



City of Minden

Request for Proposal

For Advanced Metering Infrastructure System

For Electric and Water Utilities

Proposals must be delivered to:
Michael Fluhr, City Clerk/Treasurer
City of Minden, LA
520 Broadway
Minden, LA 71055

Proposal Due: August 14, 2015 @ 2:00 PM



To Whom It May Concern:

You are invited to submit your Request for Proposal (RFP) for the purchase of ADVANCED METER INFRASTRUCTURE SERVICES for the City of Minden's Electric and Water Department. Specifications are attached hereto and are considered part of the RFP package.

Request for Proposal will be received by the City Clerk/Treasurer at 520 Broadway, Minden until August 14, 2015 at 2:00 pm.

Request for Proposals will be publicly opened and read by the City Clerk/Treasurer at 2:00 pm, August 14, 2015, at City Hall Cypress Room, 520 Broadway, Minden, LA, 71055. You are welcome to attend.

The City of Minden reserves the right to accept or reject any or all received Request for Proposal.

Should you have any questions regarding this RFP, please contact Michael Fluhr 318-377-2144 or mfluhr@mindenusa.com.

Sincerely,

A handwritten signature in blue ink, appearing to read "Michael Fluhr", is written over a light blue rectangular background.

City Clerk/Treasurer



Advertised in the Minden Press-Herald

Invitation to Request for Proposals

The City of Minden, Louisiana is accepting sealed Request for Proposals (RFP) for Advanced Metering Infrastructure System to serve the current and projected needs of the City. The City intends to seek the most cost-effective solution, based on the representative criteria contained in the RFP.

Submittals received by the due date will be publicly opened on August 14, 2015 at 2:00 pm in the Cypress Room located at City Hall, 520 Broadway, Minden, LA, 71055. The results will be publicly read aloud.

The City reserves the right to waive informalities in the bids and reject any or all bids for any reason whatsoever at the sole discretion of the City. The successful bidder will be notified in writing.

Please contact Michael Fluhr, City Clerk/Treasurer, Minden City Hall, 520 Broadway, P. O. Box 580, Minden, LA 71058-0580 [Phone: (318) 377-2144; Fax (318) 371-4200].or mfluhr@mindenusa.com with any questions or to receive a proposal specification package. RFP packages are also available at www.mindenusa.com and www.bidexpress.com.

Michael Fluhr, City Clerk/Treasurer

To be advertised:

July 10, 2015

July 17, 2015

July 24, 2015

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2 Introduction

2.1 Project Overview

The City of Minden's primary objective is to contract with a qualified vendor to provide and install an Advanced Metering Infrastructure (AMI) System for Electric and Water Utilities. This RFP will cover a system-wide fixed network implementation. The City of Minden wishes to obtain a system that provides the best long-term value over the system lifetime, while providing hourly readings (24 readings per day for 20 years). For reliability and meter reading integrity, the Proposer shall be the sole source of the

different components of the system deriving - if possible - from one manufacturer (water meters, electric meters, endpoints, meter reading equipment and meter reading software), and provide a turnkey system offering to the utility.

The Proposer shall provide and install all of the hardware and software that together comprise the proposed AMI system. This includes meters, meter registers (in the case of retrofits), meter interface units, wire and wire connectors, data collection units, handheld programmers (if necessary), AMI control computers, a meter reading database or meter data management system (MDMS), and related software and interfaces.

The proposal must include all costs for network deployment and data collector unit installation, configuration, testing and training. All site preparation and installation costs must be reflected in the data collection unit pricing.

Respondents must provide at least five (5) references of water and electric combo utilities using the proposed system that has been installed or supported by the respondents for over 2 years. Include how long the system has been in operation, the total size of the utility, and how many endpoints are currently deployed.

2.2 About the Buyer

The City of Minden, or the “BUYER” is a municipal corporation located in Minden, Louisiana in the parish of Webster. The buyer operates electric, water and sewer utilities. Electric power is purchased from SWEPCO and distributed to approximately 13,029 residents or 6,333 electric connections. There are about 5,587 water units. Minden employs a mayor/council form of government. The total operating budget is approximately \$31,000,000. The number of full- time employees for the City is 150 in 22 departments.

3. General Conditions

3.1 Reservations

The buyer reserves the right to reject any or all RFP responses or any part thereof and/or to waive formalities, if such action is deemed to be in the best interest of the buyer. However, items listed as strictly enforced shall be so enforced.

The buyer is requiring a proposal for all necessary components to acquire a Fixed Base AMI project. The Proposer must include all components and be willing to supply any component of the RFP which the buyer in its sole discretion shall award; the buyer will accept only those components that are deemed to be in its best interest. The buyer understands that product choice will affect other components (ex: meters and registers, etc.) and as such requires that all components awarded under this RFP shall be from the same Proposer.

The buyer reserves the right to cancel any contract, if in its opinion, there be a failure at any time to perform adequately to the stipulations of these conditions and the RFP which is attached and made part of this document, or in case of any attempt to willfully impose upon the buyer materials or products or workmanship which are, in the opinion of the buyer, of unacceptable quality. Any action taken in pursuance of this stipulation shall not affect or impair any rights or claim of the buyer to damages for the breach of any covenants of the contract by the successful Proposer. The buyer also reserves the right to reject the RFP and/or any Proposer who has previously failed to perform adequately after having been awarded a prior contract. Should the successful Proposer fail to furnish any item or items, or to

complete the required work included in the RFP, the buyer reserves the right to withdraw such items or required work from the operation of the RFP without incurring further liabilities on the part of the buyer thereby.

All items furnished must be completely new and free from defects unless specified otherwise. No other items will be accepted under the terms and intent of the contract.

3.2 Questions, Requests for Clarification, and Suggested Changes

The contact designated and identified below, is the sole point of contact for the buyer regarding the RFP from the date of issuance until the selection of the successful Proposer. Proposers are invited to submit written questions and requests for clarifications regarding the RFP. The questions, requests for clarifications, or suggestions must be in writing and received by

Michael Fluhr, City Clerk/Treasurer
P.O. Box 580, Minden, La 71055
Phone: (318) 377 – 2144
Email: mfluhr@mindenusa.com

on or before 02:00 p.m., July 24, 2015 . The use of e-mail is encouraged. All inquiries should be marked “URGENT INQUIRY” “RFP – ADVANCED METERING INFRASTRUCTURE (AMI) SYSTEM”.

If the questions, requests for clarifications, or suggestions pertain to a specific section of the RFP, the page and section number(s) must be referenced. If a respondent discovers any significant ambiguity, error, conflict, discrepancy, omission, or other deficiency in this RFP, the respondent should immediately notify the City Clerk/Treasurer in writing of such error and request modification or clarification of the RFP document.

The buyer assumes no responsibility for verbal representations made by its officials or employees unless such representations are confirmed in writing and incorporated into the RFP. Proposers must inform themselves fully of the conditions relating to the proposal. Failure to do so will not relieve a successful proposer of his or her obligation to furnish all services required to carry out the provisions of this contract. The contractor, in carrying out the work, must employ such methods or means as will not cause any interruption of, or interference with, the work of any other contractor.

3.3 Anticipated Schedule

The following is the current schedule as defined by the City of Minden:

Action	Anticipated Date
Release and Issuance of the RFP	July 10, 2015
RFP Inquiries Deadline	July 24, 2015
Proposal Submission Deadline – 02:00 P.M. CST	Aug. 14, 2015
Proposal Evaluation completed	Aug. 28, 2015
Anticipated City Council Award	Sept. 07, 2015
Award Contract	Sept. 07, 2015
Project Begin	TBD
Project Completion	TBD

3.4 Submission of Proposals

Proposers must furnish all information necessary to evaluate the bid proposal. Offers that fail to meet the mandatory requirements of the RFP will be disqualified. Verbal information provided by the Proposer shall not be considered part of the Proposer's response.

Proposers must submit the original and two (2) printed copies of their Proposal, one (1) electronic copy, and supporting materials by:

August 14, 2015 – 02:00 P.M. CST

Send to:

Michael Fluhr, City Clerk/Treasurer
P.O. Box 580, Minden, La 71055
Phone: (318) 377 – 2144
Email: mfluhr@mindenusa.com

Clearly mark remitting Proposal: "SEALED PROPOSAL – Advanced Metering Infrastructure System “.

3.5 Proposal Requirements

This section outlines the information that must be included in your proposal. Vendors should review this list to ensure that their proposals include all requested information prior to submission.

1. The proposal must be signed and dated by a representative of the vendor's company who is authorized to negotiate contracts.
2. Vendors submitting proposals should allow for normal mail or delivery time to ensure timely receipt of their Proposal.
3. Failure to include any of the requested information within your Proposal may result in rejection/disqualification.
4. No negotiations, decisions, or actions shall be executed by the proposer as a result of any discussions with any City of Minden official, employee and/or consultant. Only those transactions provided in written form from the City of Minden may be considered binding. Also, the City of Minden will honor only written and signed transactions from proposers.
5. The costs of preparation and delivery of the bid proposal are solely the responsibility of the Proposer. No payments shall be made by the buyer to cover costs incurred by any proposer in the preparation of or the submission of a proposal in response to this RFP or any other associated costs.
6. The contents of each vendor's proposal, including technical specifications for hardware and software, and hardware and software maintenance fees, shall remain valid for a minimum of 120 calendar days from the proposal due date.
7. Please note that the City of Minden may not purchase all the applications or all the equipment listed in this Request for Proposal
8. The City of Minden will be awarding a contract to a single vendor for all core applications. Vendors are allowed to provide a proposal that includes subcontractors, but the City of Minden will be entering into a single agreement with one vendor acting as a Prime. The Prime contractor will be responsible for the timeliness, quality, and deliverables provided by any subcontractors under the Prime contractor's agreement.

