and whether the interval can be changed. If so, indicate the settable range of this interval. Describe the procedure required to change the interval, and reset it. If changing the interval will change the expected MIU battery life, provide specific parameters or examples (e.g., "4- hour interval will reduce expected battery life by X").
11. Indicate how many full meter register readings and how many increment count reads are transmitted by the MIU at one time.
12. Indicate the longest possible elapsed time from when a meter is read by the MIU to when that meter reading is available at the AMI control computer. (For example, if the meter is read every hour and the data is transmitted every 4 hours to a data collector, and every hour to the head-end software, then the longest elapsed time would be 6 hours.)
13. Indicate if the system can obtain a real-time read on demand "over-the-air" from the MIU/meter by sending the MIU a signal. Indicate the expected time interval between a user's on-demand reading request and the response.
14. Indicate how the system will obtain readings from hard to read meters located in basements, ravines, vaults, and other transmission constraining settings.
15. Indicate if the proposed solution's software interfaces are compliant with or make use of California Exchange Protocols, MultiSpeak or other formats for data exchange and communication.
16. Describe the AMI solution's data capacity of its system components (Endpoints, data collectors, repeaters, backhaul, MDMS, etc.)

17. Describe the process to upgrade AMI solution's system components (Endpoints, data collectors, repeaters, MDMS, etc.)
18. Describe the future enhancements planned for the proposed AMI solution and how they will be integrated into this Project.
19. Describe the available levels of AMI support offered with your AMI solution, and include their associated costs in the cost proposal.
20. Describe the AMI solution's industry standards and industry direction.
21. The MDMS must interface to District's CIS system to provide monthly or on demand meter readings both individually and in batch upon request by the system; synchronize data related to meters, service locations and customers; and provide status reports of alerts for accounts.
22. Describe the AMI solution ability to integrate through APIs and include the costs in the cost proposal.
23. Describe the AMI solution's options for consumer engagement to help ratepayer's conserve water and better understand their usage habits, and manage costs.

C. ENDPOINT OVERVIEW

1. Describe the physical characteristics and dimensions, weight, and permanent markings/barcodes of the proposed Endpoint. (Provide image with dimensions.)
2. Each MIU shall have a unique, permanent ID number that is transmitted with the meter readings. Indicate the number of digits. The MIU shall be permanently labeled on the outside with the manufacturer's name, model number, MIU identification or serial number, bar code of this number, required FCC labeling, input/output connections, and date of manufacture. The label should be weatherproof and attached to the MIU where normal installation will not obscure it. The District desires that the MIU be shipped with one permanent barcode label and one removable adhesive barcode label for installation control purposes.
3. Indicate environmental tolerances, including temperature and humidity ranges. Indicate if there are different models of MIUs for indoor, outdoor wall-mounted, and vault installations. The District prefers a single model with appropriate mounting brackets for different situations. Provide Endpoint temperature range for normal

operations.

4. Describe features of the MIU that prevent corrosion or degradation of mechanical or electrical performance (e.g., encapsulation or coating). The MIU shall be provided in a waterproof casing rated IP8 or better (submersion up to 1 meter of depth) in accordance with the IP code, IEC standard 60529. The MIU enclosure should be composed of ultraviolet (UV)-inhibiting ABS or similar material. All materials used in the MIU must be non-hazardous under normal conditions.
5. Describe the call-in schedule of the Endpoint, how it is set, the interval of data sent, and any customization available for setting an Endpoint call-in schedule.
6. Describe the amount and interval of backup data stored within the Endpoint. Indicate the maximum number of reads that can be recovered in mobile and fixed collection. Describe what happens as capacity is approached, and what happens when capacity is exceeded. For, example, does new data overwrite old data?
7. Provide a list of all meter encoders which the proposed Endpoint has compatibility with. Please list all adapters needed to achieve compatibility with a waterproof twist tight connection.
8. Provide a list of all electronic meters of which Endpoint has compatibility with. Please list all adapters needed to achieve compatibility with a NICOR adapter.
9. Describe meter configuration data and the process for changing it. Describe how an MIU is assigned to a premises ID, customer ID, meter body ID, register ID, and geographic location. Show how the software maintains asset data, including installation date, model number, etc. Describe how total consumption is tracked including meter rollover.
10. Indicate if the software can associate old MIU and new ID numbers with a service address, customer account and unique premises ID to maintain account continuity. Indicate if the software can associate old meter body ID, old register ID, old meter final reading, and new meter ID and reading from a meter exchange process with a service address, customer account or unique premises ID for continuous consumption profiling. Describe the process for inputting a meter or MIU change in the MDMS, maintaining the continuous consumption history for an account while keeping track of the point of change-out.
11. Provide a brief overview of the necessary programming performed at

the time of Endpoint installation along with any necessary programming device, and include associated costs in the cost proposal.

