

## **Exhibit 1**



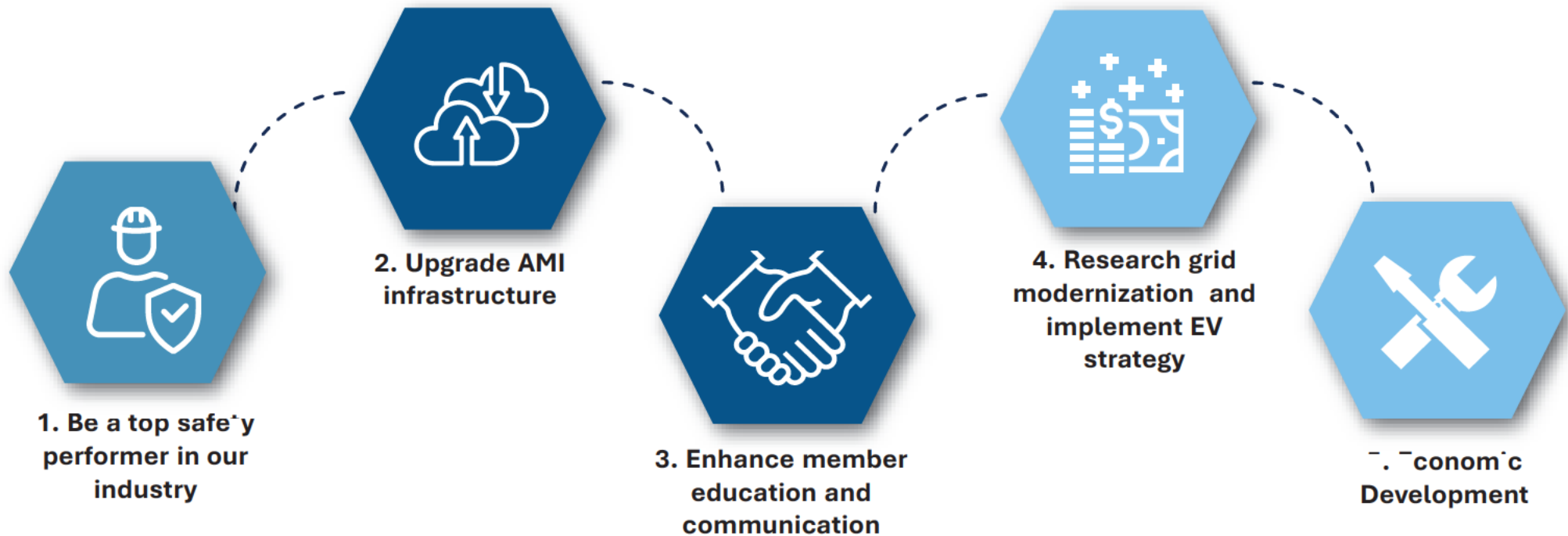
# Jackson Purchase Energy Cooperative

## AMI Results and Selection

December 12, 2023



# STRATEGIC INITIATIVES



# EVALUATION MATRIX



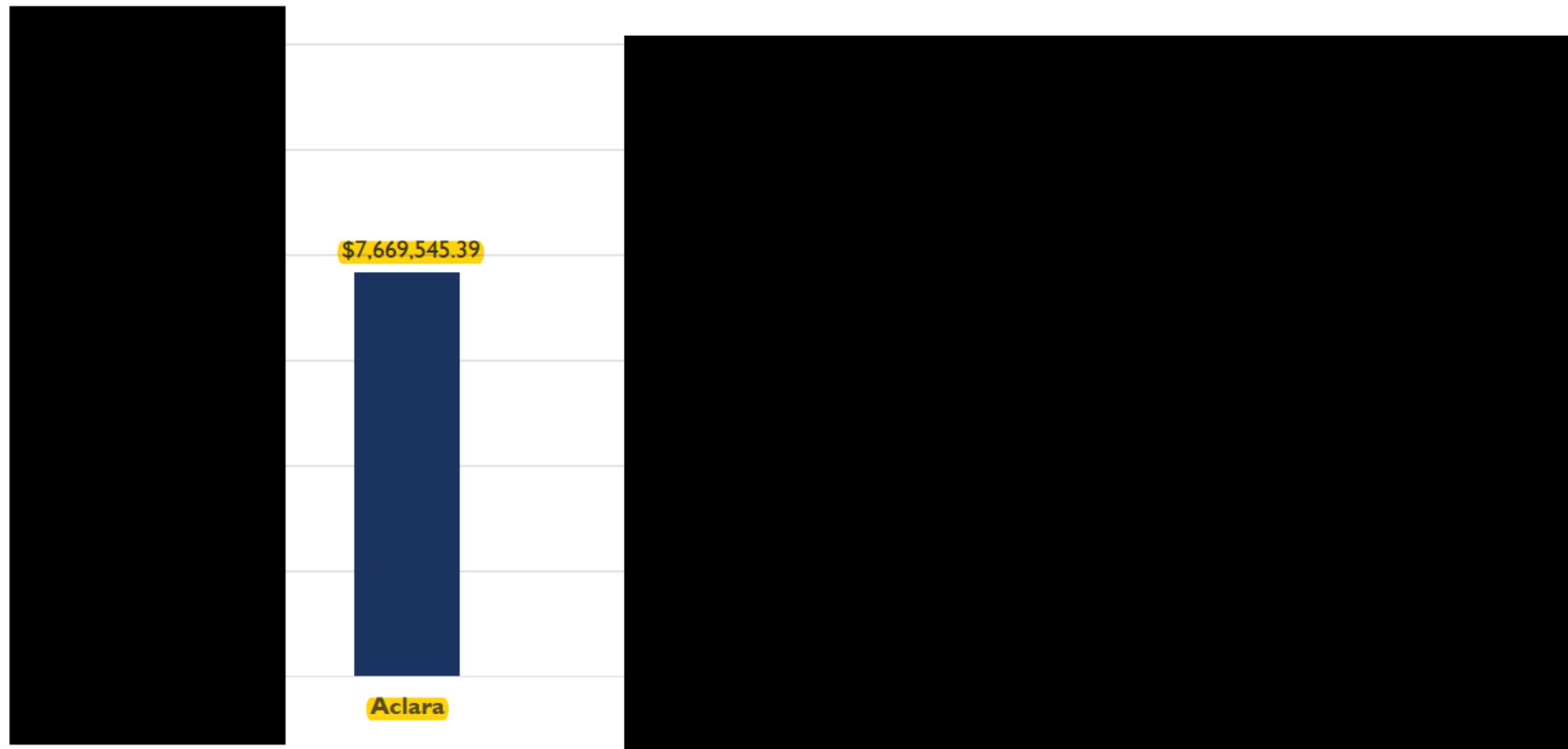
| Category                                                     | Rating Totals (1-3-9) |            |            |            |
|--------------------------------------------------------------|-----------------------|------------|------------|------------|
|                                                              | Aclara                |            |            |            |
| General (Cost, Company Stability, Flexibility)               | 43                    | 29         | 33         | 25         |
| Hardware (Life, Warranty, Capabilities)                      | 35                    | 35         | 35         | 37         |
| Reliability/Accuracy                                         | 27                    | 27         | 21         | 25         |
| Data/Communication (Functionality, Throughput, Applications) | 61                    | 65         | 65         | 63         |
| <b>Total</b>                                                 | <b>166</b>            | <b>156</b> | <b>154</b> | <b>150</b> |