3.6 Deviations to Specifications

Proposals provided with deviations from stated specifications will automatically be rejected. On all required items, the Proposer shall indicate clearly the product (brand and model number). In addition, all deviations from the specifications must be noted in detail by the proposer, in writing, at the time of the submittal of the formal RFP response. The absence of a written list of specification deviations at the time of submittal of the RFP response will hold the proposer strictly accountable to the buyer to the specifications as written. Deviations not submitted, as required by the above, will be grounds for rejection of the material and/or equipment when delivered.

In such cases where a manufacturer's name or brand is specified, consideration of other brands will be made only if the said alternate brand is comparable and compatible with, or can successfully be substituted for the brand requested. It is the responsibility of the proposer to pre-qualify products or

services that may deviate from the written specifications. Failure to pre-qualify alternative products or services prior to opening of the RFP will be cause for elimination of the product(s) and service(s) from consideration.

Items that are listed as Strictly Enforced shall not be considered for substitution and shall result in immediate disqualification of the Proposer.

3.7 Warranty

All equipment, accessories, and component parts shall be guaranteed by the proposer to be free of defects in workmanship and design and to operate as specified and intended. The manufacturer's standard warranty or a minimum one year warranty, whichever is greater, shall be given to the buyer at time of acceptance. The effective date of the warranty shall be the date of acceptable delivery by the buyer.

COPIES OF THE MANUFACTURER'S WARRANTY SHALL BE INCLUDED WITH EACH RFP RESPONSE.

If, within the guarantee period, any defect or signs of deterioration are noted, which, in the opinion of the buyer, are due to faulty design and installation, workmanship, or materials, upon notification, the successful proposer, at their expense, shall repair or adjust the equipment or parts to correct the condition, or they shall replace the part or entire unit to the complete satisfaction of the buyer. These repairs, replacements or adjustments shall be made only at such time as will be designated by the buyer as least detrimental to the operation of the business. **Proposer must be capable of processing warranty claims.**

3.8 Interpretation

Should any proposer have any questions as to the intent or meaning of any part of this RFP, he should contact the buyer in time to receive a written reply before submitting his response.

3.9 Errors in Proposals

Proposers or their authorized representatives are expected to fully inform themselves as to the conditions, requirements, and specifications before submitting their response. Failure to do so will be at the proposer's own risk and cannot secure relief on the plea of error. Neither law nor regulations make allowances for errors by either omission or commission on the part of the proposer. In case of error in extensions or price in the bid, the unit price shall govern.

It shall be the responsibility of the proposer to make sure that his response arrives at the proper place and time as required in the RFP. The buyer takes no responsibility for a response mailed to the wrong place, or for a response received late due to error or delay caused by the Postal Service. The proposer should allow himself ample time and opportunity when hand carrying a response to the proper place, so that the response will be received on time.

3.10 Federal and State Laws

All items (equipment, products, accessories, and services) supplied by the proposer shall comply with all Federal and State standards, applicable and effective on the date of acceptance. All items must meet or exceed all existing Federal, State, and Local health, safety, lighting, emissions, and noise standards.

3.11 Tax Implications

The buyer shall pay no sales, use, consumer, and like taxes, when applicable. The proposer shall be responsible for securing at its sole expense any other necessary approvals, assessments, or required zoning changes. The buyer shall be responsible for personal property taxes and real estate taxes on the project. The proposer shall be responsible for all taxes measured by the proposer's income.

3.12 Service Manuals

The successful proposer shall supply the buyer with two copies (hard copy and electronic copy) of the operation and service manual at the time of project acceptance.

3.13 Service

Proposers shall list the name and address of the nearest authorized service location. Proposers must provide service phone number and describe the hours of duty.

3.14 Equipment Specifications

Proposed equipment must meet the specifications and guidelines as stated herein.

3.15 Qualified Proposers Only

It is the intention of the buyer to value service components after the sale as due and valuable consideration in this bid. As a provision of this requirement, all proposers shall meet the minimum requirements as follows:

1. The proposer must be the factory authorized distributor for the AMI system proposed and be capable of processing the warranty claims for the buyer.
2. The proposer must have an on-staff, factory trained AMI support specialist with the sole responsibility of providing AMI system support and sales.

3.16 Ongoing Service Requirements

Proposer must provide a detailed service plan for the ongoing AMI support. Service plan must detail options for providing service and technical support and meter inventory over the product usage period. Support services also need to be provided by in-house employees. Subcontractors will not be accepted.

3.17 The Evaluation of this Proposal Shall be Weighed as Follows:

Price	25%
Meets the System Qualifications	40%
Local Service and Support	25%
Quality of the RFP Response	10%

3.18 Rights of Parties

The buyer retains the right to award or not award the contract or any portion herein to the party most qualified in the buyer's sole discretion. Responding firms shall have the right to withdraw their response

in the event that selection is not made within 40 days or final contracts are not negotiated. In this event, the buyer will have the right to choose from other subcontractors or re-list the work as outlined.

3.19 Proven System

The proposed Fixed Base AMI technology manufacturer must have produced a fixed base system that has been in commercial use for a minimum of five years and must have a substantial number of completed water and/or electric fixed base systems currently deployed. Of the deployed systems, the manufacturer must have at least five (5) combined water and electric account utilizing its technology. To ensure the reliability of the system proposed, the manufacturer must have in service an acceptable number (100,000 or more) of AMI endpoint transmitters of the proposed equipment type.

3.20 Installation Aspects

The Buyer requires that the turnkey installation package includes:

1. Installation of new water and electric meters and corresponding water endpoints
2. Activation of new endpoints
3. Electronically transfer new meter data to the billing system (Utility Billing Software)
4. Provide or capture GPS data from meter location
5. Digital photograph of meter reading before and after installation

4 AMI System Overview

4.1 Communications Method

- A. To protect and guarantee frequency interference levels over the 20 year life span of the system, FCC Part24 or Part 90 approved primary use licensed spectrum is required.
- B. Preference shall be given to systems using higher transmit power for signal reliability. What is the normal endpoint transmit power? What effect does the transmit power have on the battery warranty?
- C. Describe the RF modulation used by the Endpoints (narrow band, spread spectrum, etc.). What are the advantages of this type of modulation? Is this modulation “off the shelf” or is it designed specifically for AMI applications? Can the transmissions be easily decoded by commercially available RF equipment?

4.2 Data Collection Network

- A. Proposer must provide an official RF Propagation Study from a licensed RF engineer or engineering firm that displays exact location and height of all data collection equipment and coverage patterns.
 - i. The system as designed must provide for a meter read over a 4 day window for at least 98.5% of all meters in the service area.
 - ii. The study must identify all required collection infrastructure required for system operation.
 - iii. The study must identify any and all areas that are not covered in the propagation study. The Proposer shall provide and install any additional data collection equipment (receivers, collectors) required after endpoint deployment to achieve the coverage depicted in the RF propagation study.
 - iv. What provisions does the Proposer provide to ensure that the Utility will not have to purchase additional collector infrastructure due to system underperformance?
- B. Preference shall be given to systems which require the least amount of collection infrastructure while still providing overlapping coverage for redundancy. Describe the ability of the system to provide overlapping coverage for a single meter.
- C. The system selected must have a 20 year operational life span. What warranties are offered on the Infrastructure? Is this warranty nationally published, or is the warranty being provided on a case-by-case basis?
- D. To avoid obsolescence and to allow for new technologies to be implemented, the infrastructure must utilize a configurable architecture that is capable of being updated and/or reconfigured remotely. How does your system allow for new technologies?
- E. The Utility wishes to maintain a Fixed Base Support and Extended Maintenance contract with the system Proposer.
 - i. Outline specifically what is covered by the proposed Fixed Base Support and Extended maintenance contract. Does the contract include extended maintenance on the data collection units and overall network?
 - ii. Does the contract include labor to repair or replace damaged or defective data collection units?

- iii. What is the response time of the proposer or proposer representative to repair damaged or defective data collection units?
- F. The utility wishes to minimize the stocking requirements of the system components.
 - i. Are collection devices (collectors, receivers) built specifically for the utility, or universal?
 - ii. Are the frequencies on these devices hard-coded or configurable per utility via software-defined radios?
- G. Describe the primary data collection units (receivers, collectors) backhaul communications system (Ethernet, fiber, etc.). What is required to maintaining the backhaul system?
- H. Primary data collection units (receivers, collectors) shall be capable of retaining at least 30 days of hourly reading intervals from all meters in their coverage area in the event that backhaul is lost or becomes unavailable for a period of time.
- I. All data collection hardware (receivers, collectors, etc.) shall have on-board battery backup in the event of primary power interruption. How long will data collection devices continue to operate on battery power if primary power is lost? Describe battery backup for each type of device proposed.
- J. What provisions are built into the system to prevent hourly data history loss in the event that a data collector fails and cannot be repaired for 3 to 4 days?

4.3 Endpoint Units (Antenna should have the capability of being remotely mounted)

- A. For non-pit applications
 - i. The endpoint electronics must be hermetically sealed in a high density polyethylene (HDPE) enclosure that is waterproof and provides operating temperature range of -22 F to 165 F (-30 C to 74C).
- B. For pit or vault applications
 - i. The endpoint shall be water submersible, capable of operating in 100% condensing humidity and provides operating temperature range of -22 F to 165 F (-30 C to 74C).
 - ii. The endpoint antenna shall be designed to be installed through the industry standard 1¾" inch hole in a pit lid (cast iron meter boxes with cast iron pit lid) with no degradation of transmission range. The antenna will be capable of mounting to various thicknesses of pit lids from ½" to 1 ¾" inch.
- C. Preference will be given to systems which can connect to meters without wire cutting or splicing. Describe connection method between endpoint and register. Is the battery sealed inside the unit or external?
- D. Endpoints shall provide a 20 year warranty while delivering hourly readings (24 readings per day). Describe any limitations in battery warranty which would result from delivering 24 readings per day.
 - i. Does the endpoint battery warranty include a replacement battery, or will a complete endpoint be furnished in the event the endpoint battery fails within the warranty period? If the warranty includes a replacement battery, describe the process for testing, diagnosing and replacing the endpoint battery.
 - ii. List any costs for connection (splicing) equipment required to replace the battery.