12. Provide a brief description of the manufacturer's recommended installation and hardware used in the pit mount setting. Provide an image of the recommended installation and hardware.
13. Provide historical Endpoint failure rates, IP rating, and describe how the Endpoint is protected from potential long-term submersion/moisture intrusion.
14. Provide an overview of the Endpoint warranty.
15. Provide a list and a description of all Endpoint and meter alarms/tampers that are potentially sent with the standard transmission message.
16. Describe the synchronization process and tolerance of the Endpoint's internal clock.
17. Describe how missing data may be recovered/retransmitted from the Endpoint, including automatically backfilling missing interval data on a daily basis.
18. Describe the process to upgrade the Endpoints firmware.
19. Describe the temperature ranges in which the Endpoint will operate normally.
20. Describe the expected battery life as a range of years within two standard deviations of the average expected life under normal or default MIU meter interrogation and transmission settings and the climate in the District's locale.
21. Describe the MIU's low battery warning system, the warning time in months provided before failure under normal conditions, and how this is accomplished (e.g., based on battery voltage or the number of transmissions). Indicate the differences in expected MIU battery life, if any, when reading different types and makes of meter registers.
22. Indicate to what extent the following functions would affect battery life: (a) installing firmware over the air; (b) extracting fine-minute reads from the meter for a one-week period (as part of use study or evaluation of meter sizing); (c) on-demand reads more than four times per year; and activating a control valve (if available) more than two

times per year.

23. Describe the tamper detection ability of the Endpoint. (e.g., cut-wire, encoder removal, magnetic tamper, etc.). Indicate whether the alarm is transmitted instantly or with the next MIU transmission. Indicate the number of times or over what period of time a tamper indication will be provided to the system operator before it is automatically cancelled. Indicate whether the tamper indication can or must be reset or reprogrammed by the system operator or field service technician, and how this is accomplished.
24. Describe the process of obtaining a backup reading with a reading device should that be necessary.
25. Provide a list of sensor devices compatible with the proposed Endpoint (e.g., valve, temperature sensor, pressure sensor, etc.)
26. Describe any additional current capabilities of the proposed system not already described above, such as remote shut-off or turn-on, pressure monitoring, temperature monitoring, chemical concentration monitoring, smart city applications, etc. List specific third-party sensors or controllers that are supported (such as acoustic leak detection devices) and their capabilities.
27. Describe the system's ability to add instrumentation (pressure, temperature, chemical, leak, etc.) and to collect distribution system performance information and transmit the information from such Endpoints. Indicate whether additional software would be required for any additional feature listed.

D. AMI NETWORK OVERVIEW

1. Describe the operation of the Data Collectors (components, two-way, communication initiates from, data capacity, how often do they communicate with the headend system, recommended heights, power requirements/options, maintenance, etc.)
2. Provide a schematic of the proposed data collector/repeater propagation study distinctly identifying existing District-owned assets, existing third-party owned assets, locations where no installation asset exists, and heights of each. State read rate and system redundancy that system design is based on.
3. Indicate the approximate time to construct the network, including provisioning of collectors and repeaters, installation, commissioning of equipment, operation, testing, and certification.

4. In the case of a dedicated network, at least 75% of the DCUs needed to provide complete coverage of District's service territory shall be installed, tested and operational for prior to starting MIU deployment.
5. Describe the amount of data that is stored in the data collector and how the data is protected if the data collector is damaged.
6. Describe recommended installation methods and include the estimated cost of data collectors and repeaters in the cost proposal. (Provide image and/or schematic.)
7. Describe any necessary programming needed for data collectors/repeaters during installation and routine system maintenance.
8. Describe electrical surge/lightning protection for data collectors/repeaters.
9. Describe onboard battery backup power and any recommended maintenance and frequency of replacement for backup batteries.
10. Provide an estimated time to install the proposed network and include the cost for installation in the cost proposal (the cost must include installation of hardware, leasing agreements, and any necessary cost for installation.)
11. Describe the security protocol used in the data collectors and repeaters to protect data.
12. Describe Contractor's policies and program to protect the privacy of the District and customer data through its life cycle of collection, storage, usage, sharing, transferring, securing, retention and destruction. Describe how and by whom the program is administered, and how it ensures compliance by all subcontractors and third parties.
13. Describe the standard warranty as well as any options/pricing for an extended warranty of the data collectors and repeaters.
14. Describe the support process when a data collector or repeater is not working when under warranty and not under warranty.
15. Describe the guaranteed repair time when a data collector or repeater is not working when under warranty and not under warranty.