# INSTALLED COST



|                                                          | Aclara          |  |
|----------------------------------------------------------|-----------------|--|
| Meter Replacement (non-instrument)                       |                 |  |
| Meter Replacement and Test (instrument)                  |                 |  |
| Meter Base Changeout (Expected)                          |                 |  |
| Meter Base Changeout (Unexpected)                        |                 |  |
| Meter Testing, Storage, and Disposal                     |                 |  |
| Router Installation by JPEC                              |                 |  |
| Gateways, Routers, Collectors, Modems, Mounting Hardware |                 |  |
| Pole Replacements                                        |                 |  |
| Meters (Including Modules)                               |                 |  |
| Deployment Costs (Services, Project Management, etc.)    |                 |  |
| Training                                                 |                 |  |
| Sales Tax                                                |                 |  |
| Shipping                                                 |                 |  |
|                                                          |                 |  |
| JPEC Labor                                               |                 |  |
| Project Credit                                           |                 |  |
| Total                                                    | \$ 6,499,766.53 |  |

# 15 YR. COST OF OWNERSHIP



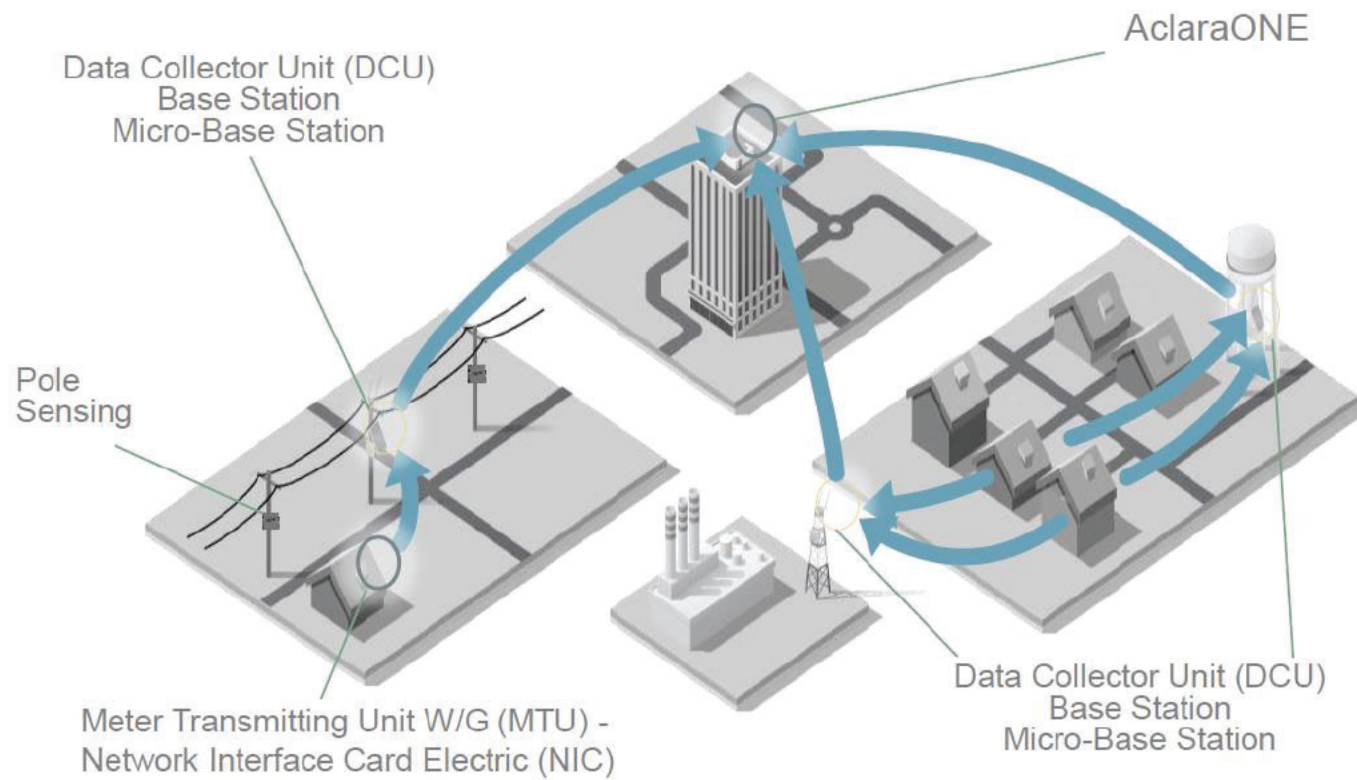
# COST ASSUMPTIONS



## Assumptions

- Hosted solution
- 5,000 meter replacements in 2024
- 25,000 meter replacements in 2025
- 62 pole replacements
- Quoted pricing (may increase at time of PO issuance)
- Quality Resources
  - Change non-instrument meters
- Luthan Electric Meter Testing
  - Change/test instrument rated meters
  - Complete meter base replacement for meter consolidation
  - Complete end of life testing, storage, and disposal
- Cellular Data
  - \$300/month data pool
  - \$10/month/device