- iii. Is this warranty nationally published, or is the warranty being provided on a case-by-case basis?
- E. To avoid obsolescence, the endpoints must utilize a configurable architecture that allows new technologies to be implemented. How does your system allow for new technologies to be implemented using the current hardware? Can your endpoints be updated and/or reconfigured over the air.
- F. The endpoint must be capable of being received by either a handheld receiver, mobile receiver or fixed network receiver without special configuration or remanufacture.
- G. The endpoint must transmit the meter reading and a unique endpoint ID number.
- H. The endpoint must be capable of time synchronized reading to enable the water entering the system to be reconciled against the water that is consumed to aid in identifying system leaks.
- I. The endpoint must be capable of hourly reading the meter (24 readings per day) and transmitting the readings to the utility every 4 hours (6 transmissions per day - minimum).
 - i. How often are hourly readings transmitted by the endpoints?
 - ii. Is the system designed to have all meters delivering hourly readings at all times, or is the system limited to a certain number of meters operating in hourly reading mode?
 - iii. Is hourly reading mode standard or an option?
- J. Endpoints shall transmit prior reading intervals in each transmission for redundancy. What is the ability of the system to prevent data loss in the event transmissions are not received for several days, or the data collection units are not operational for a period of time? How long can a data collector be down before hourly reading intervals are no longer available from the endpoints?
- K. The utility must be able to communicate directly to the endpoint to obtain current information.
 - i. Customer service personnel require remote access to current meter information within 1 minute. Can the endpoints be polled for their current reading? How long does it take for the meter to respond?
 - ii. Describe how the 2-way network functions, including the time it takes for changes to occur on the endpoint after sending a 2-way command.
- L. Endpoints shall have a user-configurable leak detection alarm. Leak detection must be configurable with a leak flow threshold parameter and a leak flow intervals parameters (number of continuous intervals required to trigger a leak alert).
- M. Endpoints shall have a user-configurable reverse flow alarm. Reverse flow detection must be configurable with a Reverse flow threshold parameter and a reverse flow intervals parameters (number of continuous intervals required to trigger a reverse flow alert).
- N. Endpoints shall have a user-configurable broken pipe alarm to indicate the endpoint has detected an excessive flow rate.
- O. Endpoints shall have an alarm indicating the endpoint failed to successfully read the water register.
- P. Endpoints shall have an alarm that indicates the endpoint successfully read the water register but the register indicated an error condition, for example a stuck encoder wheel.

- Q. Endpoints shall have an alarm that indicates the endpoint has detected that the register has been changed without a proper installation.
- R. Endpoints shall have an alarm that indicates the battery is near the end of life.
- S. Endpoints must be available in both single port and dual port configuration. Both single and dual port endpoints must be capable of delivering hourly reading intervals. Describe any limitations on the 20 year battery warranty when operating in dual port configuration and while delivering hourly reading history.
- T. Endpoints shall transmit reading data at least six (6) times per day to ensure up-to-date reading data for all meters on the system without user intervention. Describe how much hourly reading history is included in each transmission?
- U. Endpoints shall transmit both Endpoint ID and Register ID to ensure that accounts are properly billed after register changes occur in the field. Endpoints which transmit only the Endpoint ID will not be accepted.
- V. Endpoints shall be capable of detecting and transmitting a “cut wire” condition between the register and endpoint. Endpoint shall not continue to transmit the last good reading after a “cut wire” condition exists. Describe how the system detects and reports “cut wire” conditions.
- W. Endpoints shall store and transmit their GIS Coordinates for system diagnostic purposes. Alternately, the system must allow for GIS Coordinates to be stored in the Head-End for diagnostic purposes. If GIS coordinates must be collected separately during installation, costs to collect, store and present GIS Coordinates via the Fixed Base software must be reflected in the system proposal.
- X. Endpoints shall be capable of transmitting 8 register wheels from the meters proposed.
- Y. Endpoints shall be capable of transmitting meter resolution as fine as 0.01 US Gallon for meters up to 1 inch, and as fine as 10 US Gallons for meters up to 8 inch.
- Z. To avoid obsolescence and to allow for new technologies to be implemented, the endpoint must be capable of being updated and/or reconfigured over the air.

4.4 System Head-End Control Computer and Software

- A. Describe the Control Computer hardware. Describe failover and disaster recovery provisions built into the Control Computer architecture.
- B. What is the scalability of the Head-End software and Control computer? Does the proposer have any references of similar sized (or larger) utilities successfully using the system?
- C. The Head-End Control Computer shall store at least 13 months of hourly reading history for all meters in the system. Describe the capability to analyze the stored hourly reading data. Is the data stored in an ODBC compliant database (for example, Microsoft SQL or similar)? Can the utility access the data within the database for other applications beyond what is provided by the Proposer?
- D. The system shall have the ability to export data to 3rd party software applications via CMEP, XML, direct database interface, or similar. The system proposer shall place no restrictions on exporting data to 3rd party software applications. Describe any installations where interface to a 3rd party software platform has been achieved.

- E. The Head-End Control Computer must provide data security and reliability. Describe the Control Computer architecture and underlying database, and any provisions for ensuring that data is not lost once received by the Control Computer.
- F. The data management software shall have user-defined queries to analyze consumption patterns and system alerts. Pre-defined analytics are acceptable as long as users can also manually adjust query parameters based on preferred values.
- G. The system diagnostic software shall include a mapping interface to graphically report Endpoint and collection system equipment location and performance. The mapping interface shall be capable of reporting the following parameters:
 - i. Signal-to-Noise Ratio average for each endpoint
 - ii. Hourly Read Interval Success percentage over 30 days for each endpoint
 - iii. Raw transmit success percentage over 30 days for each endpoint
 - iv. Transmission latency of each endpoint
 - v. Alarm conditions
- H. The system diagnostic software shall be capable of generating reports, tables and text files which contain the following criteria at a minimum:
 - i. Endpoint Installation Date
 - ii. Endpoint Signal-To-Noise ratio average over 30 days
 - iii. Endpoint Raw transmit success over 30 days (percentage of transmissions received)
 - iv. Endpoint Read Interval Success (percentage of hourly readings successfully received) average over 30 days
 - v. Alarm condition

4.5 Meter Data Management Software

- A. Basic capabilities
 - i. The AMI Software shall comply with prevailing industry standards and should run on a Windows-compatible computer.
 - ii. The AMI Software must exist as a browser-based application that runs on a server.
 - iii. The AMI Software must support single and dual register meter information.
 - iv. What is the scalability of the AMI software and Control computer? Does the Proposer have any references of similar sized (or larger) utilities successfully using the system?
- B. Import / Export capabilities
 - i. The AMI Software must be able to export data to Microsoft Excel and Adobe PDF formats.
 - ii. The AMI Software must interface to the utility's CIS/billing software. The meter reading data communicated to the CIS system shall be provided in an ASCII flat file format.
 - iii. The AMI Software must support GPS type data to identify locations of account geographically.

C. Meter Data

- i. The AMI Software shall provide the ability to process hourly time-stamped meter reading taken from all water meters and verify the percentage of reads received for particular areas and/or selected meter routes. This data must then be exposed to various configurable parameters set, such as high/low parameters to assure the accuracy of the data.
- ii. The AMI Software must be able to search for records matching specified information.
- iii. The AMI Software must provide the following data to the utility on a daily basis for monthly billing applications:
 - a. Hourly time-stamped meter reading taken from all water meters for monthly billing purposes
 - b. Hourly usage/consumption readings for resolution of customer billing disputes and improved customer service
 - c. Alarm data received (Leak, reverse flow, broken pipe, non-read, non-numeric read) for identification of customer site problems.
- iv. The AMI Software must be able to support demand read capability to the meter.
- v. The AMI Software must provide the capability to store all meter data information obtained from the base station's for 13 months.

D. Meter Data Analytics (MDA)

- i. The AMI Software must provide configurable validation routines with parameters defined at the meter, group or population level. Parameters must accommodate seasonality (different settings for different dates).
- ii. The AMI Software must allow the utility to elect whether failure of a validation test is automatically corrected, noted and accepted, or rejected for manual review.
- iii. Validation routines should be highly configurable without the need to write code or create scripts.
- iv. The AMI Software must perform the following validation on all data sets:
 - a. High low analysis - The AMI Software must check the reported value for the reading is within a percentage threshold of the historic average for the meter taking into account seasonal variance.
 - b. Gap identification - The AMI Software must identify gaps in the data set where no data has been received for a configurable number of days and perform the following estimations on them:
 - i. Historic average extrapolation estimations
 - ii. Linear interpolation extrapolation estimations
 - c. Site-specific validation - The AMI Software must support site-specific validations to be added to the system at a later date
- v. The AMI Software must perform the following analysis on all data sets:
 - a. Vacant consumption analysis - The AMI Software must lists meters that are currently vacant but have reported consumption since the cut date.
 - b. Restricted use analysis - The AMI Software must identify high consumption during restricted times.

- vi. The AMI Software must identify gaps in the data set where no data has been received for a configurable number of days and perform the following estimations on them.
 - a. Historic average extrapolation
 - b. Linear interpolation extrapolation
 - c. Custom
- vii. The AMI Software must allow select meters to be combined into a virtual meter to enable district water usage management. Virtual meters may have any number of contributing meters with the ability to apply multipliers to their consumption.
- viii. The AMI Software must allow the user to create groups of meters based on attributes or on an ad hoc basis for reporting purposes.