16. Describe the Contractor's standard responsibilities to maintain the AMI Network.
17. Describe the District's standard responsibilities to maintain the AMI Network.
18. Describe the Contractor's standard responsibilities to maintain the AMI.
19. Describe the District's standard responsibilities to maintain the AMI
20. Network under a Network as a Service model. How many years is this available for?
21. Describe what is included under the standard maintenance service model for the data collector/repeater. How many years is this available for? Include the annual cost for maintenance in the Price Proposal.
22. Describe what is included for maintenance of the data collector/repeater under Network as a Service model. Include the annual cost for maintenance in the Price Proposal.
23. Based on our climate, how many years will the data collector last before needing to be changed?
24. Describe the installation, provisioning, and programming procedure of the data collectors in a tower, building/roof, and electrical pole installations (Note responsibilities of JCSD vs. Contractor).
25. Describe the proposed primary power source for DCUs/repeaters. If solar, provide specifications for solar panel. If electrical, indicate expected kilowatt-hours per month of electrical consumption, and expected maximum watts per device. Describe the DCU battery and recommend preventive maintenance battery change intervals.
26. Describe provisions for electrical isolation and protection against static discharge and indirect lightning strikes.
27. Describe the power supply options and frequency of replacement for data collectors and repeaters and include their associated costs in the cost proposal.
28. Describe the data collector backhaul options, and include costs in the cost proposal.

29. Indicate proposed options for mounting DCUs/repeaters. Indicate minimum and maximum required and recommended heights for antennae. Provide specifications with photographs and dimensions of mountings. DCUs/repeaters installed on District facilities must not interfere with access by District personnel to any part of the building or structure on which they are mounted, nor in any way compromise the structural integrity. For each device installed on District facilities, mountings, support system, cabling, etc., must be pre-approved, as well as inspected and accepted, by a District Engineering staff.
30. Describe how the Contractor ensures that data collectors/repeaters will not interfere with other nearby radio equipment or will not be degraded by other radio systems.
31. Describe the diagnostics available to monitor the network.

E. HEAD END SYSTEM / SOFTWARE OVERVIEW

1. Describe the overall capability and architecture (cloud, on-premise server, etc.) of the proposed HES.
2. The software shall enable the District to effectively obtain all of the meter readings and other data generated by the system, monitor and manage the AMI system, including underperforming or nonperforming MIUs, repeaters, data collection units and backhaul communications, and determine remediation measures. The software shall interface with the MDMS and/or District's CIS.
3. Describe the process of integrating/synchronizing the HES with our billing system (method, frequency, options, etc.)
4. Provide screenshots and descriptions of the main functionality of HES.
5. Describe the process of water meter data collection from Endpoints (include frequency, interval of data, configuration options).
6. Describe the process of backfilling any missing data from the Endpoint.
7. Describe the reporting capability of the HES.
8. List water meter and Endpoint alarms available in the HES and describe how they are made available to the user.
9. Describe the HES's capability to provide system pressure and

temperature data.

10. Describe APIs that allow data access to create dashboards and alerting on system pressure and temperature data and abnormal usage (possible leak detection).
11. Describe the tools available in the HES to assist with water conservation initiatives.
12. Describe any quick view or dashboard capabilities of the HES natively or live data access for external software.
13. Describe the guaranteed system uptime of HES as denoted in your Service Level Agreement.
14. Describe the number of user licenses included in the standard software offering and include the price of additional user licenses in the cost proposal.
15. Describe the levels and privileges available through standard user credentials.
16. Customer Service Representatives (“CSRs”) shall be able to access an account by at least the following fields: account number, name, address, premises ID number, meter body ID number, register ID number, MIU ID number. Indicate available customer search parameters and describe the features available for a CSR to assist the consumer in understanding their consumption.
17. Indicate if the software can associate more than one account number or meter number with an individual customer.
18. Describe how potential leaks, high consumption, misuse and water theft are identified by the software from the data, and what analysis reports are generated?
19. Describe any capabilities of the software to provide customer, consumption and meter analytics, such as meter underperformance, unauthorized consumption, non-revenue water analysis, etc.
20. Describe any other standard reports and trend analyses provided by the proposed system.
21. Describe the number of years of data accessible through the software interface.