# ACLARA RF SOLUTION



# ACLARA CAPABILITIES



- 5/15/30/60 min interval data for commercial and residential meters
- Remote connect/disconnect ability for all 1S and 2S meters
- Distribution automation
- Load control and demand response
- Power quality monitoring
- EV charger communications
- Pole tilt sensors
- Phase detection
- Secure network
- 5-year warranty on all meters and network equipment

# PROJECT TIMELINE



| Action                                                                                 | Completion Date        |
|----------------------------------------------------------------------------------------|------------------------|
| RFP Release                                                                            | 3/24/2023              |
| Pre-Proposal Conference Calls                                                          | Upon request           |
| RFP Inquiries Deadline                                                                 | 4/14/2023              |
| Proposal Submission Deadline – 2:00 pm CST                                             | 5/30/2023              |
| Responses Evaluated                                                                    | 6/5/2023 - 11/10/2023  |
| Notice of Award*                                                                       | 11/15/2023             |
| Contract Negotiations/Contract Execution/Notice to Proceed*                            | 11/16/2023 - 3/29/2024 |
| CPCN Approval by Kentucky Public Service Commission                                    | TBD                    |
| Begin Installation of Collectors                                                       | Summer 2024            |
| Complete Collector Installations                                                       | 12/31/2024             |
| Replace approximately 5,000 meters with new RF meters in 2024                          | 12/31/2024             |
| Replace approximately 25,000 meters with new RF meters in 2025                         | 12/31/2025             |
| Desired Project Completion (System Installed, Tested, Functional and Accepted by JPEC) | 6/26/2026              |

\*Contingent upon KY PSC approval

# QUESTIONS



Questions?

### Background

From July 2022 through October 2022, Jackson Purchase Energy Corporation (JPEC) participated in a technology planning study with National Rural Telecommunications Cooperative (NRTC) to develop a 10-year plan and determine our technology needs moving forward. From this study, it was determined that an AMI system upgrade was necessary to meet current and future needs of our members.

In November 2022, a selection team was assembled to begin the AMI search process. The team consisted of the following members:

Samantha Rudolph, Administrative Assistant to Engineering and Operations

Connor Riley, Distribution Engineer

Jason Gipson, Substation Crew Leader

Mark Brueggert, Manager of Information Technology

Jeremy Goodman, Manager of Operations

Meredith Kendall, Vice President of Accounting and Finance

Ward Morgan, Vice President of Operations and Technical Services

Myself, Travis Spiceland, Vice President of Engineering

In December 2022, a kickoff meeting was conducted and formulation of an RFP began. Multiple meetings were conducted with the team to develop the RFP and ensure the appropriate information was requested.

In early March 2023, Ward, Jeremy, Mark, Connor, Jason, and I attended NRECA's TechAdvantage in Nashville TN where we collaborated with multiple AMI vendors, explored products, and began conversations of our intent to upgrade.

In late March 2023, the RFP was released to eight AMI vendors and two meter replacement companies. Once responses were received, the AMI team met to compile answers, data, and figures.

In-person visits were taken to Meade County RECC (Landis+Gyr), Kenergy (Landis+Gyr), and Salt River (Aclara) as well as multiple conference calls to other cooperatives to discuss their systems.

In June 2023, five meetings were conducted as the AMI team evaluated responses and generated a shortlist for onsite presentations. Each of these vendors then showcased their product to the selection team and other staff at our headquarters.

After all AMI solutions were reviewed by the selection team, a recommendation was made to executive management. The final selection, aligning with the team's recommendation, was made to pursue Aclara's offering.

Request for Proposal  
Advanced Metering Infrastructure and Services  
March 24, 2023



RFP No. 2023-0001

Jackson Purchase Energy Corporation

6525 US Highway 60 W

Paducah, KY 42001

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## 1. INTRODUCTION

### 1.1. Project Overview

Jackson Purchase Energy Corporation (JPEC) is issuing this Request for Proposals (RFP) from qualified vendors for the design and installation of an Advanced Metering Infrastructure System (AMI System) utilizing radio frequency (RF) or cellular technologies. The proposed project envisions the qualified vendor(s) will provide services to design and install the AMI System and all other supporting systems, including electric meters and communication infrastructure necessary to provide AMI services to JPEC. Vendors are encouraged to submit proposals for portions or the entire project scope. JPEC plans to manage the installation of new electric meters but invites all parties to submit proposals for meter replacements, testing, and storage. JPEC's desire is to have the system installed, integrated, tested, and accepted by JPEC by December 6, 2024 for pilot, and June 26, 2026 for full installation.

### 1.2. About Jackson Purchase Energy

Jackson Purchase Energy Corporation is a rural electric cooperative serving approximately 30,000 consumer-members, with 1,800 miles of overhead primary conductor and 375 miles of underground primary conductor across six counties in far Western Kentucky. Jackson Purchase Energy Corporation serves six counties in Western Kentucky: Ballard, Carlisle, Graves, Livingston, Marshall, and McCracken.



### 1.3. Existing Software and Systems

Specific vendors and applications in use at JPEC are listed below. Vendors that can demonstrate or verify proven integration to these existing systems are preferred. JPEC's goal is to ensure secure and reliable system integration and eliminate duplicate entries for any new device or device exchange functions. In addition, preference will be given to vendors with capability for expanded integration such that JPEC users (e.g., Customer Service performing a remote disconnect/ reconnect or billing

personnel identifying malfunctioning meters) will be able to do most day-to-day functions through the existing systems described below.