E. Meter Data Reporting (MDR)

- i. The AMI Software must provide standard reporting to include the following information:
 - a. List with all Meters & associated readings
 - b. List with all Billing Meters & associated readings
 - c. Meters Failing Validation Report
 - d. Zero Consumption Report
 - e. Continuous Consumption Report
 - f. Vacant Consumption Report, to support soft shut-off and vacant building issues.
 - g. Meters with Estimated Intervals Report
 - h. High Usage Report
 - i. Reverse Flow Event Report
 - j. Leak Events Report
 - k. Tamper Report
 - l. Zero Consumption Report
 - m. Outage Reports
- ii. The AMI Software must have the ability to alert appropriate personnel of certain triggered alarms.
- iii. Users must be able to define and add new items or assets, and add reports for those items or assets.
- iv. Users must be able to define and add new attributes for items and assets, and add reports for those attributes.
- v. The AMI Software must provide a geo-spatial/map view that includes:
 - a. Display of meters, transformers and AMI communications assets
 - b. Configurable layers, filters and color coding to differentiate meters, e.g. by communication status
 - c. Incorporate utility GIS layers to view on same map
 - d. View assets with events on map

A. Customer Web Portal

- i. The software shall be accessible to customers using PC web browsers (Internet Explorer or Firefox) or mobile web browsers from major manufacturers.
- ii. The software shall allow the customer to initialize an account using address, account number and amount of the last payment received. Initializing a customer account shall require no involvement of City staff, everything should be done through e-mail.

- iii. The software shall allow the customer to set up an e-mail user name and a password of a specific length.
 - iv. The software shall allow the customer to retrieve or re-set their forgotten password via the previously established email.
- B. Hosting
 - i. The proposer should have an options to host the AMI software on server hardware at a remote secure data center.
 - ii. The proposer will provide upgrades the AMI software to Latest Releases, Including all security patches and updates.
 - iii. The proposer will maintain a web portal access to the AMI software.
 - iv. The proposer will submit a daily file containing consumption reads and all available alarms collected by the network, including exception reports such as zero Consumption Reads, non-responding meters (including traceability to the meter location when the utility provides the meter location codes)
 - v. The proposer will provide 24x7x365 server and network monitoring using diagnostic software tools.
 - vi. The proposer will provide secure, off-site vaulting of encrypted backup tapes containing one year of history for auditing purposes.
 - vii. The proposer will provide a disaster recovery solution via data replication to a fault tolerant data center with 1 business day or less recovery time.

4.6 5/8" – 1" Residential Meter Specifications

A. Type

Solid state, battery operated electromagnetic flow measurement system (plastic or brass) and/or positive displacement meters with a hermetically sealed, glass covered, electronic register with a programmable 9-digit display. This meter assembly is intended where measurement of both domestic and fire service water usage is desired (meter lay length must equal existing lengths).

B. Conformance To Standards

Must meet or exceeds to American Water Works Standard C-700 and C-710 as most recently revised with respect to accuracy and pressure loss requirements, or other appropriate American Water Works Standard. Must be compliant with NSF/ANSI Standard 61 Annex F and G.

C. Register

The register must be an electronic device encapsulated in glass with 9 programmable digits utilizing a liquid crystal display (LCD). It will have indicators for flow direction, empty pipe, battery life and unit of measurement. The register must be hermetically sealed with a heat tempered glass cover and be tamper resistant. The register shall not be removable from the measuring sensor. The register shall utilize a magnetic coupling technology to connect to a touch read, radio read or fixed base meter reading system in either an inside or pit set installation.

D. Measuring Element

The measuring element shall be made of a noncorrosive, lead-free glass fiber reinforced, composite alloy material. A battery powered magnetic flow sensor utilizing silver/silver chloride electrodes will be utilized to measure the velocity of the water which is linearly proportional to the volume. The measuring element will have no moving parts and will be specific for each size.

E. External Housing

The register and measuring element will be an integrated unit housed within a thermal plastic or brass external casing. This integrated unit will not be removable from the external housing. The systems shall have the size and direction of water flow through the system imprinted on the external housing.

F. Pressure Capability

System shall operate up to a working pressure of 200 pounds per square inch (psi), without leakage or damage to any parts. The accuracy shall not be affected by variation of pressure up to 200 psi.

G. Performance Warranties

In evaluating bid submittals, warranty coverage will be considered. All Proposers are required to submit their most current nationally published warranty statements for water meter maincases, registers and measuring chambers.

H. Operating Characteristics

METER SIZE	LOW FLOW (95% Min)	OPERATING RANGE (98.5%-101.5%)	PRESSURE LOSS (Not to Exceed)
5/8" x 3/4"	0.03 GPM	0.11 to 35 GPM	2psi @ 15 GPM
3/4" S	0.03 GPM	0.11 to 35 GPM	2psi @ 15 GPM
3/4"	0.03 GPM	0.11 to 35 GPM	2psi @ 15 GPM
1"	0.11 GPM	0.4 to 55 GPM	2psi @ 25 GPM

I. Certifications And Marking

All sizes of meter packages shall be UL (Underwriters Laboratories) Listed approved as being accepted for use on fire service lines and domestic water use. For such applications, the meter shall be identified indicating such acceptance.

4.7 1 1/2" – 2" Residential Meter Specifications

A. Scope

These specifications set forth the minimum acceptable design criteria and performance requirements for Turbine type cold water meters used in residential settings incl positive displacement meters, including the following potential service applications and general considerations:

- Intended where a moderately wide flow range is anticipated
- Measurement of water usage for typical billing applications
- Measurement intended for typical commercial, residential and industrial applications
- Measurement of constant low to extended high flow usage

B. Conformance To Standards

The meter package shall meet or exceed all requirements of AWWA Standard C701 for Class II turbine meter assemblies and exceeds AWWA C700 Residential Standard. Each meter assembly shall be performance tested to ensure compliance. The meter package shall meet or exceed all requirements of NSF/ANSI Standard 61, Annex F and G.

C. Maincases

The meter maincase shall be of epoxy coated ductile iron composition. The epoxy coating shall be provided as standard fusion-bonded and adhere to NSF for nonleaded regulation compliance.

D. Performance

The meter assembly shall have performance capability of continuous operation up to the rated maximum flows as listed below without affecting long-term accuracy or causing any undue component wear. Maximum headloss through the meter / strainer assembly shall not exceed those listed in the following table per meter size.

E. Operating Characteristics

METER SIZE	LOW FLOW (95% Min.)	OPERATING RANGE (98.5 - 101.5%)	PRESSURE LOSS (Not to Exceed)
1 1/2"	.75 GPM	2 to 150 GPM	6.7 PSI @ 150 GPM
2"	1.0 GPM	2.5 to 200 GPM	7.0 PSI @ 200 GPM
2" without strainer	1.0 GPM	2.5 to 200 GPM	4.4 PSI @ 200 GPM

F. Measuring Chamber

The measuring chamber shall consist of a measuring element, removable housing, and all-electronic register. The measuring element shall be mounted on a horizontal, stationary stainless steel shaft with sleeve bearings and be essentially weightless in water. The measuring element comes integrated with the advanced Floating Ball Technology design. The measuring chamber shall be capable of operating within the above listed accuracy limits without calibration when transferred from one maincase to another of the same size. The measuring shall be so configured to capture all flows as specified above.

G. Direct Magnetic Drive System

The direct magnetic drive shall occur between the motion of the measuring element blade position and the electronic register. The OMNI direct drive system with Floating Ball Technology is designed to extend service life, enhance low flow sensitivity and provide extended flow capacity and overall accuracy of the meter assembly. Any and all additional intermediate, magnetic or mechanical, drive couplings are not acceptable.

H. Electronic Register

The meter's register is all-electronic and does not contain any mechanical gearing to display flow and accurate totalization. The electronic register includes the following partial list of features:

- AMR resolution units fully programmable
- Large, easy-to-read LCD display
- 10-year battery life guarantee

I. Maximum Operating Pressure

The meter assembly shall operate properly without leakage, damage, or malfunction up to a maximum working pressure of 200 pounds per square inch (psig).

J. Strainers

The meter strainer shall be integral and cast as part of the meter's maincase. The strainer's screen shall have a minimum net open area of at least two (2) times the pipe opening and be a V-shaped configuration for the purpose of maintaining a full unobstructed flow pattern. The strainer body shall be a coated ductile iron fusion-bonded epoxy identical to that of the meter's maincase. All fasteners shall be stainless steel capable of maintaining the following static pressure ratings and physical dimensions:

METER SIZE	MAXIMUM OPERATING PRESSURE	CENTERLINE TO STRAINER BASE	OVERALL LENGTH (Not to Exceed)
1-1/2"	200 PSIG	2-5/16"	13"
2"	200 PSIG	2-5/16"	17"
2" without strainer	200 PSIG	2-5/16"	10"

K. Straightening Vanes

A straightening vane assembly is mandatory and shall be positioned directly upstream of the measuring element. The straightening vane assembly shall be an integral component of the measuring chamber.

L. Connections

Flanges for the 1-1/2" and 2" size meter assemblies shall be of the 2-bolt oval flange configuration.

M. Certifications And Markings

All sizes of meter packages shall display the sizes, model, manufacturer name, and direction of flow. Such display shall be cast on the side of the meter maincase.

N. Guarantee And Maintenance Program

Meters shall be guaranteed against defects in material and workmanship for a period of one (1) year from date of shipment. In addition, the meter supplier shall submit nationally published literature clearly outlining its factory maintenance program and current price schedule covering complete measuring chamber exchange.

O. Intent

Subject meter specifications are designed to establish minimum guidelines for selecting an extremely critical metering device. Areas of concern to be evaluated in the selection process include, but are not limited to, ease of installation, operational features and benefits, readability and future system maintenance expense. A design, which reflects longevity of proper operation in all elements and high degree of sustained accuracy within the entire range of the meter assembly, is to be considered mandatory. Enhanced accuracy levels and performance are desired and will not be compromised.

4.8 1-1/2", 2", 3", 4", 6", 8" and 10" Turbine Meter Specifications

A. Scope

These specifications set forth the minimum acceptable design criteria and performance requirements for Turbine type cold water meters including the following potential service applications and general considerations:

- Intended where a moderately wide flow range is anticipated
- Measurement of water usage for typical billing applications
- Measurement intended for typical commercial and industrial applications
- Measurement of low flow usage above OMNI C2 Meter threshold levels
- Measurement of constant medium to extended high flow usage

B. Conformance To Standards

The meter package shall meet or exceed all requirements of ANSI/AWWA Standard C701 for Class II turbine meter assemblies. Each meter assembly shall be performance tested to ensure compliance. The meter package shall meet or exceed all requirements of NSF/ANSI Standard 61, Annex F and G.