22. Describe the export capabilities of the HES software.
23. Describe the ability to compare multiple year's consumer usage. (Provide screenshots)
24. Describe the ability to create and utilize account groups within HES software.
25. Describe the HES's ability and process to control the opening and closing of a valve.
26. Describe the process of validating high/low consumption thresholds.
27. Describe how HES deals with disaster recovery.
28. Enumerate firmware releases in the past 12 months for each system component and provide firmware release notes.
29. Contractor shall provide any available upgrades or patches to MIU, DCU, repeater and other collection network component firmware for a minimum of 15 years, at no additional cost beyond annual maintenance fees for this equipment.
30. Describe how software updates and upgrades are pushed to HES. Indicate if and how firmware patches or upgrades would be applied to each system component.
31. Describe how HES processes data backup (e.g., frequency, number of sites, and amount of years.)
32. Describe how HES deals with time zones.
33. Describe the ability to integrate HES with a consumer portal and manage consumer access.
34. Describe how the network is managed through the HES.

F. CONSUMER PORTAL OVERVIEW

1. Describe the capabilities/features of the proposed consumer portal for District customers to access detailed data from their meters. Describe what information will be displayed on the customer screen. Indicate if a District CSR can see a screen identical to what a customer sees through the customer portal.

2. Customer web portal should include a mobile application. Describe the capabilities/features of the proposed consumer smartphone app.
3. Indicate if the customer portal is part of the MDMS package or separate software.
4. Software shall be accessible to customers using the web browsers from major manufacturers. The software shall allow the customer to initialize an account for access using address and account number. Initializing a customer account shall require no involvement of District staff. Account initiation should be completed using an emailed or texted authorization code. The software should provide support for District account file import and account and password authentication, or two-step authentication. The software should provide for backdoor support for CSRs to manage forgotten usernames and passwords.
5. Describe the process of a customer signing up for the consumer portal and password requirements.
6. Describe the guaranteed system uptime of the consumer portal as denoted in your Service Level Agreement.
7. The platform should have a configurable interface that can be presented as a seamless extension of District's own web site. Describe the process to link to the District online payment portal. Indicate if the customer portal can be accessed by a customer from District's website or e-billing page. If so, indicate if the customer portal supports single sign-on and if it is security assertion markup language compliant.
8. Describe the tools to track user signups. (Provide screenshots.)
9. Describe the process of integrating the consumer portal with HES or MDMS.
10. Describe the number of years of data available to consumer.
11. Describe how the consumer portal/smartphone app can assist with water conservation efforts.
12. Describe the options for branding the consumer portal/smartphone with City branding.
13. Describe the options for messaging / advertising options.
14. Describe the options for customer support chat options.

15. Describe how consumer portal supports multi-lingual consumers.

G. TRAINING OVERVIEW

1. Thoroughly describe the encoder, meter, and Endpoint installation and maintenance training included in this proposal. (Please include the following: training curriculum, duration, the maximum number of employees, suggested participants, evaluation process, and training method: field / classroom, hands-on / onsite / online training, etc.)
2. Thoroughly describe the HES training included in this proposal. (Please include: billing system interface process, training curriculum, duration, the maximum number of employees, suggested participants, evaluation process, and training method: field / classroom, hands on / onsite / online training, etc.)
3. Thoroughly describe the consumer portal training included in this proposal. (Please include: training curriculum, duration, the maximum number of employees, suggested participants, evaluation process, and training method: field / classroom, hands on / onsite / online training, etc.)
4. Describe methods to train staff on future HES updates or upgrades.

H. ENCODERS OVERVIEW

1. Describe the available encoder options (mechanical or electronic, features, and their benefits) and what you are proposing for this Project. Encoders must come equipped with visual analog read and leak detector. Encoder read must be in Cubic Feet.
2. Briefly describe the system's approach to detecting (a) continuous flow (that is, consecutive non-zero intervals), (b) low flow leaks (many but not all consecutive intervals non-zero), and (c) abnormally high flow ("broken pipe"). Indicate if the threshold levels for reporting of these anomalies are definable by the District, and if so, for individual customers or groups of meters.
3. Describe system capabilities to validate meter readings for reasonableness, such as unusually high or low readings.
4. Describe how system handles potential meter rollovers.
5. Provide an overview of the encoder warranty.