JPEC's existing IT systems are:

- 1.3.1 Billing/Customer information system – NISC
- 1.3.2 Telephone System – Cisco
- 1.3.3 Geographic Information System – ESRI 10.8.1
- 1.3.4 Engineering Modeling - Milsoft WindMil version 8.7.18.1880
- 1.3.5 Staking Solution – NISC
- 1.3.6 Outage Management – NISC
- 1.3.7 SCADA – Survalent Technologies
- 1.3.8 SCADA Communications – Fiber

#### 1.4. Projected Schedule

The following timeline is intended to illustrate the anticipated timeline for the RFP and the project. JPEC reserves the right to change activities and dates at its sole discretion.

| Action                                                                                 | Completion Date        |
|----------------------------------------------------------------------------------------|------------------------|
| RFP Release                                                                            | 3/24/2023              |
| Pre-Proposal Conference Calls                                                          | Upon request           |
| RFP Inquiries Deadline                                                                 | 4/14/2023              |
| Proposal Submission Deadline – 2:00 pm CST                                             | 5/29/2023              |
| Responses Evaluated                                                                    | 6/5/2023 - 7/7/2023    |
| Notice of Award                                                                        | 7/10/2023              |
| Contract Negotiations/Contract Execution/Notice to Proceed                             | 7/17/2023 - 10/13/2023 |
| Pilot Meter Installation                                                               | 6/28/2024              |
| Desired Project Pilot Installation Complete                                            | 8/2/2024               |
| Desired Project Completion (System Installed, Tested, Functional and Accepted by JPEC) | 6/26/2026              |

## **2. RFP INFORMATION**

### **2.1. General**

This RFP is soliciting proposals for the following:

- I. Design and installation of an Advanced Metering Infrastructure System (AMI System) utilizing Radio Frequency (RF) or cellular technologies, including all hardware and software.
- II. Installation of AMI Meters, end-of-life meter testing and storage of removed meters.

JPEC is soliciting proposals from vendors who provide one or more of the above. Vendors are encouraged to submit proposals for any of these activities for which they are qualified. JPEC may select a single vendor to provide all the above or may choose to select multiple vendors to complete this project. Please consider this as you prepare your proposal(s).

### **2.2. RFP Goal**

This RFP addresses JPEC's interest in acquiring an AMI solution and is structured to capture the requirements and detailed pricing so that JPEC can easily evaluate the responses. Although JPEC understands that some of these requirements may be included or combined in specific functions/applications, JPEC wishes to clearly understand and fairly evaluate the requirements set forth in this RFP. Therefore, bundled pricing should clearly define which functions and modules are included in the bundled price. Vendors are encouraged to offer and include any additional innovative services that will help JPEC improve the efficiency and cost effectiveness of the solutions.

### **2.3. Inquiries about the RFP**

All inquiries and requests for information from prospective vendors concerning this RFP must be submitted in writing to [AMI\\_RFP@jpecenergy.com](mailto:AMI_RFP@jpecenergy.com). The subject line of the email should state "*RFP Number 2023-0001 - Advanced Metering Infrastructure Services*". Responses will be written, and copies of the written responses will be issued via email and will be distributed to all prospective vendors. In the event it becomes necessary for JPEC to revise any part of this RFP, an addendum or supplement to this RFP will be provided to all prospective vendors.

### **2.4. Distribution and Use Restrictions**

This RFP shall not be distributed to parties outside the scope of this project. Distribution is allowed to subcontractors bidding on various aspects of the proposal.

### **2.5. Pre-Proposal Conference Call**

Two days have been set aside for individual conference calls with prospective vendors (please refer to the schedule on page 3) to answer questions and clarify information concerning this RFP. All calls will be conducted on the same day and will be 30 minutes in length. Please submit your request for a conference call time to [AMI\\_RFP@jpecenergy.com](mailto:AMI_RFP@jpecenergy.com) no later than April 14, 2023. The specific time of your conference call and dial-in information will be confirmed with a return email. Please submit your questions in advance via email.

## 2.6. Contents of Proposals

A complete proposal should be compiled using the following format:

### A. Company Information and Experience

Provide company background and history, including the number of years' experience in providing the proposed products/services.

Provide a current organization chart including details for those expected to be involved in selling and servicing the system at JPEC.

Provide the following information for up to three (3) similar sized projects where the specific product or service you are quoting for this RFP has been deployed and is an operating AMI System serving electric utilities within the last two (2) years:

- Brief description of the project.
- Project organization, including use of subcontractors, utility provided services, etc.
- Total number of residential, commercial, and industrial meters in each project.
- Start and finish dates for the contract.
- A description of the specific services provided to the utility, including service level agreements (SLA's) associated with each service.
- Provide relevant references within the utility that are familiar with the work performed. Include name, current phone number and current email address.

In addition to the projects above, provide a list of all customers delivered between 2020 and 2023 including a contact of the person using the system.

Describe the production capacity and location of your manufacturing facilities in support of multiple parallel projects.

State which products quoted in this proposal will meet the (3) requirements below and therefore be classified as "Buy America" certified under the *Build America, Buy America Act* :

- All iron and steel used in the project are produced in the U.S. This means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the U.S.
- All manufactured products used in the project are produced in the U.S. This means the manufactured product was manufactured in the U.S., and the cost of the components of the manufactured product that are mined, produced, or manufactured in the U.S. is greater than 55 percent of the total cost of all components of the manufactured product.
- All construction materials are manufactured in the U.S. This means that all manufacturing processes for the construction of material occurred in the U.S.

Provide detailed information of any pending or continuing litigation regarding any technology being proposed to JPEC.

Describe any pending, active, or planned merger or acquisition involving your organization.

Provide a copy of your Software License Agreement, or associated document, which you will propose be executed by JPEC outside the negotiated contract.