C. Maincases

The meter maincase shall be of epoxy coated ductile iron composition. The epoxy coating shall be provided as standard fusion-bonded and adhere to NSF for nonleaded regulation compliance.

D. Performance

The meter assembly shall have performance capability of continuous operation up to the rated maximum flows as listed below without affecting long-term accuracy or causing any undue component wear. The meter assembly shall also provide a 25% flow capacity in excess of the maximum flows listed for intermittent flow demands. Maximum headloss through the meter/strainer assembly shall not exceed those listed in the following table per meter size.

E. Operating Characteristics

METER SIZE	LOW FLOW (95% Min.)	OPERATING RANGE (98.5 - 101.5%)	INTERMITTENT FLOWS (98.5 - 101.5%)	PRESSURE LOSS (Not to Exceed)
1 1/2"	.75 GPM	1.25 to 160 GPM	200 GPM	6.9 PSI @ 160 GPM
2"	1.0 GPM	1.5 to 200 GPM	250 GPM	7.0 PSI @ 200 GPM
3"	1.5 GPM	2.5 to 500 GPM	650 GPM	5.1 PSI @ 500 GPM
4"	2.0 GPM	3.0 to 1000 GPM	1250 GPM	8.7 PSI @ 1000 GPM
6"	2.5 GPM	4.0 to 2000 GPM	2500 GPM	8.2 PSI @ 2000 GPM
8"	4 GPM	5 to 3500 GPM	4700 GPM	5.1 PSI @ 3500 GPM
10"	5 GPM	6 to 5500 GPM	7000 GPM	7.2 PSI @ 5500 GPM

F. Measuring Chamber

The measuring chamber shall consist of a measuring element, removable housing, and all-electronic register. The measuring element shall be mounted on a horizontal, stationary stainless steel shaft with sleeve bearings and be essentially weightless in water. The measuring element comes integrated with the advanced Floating Ball Technology design. The measuring chamber shall be capable of operating within the above listed accuracy limits without calibration when transferred from one maincase to another of the same size. The measuring shall be so configured to capture all flows as specified above.

G. Direct Magnetic Drive System

The direct magnetic drive shall occur between the motion of the measuring element blade position and the electronic register. The OMNI direct drive system with Floating Ball Technology is designed to extend service life, enhance low flow sensitivity and provide extended flow capacity and overall accuracy of the meter assembly. Any and all additional intermediate, magnetic or mechanical, drive couplings are not acceptable.

H. Electronic Register

The meter's register is all-electronic and does not contain any mechanical gearing to display flow and accurate totalization. The electronic register includes the following partial list of features:

- AMR resolution units fully programmable
- Pulse output frequency fully programmable
- Integral data logging capability
- Integral resettable accuracy testing feature
- Large, easy-to-read LCD display
- 10-year battery life guarantee

I. Maximum Operating Pressure

The meter assembly shall operate properly without leakage, damage, or malfunction up to a maximum working pressure of 200 pounds per square inch (psig).

J. Strainers

The meter strainer shall be integral and cast as part of the meter's maincase. The strainer's screen shall have a minimum net open area of at least two (2) times the pipe opening and be a V-shaped configuration for the purpose of maintaining a full unobstructed flow pattern. The strainer body shall be a coated ductile iron fusion-bonded epoxy identical to that of the meter's maincase. All fasteners shall be stainless steel capable of maintaining the following static pressure ratings and physical dimensions:

METER SIZE	MAXIMUM OPERATING PRESSURE	CENTERLINE TO STRAINER BASE	OVERALL LENGTH (Not to Exceed)
1 ½"	200 PSIG	2-5/16"	13"
2"	200 PSIG	2-5/16"	17"
3"	200 PSIG	4-1/8"	19"
4"	200 PSIG	4-3/4"	23"
6"	200 PSIG	5-3/4"	27"
8"	200 PSIG	6-3/4"	30-1/8"
10"	200 PSIG	8-1/2"	41-1/8"

K. Straightening Vanes

A straightening vane assembly is mandatory and shall be positioned directly upstream of the measuring element. The straightening vane assembly shall be an integral component of the measuring chamber.

L. Connections

Flanges for the 1-1/2" and 2" size meter assemblies shall be of the 2-bolt oval flange configuration. The 3", 4", 6", 8" and 10" size meter assemblies shall have flanges of the Class 125 round type, flat faced and shall conform to ANSI B16.1 for specified diameter, drilling and thickness.

M. Certifications And Markings

All sizes of meter packages shall display the sizes, model, manufacturer name, and direction of flow. Such display shall be cast on the side of the meter maincase.

N. Guarantee And Maintenance Program

Meters shall be guaranteed against defects in material and workmanship for a period of one (1) year from date of shipment. In addition, the meter supplier shall submit nationally published literature clearly outlining its factory maintenance program and current price schedule covering complete measuring chamber exchange.

O. Intent

Subject meter specifications are designed to establish minimum guidelines for selecting an extremely critical metering device. Areas of concern to be evaluated in the selection process include, but are not limited to, ease of installation, operational features and benefits, readability and future system maintenance expense. A design, which reflects longevity of proper operation in all elements and high degree of sustained accuracy within the entire range of the meter assembly, is to be considered mandatory. Enhanced accuracy levels and performance are desired and will not be compromised.

4.9 1-1/2", 2", 3", 4", 6", 8" and 10" Compound Meter Specifications

A. Scope

These specifications set forth the minimum acceptable design criteria and performance requirements for Compound type cold water meters including the following potential service applications and general considerations:

- Intended where a wide flow range is anticipated
- Measurement of water usage for critical billing applications
- Measurement intended for typical commercial and industrial applications requiring lower flow sensitivities
- Measurement of low flow usage below OMNI T2 Meter threshold levels
- Measurement of constant low to medium flows up to high flow usage

B. Conformance To Standards

The meter package shall meet or exceed all requirements of ANSI/AWWA Standard C701 and C702 for Class II compound and turbine meter assemblies. Each meter assembly shall be performance tested to ensure compliance. The meter package shall meet or exceed all requirements of NSF/ANSI Standard 61, Annex F and G.

C. Maincases

The meter maincase shall be of epoxy coated ductile iron composition. The epoxy coating shall be provided as standard fusion-bonded and adhere to NSF for nonleaded regulation compliance.

D. Performance

The meter assembly shall have performance capability of continuous operation up to the rated maximum flows as listed below without affecting long-term accuracy or causing any undue component wear. The meter assembly shall also provide a 25% flow capacity in excess of the maximum flows listed for intermittent flow demands. Maximum headloss through the meter / strainer assembly shall not exceed those listed in the following table per meter size.

E. Operating Characteristics

METER SIZE	LOW FLOW (95% Min.)	OPERATING RANGE (98.5 - 101.5%)	INTERMITTENT FLOWS (98.5 - 101.5%)	PRESSURE LOSS (Not to Exceed)
1 1/2"	.25 GPM	.5 to 160 GPM	200 GPM	6.9 PSI @ 160 GPM
2"	.25 GPM	.5 to 160 GPM	200 GPM	4.3 PSI @ 160 GPM
3"	.5 GPM	1.0 to 400 GPM	500 GPM	3.2 PSI @ 400 GPM
4"	.75 GPM	1.5 to 800 GPM	1000 GPM	6.4 PSI @ 800 GPM
6"	1.5 GPM	3.0 to 1600 GPM	2000 GPM	5.5 PSI @ 1600 GPM
8"	2.5 GPM	4 to 2700 GPM	3400 GPM	4 PSI @ 2700 GPM
10"	3.5 GPM	5 to 4000 GPM	5000 GPM	4.5 PSI @ 4000 GPM

F. Measuring Chamber

The measuring chamber shall consist of a measuring element, removable housing, and all-electronic register. The measuring element shall be mounted on a horizontal, stationary stainless steel shaft with sleeve bearings and be essentially weightless in water. The measuring element comes integrated with the advanced Floating Ball Technology design. The measuring chamber shall be capable of operating within the above listed accuracy limits without calibration when transferred from one maincase to another of the same size. The measuring shall be so configured to capture all flows as specified above, without the requirement of an automatic valve.

G. Direct Magnetic Drive System

The direct magnetic drive shall occur between the motion of the measuring element blade position and the electronic register. The OMNI direct drive system with Floating Ball Technology is designed to extend service life, enhance low flow sensitivity and provide extended flow capacity and overall accuracy of the meter assembly. Any and all additional intermediate, magnetic or mechanical, drive couplings are not acceptable.

H. Electronic Register

The meter's register is all-electronic and does not contain any mechanical gearing to display flow and accurate totalization. The electronic register includes the following partial list of features:

- AMR resolution units fully programmable
- Pulse output frequency fully programmable
- Integral data logging capability
- Integral resettable accuracy testing feature
- Large, easy-to-read LCD display
- 10-year battery life guarantee

I. Maximum Operating Pressure

The meter assembly shall operate properly without leakage, damage, or malfunction up to a maximum working pressure of 200 pounds per square inch (psig).

J. Strainers

The meter strainer shall be integral and cast as part of the meter's maincase. The strainer's screen shall have a minimum net open area of at least two (2) times the pipe opening and be a V-shaped configuration for the purpose of maintaining a full unobstructed flow pattern. The strainer body shall be a coated ductile iron fusion-bonded epoxy identical to that of the meter's maincase. All fasteners shall be stainless steel capable of maintaining the following static pressure ratings and physical dimensions:

METER SIZE	MAXIMUM OPERATING PRESSURE	CENTERLINE TO STRAINER BASE	OVERALL LENGTH (Not to Exceed)
1 ½"	200 PSIG	2-5/16"	13"
2"	200 PSIG	2-5/16"	15 1/4"
3"	200 PSIG	4-1/8"	17"
4"	200 PSIG	4-3/4"	20"
6"	200 PSIG	5-3/4"	24"
8"	200 PSIG	6-3/4"	30 1/8"
10"	200 PSIG	8-1/2"	41 1/8"

K. Straightening Vanes

A straightening vane assembly is mandatory and shall be positioned directly upstream of the measuring element. The straightening vane assembly shall be an integral component of the measuring chamber.