6. Describe how the encoder is protected from moisture intrusion.
7. Describe the resolution available as an output to your AMI Endpoint.
8. Describe the available encoder alarms that are transmitted with your AMI Endpoint.
9. Describe the options to secure encoder to meter to eliminate tampering (e.g., anti-tamper set screw, etc.)
10. Describe safeguards that prevent accidental or malicious effects to the MIUs, such as disruption of the MIU's firmware, parameters or clock changes, continuous waking of MIU leading to battery failure, or unwanted activation of water shutoff (if supported).
11. Describe any necessary programming that must be done during installation.
12. Describe encoder markings and serialization.
13. Describe the wire length options available.

I. INSTALLATION / PROJECT MANAGEMENT OVERVIEW

1. The Contractor will describe their detailed management approach, including but not limited to the strategy for schedule management, cost control, risk management, solution deployment, integration, acceptance testing, organizational readiness, hosting, customer portals, and end-user training.
2. Provide resumes of the Project management team assigned to this Project.
3. Provide the company name, history, and industry experience for meter/Endpoint installation company.
4. Provide the company name, history, and industry experience for network installation company.
5. All Licensed Plumbers shall be bonded. Contractor shall subject all employees to a criminal offense background check and drug and alcohol testing as directed by the District. Contractor shall not employ as an Installer any person who fails to meet the requirements of the District. The District shall be entitled to review the background check before the prospective employee is engaged, and prevent any person who fails to meet requirements from working on District projects.

Describe Contractor's ongoing random testing programs for drugs and alcohol.

6. Provide the Meter/Endpoint Installation Procedures.
7. Provide recommended Project schedule for meter/Endpoint installation.
8. Provide the recommended Project schedule for network installation.
9. Provide detailed installation and quality assurance processes that will be performed for this Project.
10. Describe the mechanism and procedure for downloading and uploading data from the AMI control computer and/or any other information system to the District's customer information system.
11. Describe the list of information that will be captured in the field during installation and provided to the District CIS system. Describe the process to integrate change out information with District CIS system and responsible party for this process.
12. Indicate if the software can associate old MIU and new ID numbers with a service address, customer account and unique premises ID to maintain account continuity. Indicate if the software can associate old meter body ID, old register ID, old meter final reading, and new meter ID and reading from a meter exchange process with a service address, customer account or unique premises ID for continuous consumption profiling. Describe the process for inputting a meter or MIU change in the MDMS, maintaining the continuous consumption history for an account while keeping track of the point of change-out.
13. Describe the standard daily, weekly, and monthly installation progress reporting.
14. Contractor's field personnel shall wear easily recognizable uniforms containing the Contractor's name, as well as prominently displayed picture identification badges containing Contractor's name, employee name, title, employee picture, and employee I.D. number at all times when performing contract work. Contractor's employees who are no longer employed by the Contractor shall be required to return their uniforms and identification cards immediately upon termination of employment, and the Contractor shall immediately notify the District of all such terminations and if identification cards were received from terminated employee.

15. Contractor shall be responsible for all vehicles it uses on the Project. Contractor should provide service vehicles onsite stocked with common fittings and supplies needed for normal service restoration and/or replacement. Contractor's vehicles shall be uniform in appearance and shall have the company logo prominently displayed on both sides of the vehicle. Temporary signs must be adhesive, not magnetic. Any employee of the Contractor or its subcontractors who drives a vehicle in connection with this Project must have a valid driver's license for the class of vehicle being driven, and must be insured as set forth in District's insurance requirements.
16. The District requires that Contractor deploy vehicles to minimize parking problems and avoid blocking any streets. Contractor is required to follow all parking laws. Contractor shall be responsible for all parking violations.

J. SYSTEM TECHNICAL SUPPORT OVERVIEW

1. Describe system technical support options over the 20 year-project life, and include their associated costs in the cost proposal.
2. Describe Contractor Help Desk availability for telephone technical support (e.g., hours, time zone, etc.) and escalation procedures.
3. Provide options for after-hours technical support.
4. Describe options for local support.
5. Describe access to online self-support.
6. Describe upgrade frequency and notification process. Indicate whether upgrades can be implemented by District staff or whether Contractor assistance is required.
7. Describe any plans for sun-setting the proposed system.

Committee and Board Presentation

The Consultant shall prepare a summary presentation of the project and recommendations for review by District staff. Consultant shall attend and assist District staff in presenting to the Board of Directors

Deliverables: Draft and Final Committee & Board Presentations