Provide an Annual Report or a Profit and Loss Statement covering the last 24 months for the vendor(s) proposing to provide products/services. Also include the total investment in research and development related to your electric AMI portfolio for the past five (5) years as well as the electric AMI revenue percentage as compared to the company's overall revenue.

#### **B. AMI System**

Include all information requested in Section 3 of this RFP titled “**DESIGN AND INSTALLATION OF AN ADVANCED METERING INFRASTRUCTURE SYSTEM UTILIZING RF TECHNOLOGIES, INCLUDING ALL HARDWARE AND SOFTWARE**”, including the Function/Functionality Checklists.

#### **C. Installation, Testing and Removal of Meters**

Include all information requested in Section 4 of this RFP titled **INSTALLATION OF AMI METERS, END OF LIFE METER TESTING AND STORAGE OF REMOVED METERS**, including the Function/Functionality Checklists.

#### **D. Warranty Information**

Provide a description of the warranty provided to JPEC for each component and service contained in your proposal. Include the effective dates, the expiration dates, and the extent of the warranty coverage and any limitations of the warranty.

#### **E. Additional Information**

Provide additional information important or relevant to the products/services being proposed.

### **2.7 Submission**

**JPEC must receive the proposal no later than 2:00 pm CST on May 29, 2023.** One (1) original, five (5) hard copies, and one (1) electronic copy of all proposal materials shall be submitted. Sealed proposals shall be clearly marked with “***Request for Proposals - Advanced Metering Infrastructure Services RFP Number 2023-0001***”. Proposals shall be submitted as follows:

- Hand delivered or mailed:
  - Jackson Purchase Energy Corporation
  - ATTN: Meredith Kendall
  - 6525 US HWY 60 W
  - Paducah, KY 42001
- Electronic submissions should be made via a portable storage device or appropriate electronic means. Email submittals will **NOT** be accepted.

### 3. DESIGN AND INSTALLATION OF AN ADVANCED METERING INFRASTRUCTURE SYSTEM UTILIZING RF TECHNOLOGIES, INCLUDING ALL HARDWARE AND SOFTWARE

The AMI system shall meet the requirements and include the features outlined in this section. Vendors shall document and submit any exceptions (with a recommended alternative) to the technical requirements listed below as part of the proposal.

#### 3.1. SPECIFICATIONS

Proposed products/services must meet the following specifications:

- System is an RF (RF Mesh, Point to Multipoint RF, etc.) or cellular AMI solution with two-way communication.
- Completion of a propagation study using data contained in Exhibit A with the attached electronic files and delivery of a detailed report that includes the following:
  - The quantity and type of equipment required to achieve:
    - 100% Coverage (all deployed meters are active on AMI network)
    - 99.9% delivery of billing determinants every 24 hours.
    - 99% of all meters must report back following an on-demand request.
  - For RF mesh solutions, the system design results in an average of 8 hops, or fewer, per meter, no more than 12 hops per meter and allows each meter's "last gasp" to be delivered to NISC OMS.
  - Installation & maintenance specifications and requirements for collection devices, repeater devices and all equipment mounted on customer premises.
  - Detailed pricing for the above referenced system. See Section 7 for pricing tables. Pricing must include:
    - One-time costs
    - Recurring costs itemized by year (and any other appropriate period) for a period of 10 years (10-year cost of ownership).
    - For System Guarantees/Maintenance Agreements, include initial coverage details and future year's coverage details. Also include the maximum length of a Maintenance Agreement available and the corresponding cost.
    - The cost for disconnect/reconnect switches for 100% of all applicable meters, by meter type.
- Provides integration to NISC iVue, OMS, Mapping and Staking, and MDM.
- Provides integration to Survalent SCADA.
- Capable of supporting distribution automation. Includes the ability to send and receive DNP3 communication to control downline devices.
- During deployment through JPEC acceptance, a single point of contact with 24/7 accessibility will be provided. This contact should be denoted in the proposal.
- Any meter equipped with a disconnect/reconnect switch must be able to display the open/closed status of the switch on the meter display.
- Meters must have the ability to collect and report kWh, kW, kVAR, and voltage. Poly phase meters must additionally have the ability to collect and report Power Factor at peak kW.
- Poly phase meters shall be auto-ranging in voltage (120-480V).

Additionally, proposals should include the following:

- Vendor sample Statement of Work (SOW), Master Service Agreement (MSA), Field Acceptance Test (FAT), and System Acceptance Test (SAT).
- Methodology for deployment, including proposed process maps and deployment schedules for the products/services proposed in order to meet JPEC desired acceptance date of December 6, 2024, for pilot, June 26, 2026, for full installation.
- Any cost associated with the training outlined in Section 6 of this RFP.
- Describe, in detail, cyber security measures/methods intended for use with your proposed AMI solution.
- Methodology of system design including propagation assumptions described in detail and redundancy measures and considerations.
- Any additional required testing equipment with estimated cost.
- List all standard report options through the management portal.
- Include battery backup option with all capable infrastructure equipment. Also include specs on the batteries of all devices that have them (such as routers and collectors) which should include, but not limited to, expected life, replacement process and if notifications are sent when the battery fails.
- Identify any exceptions to JPEC's specifications.
- System Design must be able to run side by side with existing AMI Infrastructure until the existing PLC system is phased out.