L. Connections

Flanges for the 1-1/2" and 2" size meter assemblies shall be of the 2-bolt oval flange configuration. The 3", 4", 6", 8" and 10" size meter assemblies shall have flanges of the Class 125 round type, flat faced and shall conform to ANSI B16.1 for specified diameter, drilling and thickness.

M. Certifications And Markings

All sizes of meter packages shall display the sizes, model, manufacturer name, and direction of flow. Such display shall be cast on the side of the meter maincase.

N. Guarantee And Maintenance Program

Meters shall be guaranteed against defects in material and workmanship for a period of one (1) year from date of shipment. In addition, the meter supplier shall submit nationally published literature clearly outlining its factory maintenance program and current price schedule covering complete measuring chamber exchange.

O. Intent

Subject meter specifications are designed to establish minimum guidelines for selecting an extremely critical metering device. Areas of concern to be evaluated in the selection process include, but are not limited to, ease of installation, operational features and benefits, readability and future system maintenance expense. A design, which reflects longevity of proper operation in all elements and high degree of sustained accuracy within the entire range of the meter assembly, is to be considered mandatory. Enhanced accuracy levels and performance are desired and will not be compromised.

4.10 4", 6", 8" and 10" (UL Listed and FM Approved) Fire Service Meter Specifications

A. Scope

These specifications set forth the minimum acceptable design criteria and performance requirements for cold water meters - Fire Service type consisting of a Class II turbine type meter, and a ductile iron strainer assembly. This meter assembly is intended where an extremely wide flow range is required and where measurement of both domestic and fire service water usage is desired.

B. Conformance To Standards

The meter package shall meet or exceed all requirements of AWWA Standard C703 for Class II. The measuring shall be so configured to capture all flows as specified, without the requirement of an automatic valve. Each meter assembly shall be performance tested to ensure compliance. Each meter package shall meet or exceed all requirements of NSF/ANSI Standard 61, Annex F and G.

C. Maincases

The meter maincase shall be of an epoxy coated iron composition. The epoxy coating shall be provided as standard fusion-bonded and adhere to NSF for non-lead regulation compliance.

D. Performance

The meter assembly shall have performance capability of continuous operation up to the rated maximum flows as listed below without affecting long-term accuracy or causing any undue component wear. The meter assembly shall also provide a 25% flow capacity in excess of the maximum flows listed for intermittent flow demands. Maximum headloss through the meter / strainer assembly shall not exceed those listed in the following table per meter size.

E. Operating Characteristics

METER SIZE	LOW FLOW (95% Min.)	OPERATING RANGE (98.5 - 101.5%)	INTERMITTENT FLOWS (98.5 - 101.5%)	PRESSURE LOSS (Not to Exceed)
4"	.75 GPM	1.5 to 1000 GPM	1250 GPM	6.4 PSI @ 1000 GPM
6"	1.5 GPM	3.0 to 2000 GPM	2500 GPM	6.7 PSI @ 2000 GPM
8"	2.5 GPM	4 to 3500 GPM	4700 GPM	5 PSI @ 3500 GPM
10"	3.5 GPM	5 to 5500 GPM	7000 GPM	7 PSI @ 5500 GPM

F. Measuring Chamber

The measuring chamber shall consist of a measuring element, removable housing, and all-electronic register. The measuring element shall be mounted on a horizontal, stationary titanium shaft with sleeve bearings and be essentially weightless in water. The measuring element comes integrated with the advanced Floating Ball Technology design. The measuring chamber shall be capable of operating within the above listed accuracy limits without calibration when transferred from one maincase to another of the same size. The measuring shall be so configured to capture all flows as specified above, without the requirement of an automatic valve.

G. Direct Magnetic Drive System

The direct magnetic drive shall occur between the motion of the measuring element blade position and the electronic register. The OMNI direct drive system with Floating Ball Technology is designed to extend service life, enhance low flow sensitivity and provide extended flow capacity and overall accuracy of the meter assembly. Additional intermediate, magnetic or mechanical, drive couplings are not acceptable.

H. Electronic Register

The meter's register is all-electronic and does not contain any mechanical gearing to display flow and accurate totalization. The electronic register includes the following partial list of features:

- AMR resolution units fully programmable
- Pulse output frequency fully programmable
- Integral data logging capability
- Integral resettable accuracy testing feature
- Large, easy-to-read LCD display
- 10-year battery life guarantee

I. Maximum Operating Pressure

The meter assembly shall operate properly without leakage, damage, or malfunction up to a maximum working pressure of 175 pounds per square inch (psig).

J. Strainers

Each meter assembly shall have a separate UL (Underwriters Laboratories) Listed and FM (Factory Mutual) approved external fire service strainer as a part of the meter package. The strainer's screen shall have a minimum net open area of at least four (4) times the pipe opening and be a V-shaped stainless steel screen for the purpose of obtaining a full unobstructed flow pattern. The strainer body shall be coated iron with stainless steel fasteners capable of maintaining the following static pressure ratings and physical dimensions:

METER SIZE	MAXIMUM OPERATING PRESSURE	CENTERLINE TO STRAINER BASE	COMPACT OVERALL LENGTH (Not to Exceed)	STANDARD OVERALL LENGTH (Not to Exceed)
4"	175 PSIG	4 3/4"	33"	51 7/8"
6"	175 PSIG	5 3/4"	45"	67 5/8"
8"	175 PSIG	6 3/4"	53"	77"
10"	175 PSIG	8 1/2"	68"	90"

K. Straightening Vanes

A straightening vane assembly is mandatory and shall be positioned directly upstream of the measuring element. The straightening vane assembly shall be an integral component of the measuring chamber.

L. Connections

The meter assemblies shall have flanges of the Class 125 round type, flat faced and shall conform to ANSI B16.1 for specified diameter, drilling and thickness.

M. Certifications And Markings

All sizes of meter packages shall be UL (Underwriters Laboratories) Listed and FM (Factory Mutual) approved as being accepted for use on fire service lines and domestic water use. For such applications, the meter shall have a UL/FM listed and approved strainer immediately upstream of the inlet flange. The meter shall have an identification tag affixed indicating such acceptance and the strainer shall also bear such acceptance symbols and markings on the casting.

N. Guarantee And Maintenance Program

Meters shall be guaranteed against defects in material and workmanship for a period of one (1) year from date of shipment. In addition, the meter supplier shall submit nationally published literature clearly outlining its factory maintenance program and current price schedule covering complete measuring chamber exchange.

O. Intent

Subject meter specifications are designed to establish minimum guidelines for selecting an extremely critical metering device. Areas of concern to be evaluated in the selection process include, but are not limited to, ease of installation, operational features and benefits, readability and future system maintenance expense. A design, which reflects longevity of proper operation in all elements and high degree of sustained accuracy within the entire range of the meter assembly, is to be considered mandatory. Enhanced accuracy levels and performance are desired and should not be compromised.

4.11 Electric Meter Specifications

A. Residential Electric Meters

i. AMI Functionality

The Utility will use new, under-cover, solid-state meters for residential applications. The AMI Proposer should clearly list which meter brands are supported and which of the following applications are met. Please provide a brief description how the following is achieved.

- a. Meters must support all functionality with two-way communication.
- b. Meters must support KWh consumption and daily kWh and kW peak demand readings.
- c. Meters should support load profile storage for 45 days worth of 15-minute profiles. Meter must be able to support remote reconfiguration to 15, 30 and 60 minute intervals.
- d. 2MB Internal Memory of Single Phase Meter
- e. Meters must have a local display of consumption.
- f. Meters must stay in time sync with each other.
- g. Meters should automatically detect availability and value of voltage at the meter to within +/- 1%.
- h. Remotely and safely disconnect, load-limit, or reconnect 200-Amp (or other ratings if available from AMI Proposer) service at select locations anywhere in The Utility's service territory. The disconnect function must include the ability to remotely arm the meter for reconnection with a local switch, button or infrared element required to finalize reconnection. It is preferred that The Utility has the ability to remotely configure these meters to allow this switch to be bypassed per the needs of the Utility's customers.
- i. Meters must provide a count of momentary sags and swells. The Proposer should provide specifications of event capture including time stamp, duration, and magnitude, and programmability, number of events and availability of history.
- j. Proposers must provide details of meter's functions and specifications for tamper detection.
- k. Proposers must describe process required to modify the data that is stored and/or retrieved from meters. For example, if The Utility elects to convert a meter from a mode where all energy consumption (forward and reverse) is measured as "power delivered" to a mode where delivered and received quantities are each displayed and/or recorded, what steps are required to activate this change? Can it be done remotely?
- l. Meters (and AMI system) must support outage detection and restoration. The Proposer should provide details and specifications determining what events are considered as outages, how events are managed and what history of data is available.
- m. Meters and AMI systems that can detect phase of service are preferred.
- n. Meters (and AMI system) must support net-metering functionality for select locations. Meters must be able to retain/transmit and locally display separate registers for received and delivered kWh. Functionality must be provided with revenue accurate measurement.
- o. Proposers offering meters and system functionality capable of prepaid metering are preferred. Please describe your plans for this functionality including an implementation time schedule.
- p. Meters must comply with specifications defined in the current version of ANSI C12. This includes ANSI C12.1 (Code for Electricity Metering); ANSI, C12.10 (Physical Aspects of Watthour Meters); and ANSI C12.20 (0.2 and 0.5 Accuracy Class

Metering), ANSI C12.18-2002 (Protocol Specification for ANSI Type 2 Optical Port), C12.19-1997 (Utility Industry End Device Data Tables). Meter shall be sealed and tested ANSI Standards.