### 3.2 FEATURES AND FUNCTIONALITY CHECKLIST

For tables in this section, respond as follows:

**YES** Feature/Functionality is part of the product(s) being quoted in this proposal.

**NO** Feature/Functionality is NOT part of the product(s) being quoted in this proposal.

| 3.2.1 GENERAL SYSTEM REQUIREMENTS                                                           | YES | NO |
|---------------------------------------------------------------------------------------------|-----|----|
| The AMI System can be deployed using an in-house non-hosted or a hosted model.              |     |    |
| The AMI System can be deployed using Microsoft SQL.                                         |     |    |
| The AMI System can be deployed using Oracle.                                                |     |    |
| The AMI System can be used by multiple browsers.                                            |     |    |
| The AMI System supports the use of mobile devices for in field viewing of system.           |     |    |
| The AMI System can support NISC's pre-pay functionality.                                    |     |    |
| Currently provides distribution automation functionality.                                   |     |    |
| The AMI System can provide integration to Jackson Purchase Energy's Survalent SCADA system. |     |    |
| The AMI System fully supports MultiSpeak 3.                                                 |     |    |
| The AMI System fully supports MultiSpeak 4.                                                 |     |    |

### 3.2.2 METERING

- A. What is the expected life of the AMI modules? Of the AMI modules and associated meters?
- B. How does the installer know a meter is configured and properly communicating with the network?
- C. Describe the timeline required for each meter to become a fully integrated into the network and fully capable of meeting performance requirements outlined in this RFP.
- D. Describe the number of registers/channels available for data for each meter form.

| 3.2.3 ALL ELECTRIC METERS                                                                                                                                                                | YES | NO |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| Meter has nonvolatile data storage capable of storing up to 30 days of 15-minute interval data.                                                                                          |     |    |
| Support for ANSI Reading and Programming Standards C12.18.                                                                                                                               |     |    |
| Support for ANSI Reading and Programming Standards C12.19.                                                                                                                               |     |    |
| Support for ANSI Reading and Programming Standards C12.22.                                                                                                                               |     |    |
| Approval of Underwriters Laboratories (UL).                                                                                                                                              |     |    |
| Compliant to UL 2735 Standard for Safety, Electric Utility Meters.                                                                                                                       |     |    |
| Meter has the ability to be programmed to meter bi-directional energy. The meter has two registers (delivered and received) for this operation and the registers are synced to a clock.  |     |    |
| The meter display has an alphanumeric display and a watt disk emulator that provides both direction and magnitude of energy registration.                                                |     |    |
| Meter has the ability to report tamper detection including reverse consumption, tilt, and unexpected consumption/diversion.                                                              |     |    |
| Meter has backup battery.                                                                                                                                                                |     |    |
| Meter has optional super capacitor as alternative to the backup battery.                                                                                                                 |     |    |
| The meter's voltage reporting/ monitoring capability is guaranteed by the manufacturer to have +/- .5 volts accuracy of applied voltage as compared to a standard verified against NIST. |     |    |
| The meter is built to function according to ANSI C12.1 Meter Temperature Requirements with a range of -40°F to +185°F.                                                                   |     |    |
| Meter has the ability to capture a log of up to 200 events (alerts, diagnostics, cautions, communication and meter operations).                                                          |     |    |
| Meter & Module have documented mfg. lifecycle of at least 10 years.                                                                                                                      |     |    |
| Meter has built in functionality to communicate with other equipment to allow member load control. For example, water heater controls, smart thermostats, and EV chargers.               |     |    |
| Meter has current limiting functionality.                                                                                                                                                |     |    |
| Meter has the ability to detect and report voltage fluctuations and send alarm notifications within 3 minutes.                                                                           |     |    |
| The meter's voltage monitoring supports measurements of instantaneous voltage data (line-to-line and line-to-neutral) up to three phases depending on meter form.                        |     |    |

| 3.2.4 SINGLE PHASE ELECTRIC METERS                                                                            | YES | NO |
|---------------------------------------------------------------------------------------------------------------|-----|----|
| Meter Includes safety button/switch for reconnects.                                                           |     |    |
| Meter has ability to collect and report TOU metering measures, Critical Peak, Peak Rebate & Real-Time Usage.  |     |    |
| The meter is capable of rolling demand with the minimal capability to roll 5 into 15-minute demand intervals. |     |    |

| 3.2.5 POLY PHASE ELECTRIC METERS                                                                              | YES | NO |
|---------------------------------------------------------------------------------------------------------------|-----|----|
| Meters proposed to meet specification and report KVA with no additional cost.                                 |     |    |
| Meter has ability to report TOU metering measures, Critical Peak, Peak Rebate & Real-Time Usage.              |     |    |
| The meter is capable of rolling demand with the minimal capability to roll 5 into 15-minute demand intervals. |     |    |
| Meter has capability of showing instantaneous demand measurement on display.                                  |     |    |
| Meter can provide kVAR to NISC's MDM.                                                                         |     |    |

### 3.2.6 NETWORK AND DATA

- A. Describe how the available network bandwidth can support applications beyond meter traffic with percentages of network allocation per function.
- B. Describe how the system supports communication standards and protocols.
- C. Describe the system requirements for FCC licenses and the process for how licenses are registered and administered.
- D. For point to multipoint and cellular solutions, list the expected end-to-end communication time for an on-demand meter register read and expected success rate for a command from the headend system.
- E. For RF mesh solutions, list the expected end-to-end communication time for an on-demand meter register read and expected success rate for a command from the headend system for the following scenarios:
  - 1 meter hop
  - 3 meter hop
  - 8 meter hop
  - 12 meter hop
- F. Describe system support of both IPv6 and IPv4 addressing.
- G. Describe the process for prioritization of traffic on the network.
- H. Describe the network impact and management for configuration changes such as meter programming and firmware updates.
- I. Describe backhaul options and requirements for the proposed AMI network.
- J. Describe how the solution supports detection of outage events and service restoration notification of network components.
- K. Describe the communication equipment's capability to support reprogramming or reconfiguration of network devices over the MTBF and expected service life cycle term.

- L. Describe the method for tracking and managing firmware versions.
- M. Firmware upgrade: Describe any impact to meter reading, outage reporting, and restoration operations.
- N. How does the system push out firmware to devices and how long does it take to complete a firmware update to a NIC?
- O. Is the system capable of pushing out meter firmware upgrades? If so, how long does it take to complete the upgrade?
- P. How often is the firmware released and does JPEC have the ability to opt out of a firmware release? If JPEC has the option to opt out, please explain the process and any ramifications.

| 3.2.7 GENERAL NETWORK & METER DATA REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | YES | NO |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| AMI System included is capable of capturing all meter errors and events aligned with IEC 61698-9 and can forward these to the integration platform allowing external systems to subscribe to required data in near real-time.                                                                                                                                                                                                                                                                                                                                                                                              |     |    |
| The AMI System supports measurement of other power quality data including RMS voltage/current, over/under voltage, sag/swell, voltage imbalance, and under frequency alerts.                                                                                                                                                                                                                                                                                                                                                                                                                                               |     |    |
| The AMI System provides aggregate daily meter reads to the integration bus to provide scheduled Revenue Residential Electric Meter Reads and is capable of providing 15-minute interval data, delivered at minimum every 4 hours.                                                                                                                                                                                                                                                                                                                                                                                          |     |    |
| The AMI System provides aggregate daily meter reads to the integration bus to provide scheduled commercial electric meter reads and is capable of providing 15-minute interval data, delivered at minimum every 4 hours.                                                                                                                                                                                                                                                                                                                                                                                                   |     |    |
| The AMI System provides aggregate daily meter reads to the integration bus in kWh, KW, kVAR, TOU, KVA, Power Factor and Demand Data.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |    |
| Within a selected meter type, Jackson Purchase Energy may desire to utilize different interval durations for endpoints. The AMI solution provides capabilities that allow different groups of meters to be configured at 5, 15 & 30 minute or other intervals.                                                                                                                                                                                                                                                                                                                                                             |     |    |
| The AMI System can perform "Gap-filling" to ensure the maximum number of reads are received from the field to minimize the use of VEE in filling meter data gaps by the MDMS.                                                                                                                                                                                                                                                                                                                                                                                                                                              |     |    |
| The AMI System provides an on request (real-time) reading service that allows for retrieval of available meter reading data across the entire population of meters, including the most recent data stored. The following data is available on an "On-Request Meter Reading" query: <ul style="list-style-type: none"> <li>a. Date and time of reading</li> <li>b. Meter number</li> <li>c. Cumulative kWh read</li> <li>d. Voltage</li> <li>e. Power Factor at peak KW (where available on meter)</li> <li>f. KW Demand (must be programmable up to a total of six digits)</li> <li>g. Remote disconnect status</li> </ul> |     |    |
| On-Request (Real Time) Meter Reading – meters respond within 15 seconds.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |    |
| System is capable of generating temperature alert.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |    |

### 3.2.8 APPLICATIONS AND BILLING

- A. Can a command from the Headend System (HES) be cancelled?
- B. Describe the process for detection of meter tampering along with reporting/alerting, logging, and tracking of tamper events.
- C. Describe the system's data management capabilities, collection, storage, presentation.
- D. Describe how alarms are logged, stored, presented, and queried.
- E. Describe the systems support of on demand requests from the head end and through a typical MultiSpeak command from a third-party vendor.
- F. How are configuration details communicated to the network device during the installation process?
- G. Describe how meter temperature alarms are triggered, reported, and logged.
- H. How are the different data types retrieved from the meter and what polling intervals are available for each data type?
- I. How does a client access the AMI applications?
- J. How does the system collect unread meter data?
- K. How does the system ensure read jobs are complete?
- L. How does the system handle messages and traps from the meter?
- M. How does the system manage unread meters?
- N. How does the system monitor meter programming, firmware versions and statuses?
- O. How does the system notify users of failed meter communications?
- P. How does the system reprogram meters remotely?
- Q. How does the system support outage event detection, and restoration notifications and messaging?
- R. How does the system track whether a meter or device is currently available on the network?
- S. How does the system support prepaid metering programs (polling, reporting, service disconnect/reconnect, verification)?
- T. Describe how time change events are managed by the network (Daylight savings time)
- U. How often are the HES applications updated?
- V. Describe the field maintenance schedule required for the system.
- W. Describe how the system supports remote connect/disconnect for electric meters and meter forms, types supported, integrations supported.
- X. Describe how line side voltage is measured, monitored, along with available configurations of alerting and reporting on measured values.
- Y. Describe how the system supports grouping including types and classifications.
- Z. Describe the process for time stamping of collected meter data points.
- AA. Describe the meter attributes that are recorded in the head end and integration into enterprise software solutions for updating and monitoring of life cycle state of devices.
- BB. Describe methods used to validate newly installed meters are successfully integrated into the meter communications network.
- CC. Describe the systems support of street light management and control including available attributes for monitoring and control.
- DD. Describe the systems support of Demand Response and Load Control devices including control types, operating ranges, and capabilities.
- EE. Describe how the system supports Distribution Automation.

FF. Please provide a list of devices currently supported by the Distribution Automation solution.

| 3.2.9 GENERAL BILLING DATA                                                                                                                                                                                                                | YES | NO |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| System has ability to provide billing determinants supporting batch scheduled meter read delivery based on a configurable billing cycle schedule, off-cycle bills, and a final bill process.                                              |     |    |
| Peak demand reset can be performed to coincide with the billing determinant delivery.                                                                                                                                                     |     |    |
| The AMI System utilizes a web-based utility portal allowing Jackson Purchase Energy to access each included sub-system using a single sign-on methodology integrated to Jackson Purchase Energy's active directory authentication system. |     |    |
| Service Oriented Architecture (SOA) integration adheres to NERC/CIP security compliance.                                                                                                                                                  |     |    |
| System uses secure file-based integration utilizing file transfer over https, sFTP, SCP, or FTPs.                                                                                                                                         |     |    |