- q. Proposer should list supplier and product names of all meters that they interface and recommend.
- r. The Proposer should provide a list of meters that are currently operable or will be operable within 6 months of the date of your bid submission.
- s. Proposer should provide meter accuracy curves and specifications for solid-state meters that they interface.
- t. Forms 1S, 2S, 2S (320A), 3S, 4S, 12S and, 25S meters must be available.
- u. AMI Communication module must be “under cover” of AMI Meter.
- v. Proposer must clearly state which functions (e.g., PQ, voltage, etc.) are supported by each of the meters offered.

B. Commercial and Industrial (C/I) Electric Meters

i. AMI Functionality

The Utility will use under-cover; solid-state meters for C/I applications. For polyphase meters, this means there will be a mix of upgrades to recently purchased meters and the purchase of new, complete AMI meters. The AMI Proposer should clearly list which meter brands are supported and which of the following specification clauses are met. Meters must support all functionality with two-way communication.

- a. AMI system and polyphase meters must be capable of supporting KWh, kVARh and KVAh consumption and daily peak kW, kVAR and KVA demand and PF readings.
- b. Meters should support load profile storage for 5, 15, 30 and 60 minute intervals. Meters should have a storage capacity of 30 days for 4-channel, 15-minute data.
- c. Meters must have a local display of consumption and demand. This should include choices for instantaneous demand, billing cycle peak demand or both.
- d. Meters should have the capability of output relays to support switching or alarming to customer.
- e. Meters must provide a count of momentary sags and swells by phase. Proposer must provide specifications of event capture including time/date, duration, magnitude, and programmability, number of events and availability of history.
- f. Proposers must support retrieval of the meter Proposer’s event logs.
- g. Proposers must provide details of meter’s functions and specifications for tamper detection
- h. Proposers must describe process required to modify data retrieved from meters. For example, if voltage quantities or kWh profile data is desired from a meter to evaluate load characteristics for a one month period, what steps are required to retrieve this new/temporary data.
- i. Meters (and AMI system) must support outage detection and restoration. Proposer should provide details and specifications determining what events are considered as outages, how events are managed and what history of data is available.

- j. Meters (and AMI system) must support net-metering functionality for select locations. All functionality must be provided with revenue accurate measurement.
- k. Proposers offering meters and system functionality capable of prepaid metering are preferred. Please describe your plans for this functionality including an implementation time schedule.
- l. Meters must comply with specifications defined in the current version of ANSI C12. This includes ANSI C12.1 (Code for Electricity Metering); ANSI, C12.10 (Physical Aspects of Watthour Meters); and ANSI C12.20 (0.2 and 0.5 Accuracy Class Metering), ANSI C12.18-2002 (Protocol Specification for ANSI Type 2 Optical Port), C12.19-1997 (Utility Industry End Device Data Tables). Meter shall be sealed and tested ANSI Standards.
- m. Forms 6S/36S, 8S/9S and 15S/16S must be available.
- n. The Proposer should provide a list of meters that are currently operable or will be operable within 6 months of the date of your bid submission.
- o. Proposer must clearly state which functions (e.g., PQ, voltage, etc.) are supported by each of the meters offered.
- p. AMI Communication module must be “under the glass” of the AMI Meter.
- q. Proposer should provide meter accuracy curves and specifications for solid-state meters that they intend to supply.

C. Demand Response (DR) & Home Area Networks (HAN)

The AMI Proposer shall specify details for Demand Response / HAN product offerings and how the communications to field devices is achieved.

Demand Response System is intended to control commercial and residential loads including irrigation pumps, water heaters, air conditioners/heat pumps and pool pumps. LC System must use the two-way communications network of the associated AMI system.

Home Are Networking is intended to be a platform to encourage consumers to be more aware of energy usage, patterns, and conservation. Additionally, this is intended to be another communication path to the end consumer. Please describe available methods of utilizing HAN and achieving the utility’s goals.

- i. Please include the following information in the description of the DR / HAN capabilities.
- ii. Please provide a detailed information of current HAN
- iii. List of products supported
- iv. Effects of DR and HAN on network designs.
- v. Describe any HAN gateway designs and options
- vi. Support over-the-air firmware upgradeability
- vii. DR/HAN communications protocol

4.12 Acoustic Leak Detection System

Proposer shall include in their proposal acoustic leak detectors (ALDs), including all hardware, software, installation, training, etc., to enable Buyer to operate a continuous leak monitoring system on its distribution system pipes.

A. Deployment Strategy.

- i. Describe the recommended deployment strategy for Buyer that is the basis for the optional proposal described herein.
- ii. Indicate whether the ALD devices are expected to be permanently fixed or whether the Proposer expects them to be periodically relocated within the distribution system.

B. ALD Detector Units.

- i. Describe the proposed monitoring units.
- ii. Describe their installed location (e.g., on service lines near meters, on valves in the distribution system, etc.).
- iii. Explain how they are mounted/secured in place (e.g., strap, U-bolt, magnet, etc.).
- iv. Indicate if the units are designed more for permanent installation, or periodic relocation.

C. Installation procedure.

- i. Describe the process for installing, programming, initializing, and calibrating the devices.

D. Correlation.

- i. Indicate if the proposed ALD system incorporates correlation techniques to “pinpoint” the location of leaks. If so, describe the expected location precision.

E. Sampling protocol.

- i. Indicate how often the leak sensor samples the vibration on the line on which it is installed.
- ii. Indicate the duration of each sampling period.
- iii. Indicate what the system retains and what percentage of the sampling readings is retained over the period.
- iv. Describe the various levels of reliability of data versus the duration of monitoring.

F. Transmit interval.

- i. Provide the normal interval of data reporting from the ALDs.
- ii. Provide the number of daily transmissions required to send daily information.

G. Frequency sensitivity.

- i. Indicate the range of frequencies the ALD is able to useably detect, and describe what various frequencies are indicative of.

H. Range.

- i. Indicate the recommended range and spacing between sensors on pipes of various materials (e.g., ductile iron, concrete asbestos, plastic).
- ii. List the default assumptions made about the pipe materials in the distribution system (if not provided).

I. Data storage.

- i. Describe the number of days of leak detection sampling data are retained in the ALD, the MIU (if used), and the DCU.

J. Environmental tolerance.

- i. Provide the specifications for the housing. Units must be waterproof and submersible. The detector unit shall meet IP68 environmental rating specifications.

K. Communication technology.

- i. Describe the proposed communication technology from the detectors, that is, whether the proposed units connect to multi-port MIUs in parallel with meters, use separate dedicated MIUs, or incorporate transmitter/receivers.
- ii. Describe the proposed wiring connection (if applicable) between MIUs and ALDs (e.g., 3-wire cable, potted or in-line connectors) and provisions to ensure physical and data integrity. Provide the maximum length of cable between the MIU and the ALD.
- iii. If the ALD requires its own antenna, describe the antenna and its mounting options and recommendations.

L. Communications.

- i. The ALD sensor should support two-way communication with the MIU and/or the head-end system. Indicate what functions are provided by two-way communication, including time synchronization for correlating technology.
- ii. If this includes re-programming the ALD device, indicate what parameters may be reprogrammed, and under what circumstances.
- iii. If the ALD communicates with a data collection unit, indicate the frequency band and techniques incorporated to ensure data integrity prevent interference and prevent data loss.
- iv. Data retrieved from the ALDs should be transmitted automatically to the leak detection analysis software application without the need of user intervention.
- v. Confirmation reports of successful transmission (or lack thereof) should be provided to Buyer.
- vi. The ALD shall be approved for operation under any applicable FCC rules.

M. ALD ID number.

- i. Explain the unique electronic serial number for identification that is transmitted with other information for each sensor. Indicate whether the ALD units are tracked within the software for the AMI system.

N. Power Supply.

- i. Indicate whether the ALD is powered by the MIU, has its own internal power supply or both. Indicate the extent to which the ALD has an impact on the life of the MIU battery, if an external MIU is used to power it. Indicate the expected life of the ALD battery, is whether it is replaceable.

O. ALD control computer.

- i. Describe the ALD head end system if different from the AMI head end system

P. Leak Detection Analysis Software

- i. Describe all the reports provided by the system to the Buyer and indicate whether the Proposer will provide monitoring, analytical and interpretive services.
- ii. Indicate whether software is provided locally, as a web-based hosted solution, or other form.

Q. Data storage.

- i. Indicate where leak and noise information from Buyer's ALDs would be stored. Indicate how many months of data from each ALD device are stored.

R. Data security.

- i. Indicate the provision to limits access to the data to authorized users, and all other steps to protect data integrity.

S. Data analysis.

- i. Indicate to what extent data analysis is performed automatically to provide real-time monitoring for leaks.

T. Reports.

- i. Describe the standard reports to be provided to Buyer as part of the monitoring service.

U. Leak prioritization.

- i. The analysis application must rank possible leaks in order of which most closely resemble leaks and suggest prioritization of which possible leaks need to be investigated first. Describe these capabilities.

V. Sensor history display.

- i. Analysis software must display the historical data for a particular ALD sensor in graphical format easily understandable by the Buyer user.

W. Leak location map.

- i. The analytical application must provide the Buyer user a map to show possible leak locations.
- ii. Is Buyer expected to provide background maps (including a map of the Buyer's distribution system mains), or does the system use common background mapping (e.g., Google maps or Google Earth)?
- iii. If the former, indicate how the data for this map is provided and integrated into the application for Buyer.

X. Repair and background noise tracking.

- i. City must be able to use the application software to track where leaks have been repaired.
- ii. Describe whether the system allows for units with frequent false positives and leak history to be easily identified.
- iii. If so, describe this feature. Buyer should be able to use the software to track when those repairs were made. Buyer should be able to use the software application to track and "filter out" non-leak noise sources.

Y. Lost water estimates.

- i. Application software should provide an indication of the amount of lost water from identified leaks (such as high, medium or low), and provisions to track and analyze such information.

Z. Alerts

- i. The application software should generate messages, alerts, notifications, and reports via e-delivery to a phone or email account alerting the user of changes in the status of a sensor, including changes in signal or unit out of service.

AA. Historical data.

- i. The application software or service database must keep historical data.

BB. Coordinate export formats

- i. The application must generate reports exportable in .csv or MS Excel format and in KML or other coordinate format to be used with GIS systems and mapping applications, such as Google Earth.

4.13 Endpoint Installation

A. Endpoint and Network Installation Contract Management.

Proposer shall manage installation of meters and transceivers. The Proposer shall:

- a. Specify the installation methods
- b. Train the installation service providers
- c. Manage the installation performance
- d. Provide daily, real-time project status updates via Project Management Software
- e. Provide photographic evidence of retired and new meters at each installation address.

B. Scope of Work

Proposer shall describe its proposed installation approach to managing the network, meter and endpoint installations. All meters shall be replaced and placed back into service as soon as possible. No service shall remain out of service without prior approval. Provide a complete workflow for end to end installation process.

C. Installation Sequence.

Proposer shall conduct installations by groups of accounts (e.g., routes). Groups should be based on geographic proximity as determined by the buyer in discussion with proposer. Unless approved in writing by the Buyer, Proposer shall complete at least 90 percent of the installations in one group before commencing installation on the next group.

D. Installation Schedule.

City and proposer shall establish an overall schedule for installation of each phase of the project. By 7:30 AM on the first business day of each week, proposer will provide buyer a schedule of where work is planned for that day and each subsequent day of that week. The purpose of this information is to provide coordination and communication between the buyer and proposer/installer for the work. If the schedule changes for whatever reason, an updated daily schedule shall be forwarded.

E. Twenty-Four (24) Hour Customer Access During Installation Process.

For (ninety) 90 days after buyer has been notified of a given installation (by date), proposer must respond on a 24-hour-per-day basis to calls from the buyer or from the customer associated with that installation, concerning leaks, loss of service, low pressure, and other problems associated with installation. Proposer must respond within thirty (30) minutes receiving the call and arrive at customer's premises ready to correct any problems within thirty (30) minutes of receiving the call.

F. Response to Complaints.

Should the proposer or its installation contractor receive a call or complaint from a customer or the buyer regarding installation, the proposer/contractor shall immediately log the call, including caller's name, address, account number if available, date and time of call, nature of problem and the action taken. Copies of all call logs shall be forwarded to the buyer Contract Manager not less than once per day.

G. Improper Installations.

The proposer/contractor shall be responsible for replacing any meter, MIU or appurtenances improperly set and for correct any damage to couplings, threads, unions or meters by use of improper tools or cross threading by a contractor installer.

Any water service lines, meter couplings, meter valves, service fittings, irrigation lines, sprinkler heads, meter boxes or lids damaged during excavation or installation shall be repaired and water tested, PRIOR to any backfill or pouring of sidewalk or concrete pad.

All existing landscaping, ground cover, grass, plants, shrubs, and/or trees which are damaged during construction shall be replaced with the same type or approved variety within 48 hours.

H. Material Scrap/Disposal

All debris resultant from the proposer's excavation or construction operation shall be removed from each installation site the same day at the proposer's expense. No excess materials shall be dumped on private property or deposited into the storm drains or sewer. All materials removed shall be disposed of outside of the street rights-of-way, which shall be left with a clean and finished appearance.

The selected proposer shall be responsible for collecting and storage (on City's property) of all scrap meters and shall provide full accounting by size and type.

I. Leaks after Installation.

The proposer/contractor shall be responsible for correcting any leaks at the valves, couplings or service lines that could reasonably be attributed to the meter installation if reported by the buyer or customers within ninety (90) days of installation.

J. Installation Control and Audit Procedures.

Proposer shall describe in detail its proposed system for ensuring that all data pertaining to installation is correctly recorded during installation, and that all data transferred to the CCS is accurate. Proposer shall describe procedures for eliminating any opportunities for a meter or MIU to be associated in the control computer or the CCS with the wrong address or account number.

K. Installation/Field Testing Control Hardware and Software

A separate software program and server or control computer may be used to manage field installations of MIUs, and manage portable field test units/interrogators/programmers. If so, provide details of this software and hardware in this section.

L. Interface to AMI Control Computer.

Describe the mechanism and procedure for downloading and uploading data from the portable field unit control computer to the AMI control computer and/or any other information system (e.g., a work order management system) normally used in the maintenance of the AMI system.

M. Warranty

All installation work, including materials used in the installation performed under this contract, shall be guaranteed against defects in workmanship for a period of one (1) year from the date of installation acceptance.

5 Proposal Format

Please include the following items in the order listed below:

Cover Letter

Table of Contents

1. Executive Summary
2. Company Information
3. Application Software
4. Hardware Information
5. Project Management, Implementation, and Conversion
6. Maintenance and Support
7. Training and Education
8. References
9. Cost Proposal

5.1 Executive Summary

This section should be limited to a brief narrative highlighting the vendor's proposal. The summary should be free of technical language and should illustrate the benefits and possibilities offered by the vendor. It should be between one (1) and five (5) pages long. There should be no cost quotes in this section.

5.2 Company Information

Vendor must provide the following information about the vendor's company that demonstrates its stability and ability to support the commitments set forth in the RFP. The vendor should outline the company's background, including:

- How long the company has been in business.
- A brief description of the company size and organization.
- Number of customers in Louisiana, Texas, Mississippi.
- Total number of customers.
- Company organizational chart.
- Number of employees by department:
 - ❖ Customer Services
 - ❖ Sales & Marketing
 - ❖ Research and Development
 - ❖ Administration
- Description of research and development approach and process.
- Financial data, including the most recent audited financial statements.

5.3 Project Management, Implementation and Conversion

1. The City of Minden will provide a designated project manager and expects the proposer to do the same.
2. Include a preliminary implementation schedule for all applications, including the required time for system and application training, program testing, and conversion.
3. Conversion is expected for utility billing and financial software system information and anything currently being utilized on the current system.

5.4 Maintenance and Support

The City of Minden prefers 24/7 unlimited telephone support. If 24/7 telephone support is available, price proposals should clearly indicate total recurring costs for that support option. If after-hours support is only available at an hourly rate, this should be clearly indicated.

1. Please describe all support services for hardware and software, including:
 - Hours of availability
 - Access via toll free 800 number
 - Call tracking system
 - Priority code system used to help distinguish the level of urgency for each call
 - Internet web site support
 - How customers are notified of urgent software issues and how to resolve them
2. List regional representatives and specify the closest one to the City of Minden
3. Provide information about periodic system enhancements and updates.

5.5 Training and Education

Systems and application software training is key to systems selection and implementation. All training must be conducted on site. System administrator training, as well as user training, should employ a train-the-trainer approach. Address the following:

- Available software and hardware training
- Ongoing educational opportunities
- Available web conferencing training
- Scheduled year-end processes training

5.6 References

Provide references for a minimum of five (5) completed government installations that use the proposed system in a comparable environment. Where possible, at least one such reference should be in the state of

Louisiana. The information should include municipality name, address, contact name, telephone number, date of installation, and a list of applications.

5.7 Cost Proposal

Please provide all costs for the proposed system.

6. Proposal Terms and Conditions

6.1 Request for Proposal Format

Proposals must be made in strict accordance with the Request for Proposal format provided herein.

6.2 Bulletins and Addenda

Any bulletins or addenda to the Proposal specifications issued during the period between issuance of the RFP and receipt of proposals are to be considered covered in the Proposal and in awarding a contract they will become a part thereof. Receipt of bulletins or addenda shall be acknowledged by vendors in their proposal cover letter.

6.3 False or Misleading Statements

If, in our opinion, a proposal contains false or misleading statements or references that do not support a function, attribute, capability, or condition as contended by the vendor, the entire proposal shall be rejected.

6.4 Clarification of Proposal

We reserve the right to obtain clarification of any point in a vendor's proposal or to obtain additional information necessary to properly evaluate a particular proposal. Failure of a vendor to respond to such a request for additional information or clarification may result in rejection of the vendor's proposal.

6.5 Responsiveness

Proposals should respond to all requirements of this RFP to the maximum extent possible. Vendors are asked to clearly identify any limitations or exceptions to the requirements inherent in the proposed system. Alternative approaches will be given consideration, if the approach clearly offers us increased benefits.

6.6 Rejection of Proposal

Proposals that are not prepared in accordance with these instructions to vendors may be rejected/disqualified. If not rejected, the City of Minden may demand correction of any deficiency and accept the corrected Proposal upon compliance with these instructions to proposing vendors.

6.7 Bid Modifications

Any bidder may modify their bid by written or fax communications up to two days prior to the closing time. The written or fax communication should not reveal the bid price as this will not be known until the sealed bid is opened.

6.8 Late Submissions

Regardless of cause, late qualifications will not be accepted and will automatically be disqualified from further consideration. It shall be the Vendor's sole risk to assure delivery at the designated office by the designated time. Late qualifications will not be opened and may be returned to the Vendor at the expense of the Vendor or destroyed if requested.

6.9 Acceptance of Proposals

The contents of the proposal of the successful bidder will become, at our option, a contractual obligation if a contract ensues. Failure of the successful bidder to accept this obligation may result in cancellation of the award.

Proposals submitted are offers only and the decision to accept or reject is a function of quality, reliability, capability, reputation, and expertise of the proposing vendors. The City of Minden reserves the right to terminate the selection process at any time and to reject any or all proposals.

The City of Minden reserves the right to accept the Proposal that is, in its judgment, the best and most favorable to the interests of the City of Minden and to the public; to reject the low price Proposal; to accept any item of any Proposal; to reject any and all Proposals; and to waive irregularities and informalities in any Proposal submitted or in the Request for Proposal process, provided; however, the waiver of any prior defect or informality shall not be considered a waiver of any future or similar defect or informality. Proposing vendors should not rely upon or anticipate such waivers in submitting their Proposal.