| 3.2.10 AMI SYSTEM FEATURES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | YES | NO |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| The AMI System does not require a network path that traverses infrastructure that is not reliably backed up. For example, hopping through non-battery backed up end devices.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |    |
| The AMI System is capable of remote, over-the-air support and firmware upgradeability to system devices without affecting the normal operations of system such as regularly scheduled data retrieval.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     |    |
| The AMI infrastructure supports optional packaging of the Local Area Network radio and Wide-area Network private, wireless data backhaul in a single enclosure, where the AMI backhaul is also capable of supporting near-real time Distribution Automation applications such as Capacitor bank Control, Reclosers, Fault Detection Isolation and Recovery, etc.                                                                                                                                                                                                                                                                                                                                                                                                                                               |     |    |
| <p>The AMI System supports the following security attributes:</p> <ul style="list-style-type: none"> <li>a. Mutual entity authentication of all devices throughout the system.</li> <li>b. Message authentication using AES 128 based CMAC or similar.</li> <li>c. Message confidentiality of the application data using at least AES 128-bit encryption.</li> <li>d. Message confidentiality of the link layer using 3-key Triple DES or similar.</li> <li>e. Limited anonymity by not disclosing the Meter ID over the air.</li> <li>f. Verification of authentic firmware upgrade.</li> <li>g. Symmetric key algorithms with no over-the-air key exchange.</li> <li>h. SSL encryption for backend IP-infrastructure.</li> <li>i. Device keys shall be securely provisioned during manufacturing.</li> </ul> |     |    |
| Capable of integration with security light controls.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |    |
| After the AMI infrastructure is installed, meters within the coverage area "plug-and-play" and do not require any processes or additional configuration after being powered on.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |    |
| Does the system perform "self-healing" functions?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |     |    |

| 3.2.10 AMI SYSTEM FEATURES                                                                                                                      | YES | NO |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| The network infrastructure supports two-way communication to multiple types of field device endpoints including electric meters.                |     |    |
| The devices on the network avoid connection redundancy by finding primary and alternate AMI infrastructure devices upon installation.           |     |    |
| The AMI System requires licensed frequencies for operation.<br>If yes, does Jackson Purchase Energy have the option to acquire and own license? |     |    |
| All device emissions levels are significantly under FCC OET Bulletin 65 guidelines even if device is stuck in transmitting mode.                |     |    |
| Does the system support phase detection?                                                                                                        |     |    |

### 3.2.11 OUTAGE NOTIFICATION AND MONITORING

- A. Describe how outages integrate with NISC's OMS.
- B. Describe meter "last gasp" capabilities during outage events.

| 3.2.12 OUTAGE NOTIFICATION AND MONITORING REQUIREMENTS                                                                                                                                                                                                                                                                                                          | YES | NO |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| The system will not false alarm on a momentary outage event. Duration for momentary outage is a parameter that Jackson Purchase Energy can set.                                                                                                                                                                                                                 |     |    |
| System will provide restoration notice after power has been restored.                                                                                                                                                                                                                                                                                           |     |    |
| The system provides full integration with NISC's OMS.                                                                                                                                                                                                                                                                                                           |     |    |
| Last gasp performance does not degrade in the case of a large grid outage.                                                                                                                                                                                                                                                                                      |     |    |
| Restoration performance (i.e. the amount of time that it takes for a restored meter to report restoration) does not degrade in the case of a large grid outage.                                                                                                                                                                                                 |     |    |
| The system detects an outage or power loss on monitored meters. When an outage is detected, the system will: <ul style="list-style-type: none"> <li>a. Notify a designated Jackson Purchase Energy representative</li> <li>b. Update GIS map with current status</li> <li>c. Update status on a map</li> <li>d. Log outage information in the system</li> </ul> |     |    |
| Jackson Purchase Energy will have the ability to obtain status of meters within the electrical network (ping); response will be received in 15 seconds or less.                                                                                                                                                                                                 |     |    |
| During power restoration the AMI head-end receives and forwards all power up notifications.                                                                                                                                                                                                                                                                     |     |    |
| Does the system provide a real time status map?                                                                                                                                                                                                                                                                                                                 |     |    |
| The system provides trouble shooting capabilities such as: <ul style="list-style-type: none"> <li>a. Current Meter route</li> <li>b. Real time trace</li> <li>c. Neighbor listing</li> <li>d. Log outage information in the system</li> </ul>                                                                                                                   |     |    |
| Polling accuracy of routers and collectors greater than 99%.                                                                                                                                                                                                                                                                                                    |     |    |

| 3.2.13 ASSET MONITORING FUNCTIONALITY REQUIREMENTS                                                                   | YES | NO |
|----------------------------------------------------------------------------------------------------------------------|-----|----|
| The system provides visualization of the wireless communications network during operation.                           |     |    |
| System can update meter status on Jackson Purchase Energy's monitoring and mapping screen.                           |     |    |
| Head-end system can display meter problems/communication problems.                                                   |     |    |
| Jackson Purchase Energy will have the ability to query each meter from the head-end system for detailed information. |     |    |

### 3.2.14 SECURITY

- A. Describe how data is encrypted at rest.
- B. Describe how the system enforces role base access control (RBASC).
- C. Describe the effect on system performance when encryption is enabled.
- D. Describe the system encryption capabilities.
- E. Describe the endpoint and communications security strategy.
- F. How will the system be hardened to meet security requirements?
- G. The system must provide mutual authentications for all devices on the network.
- H. Describe how individual customer data will be secured and separated in a hosted environment.
- I. Describe the security services framework.
- J. How are vulnerabilities communicated and managed?
- K. How does the system monitor security events?
- L. How is contractors' compliance with company security standards ensured?
- M. Describe backup procedures.
- N. Describe disaster recovery plan for the hosted system.
- O. How is system redundancy achieved across the system?
- P. Typically, how many days of data are recommended to be retained in the system?

| 3.2.15 SECURITY/AUTHENTICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | YES | NO |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| Does the system support 2-Factor Authentication?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |     |    |
| Does the system integrate with LDAP authentication?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |    |
| Are regular penetration tests performed throughout the network attributes?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |     |    |
| <p>The AMI System supports the following security attributes:</p> <ul style="list-style-type: none"> <li>a. Mutual entity authentication of all devices throughout the system.</li> <li>b. Message authentication using AES 128 based CMAC or similar.</li> <li>c. Message confidentiality of the application data using at least AES 128-bit encryption.</li> <li>d. Message confidentiality of the link layer using 3-key Triple DES or similar.</li> <li>e. Limited anonymity by not disclosing the Meter ID over the air.</li> <li>f. Verification of authentic firmware upgrade.</li> <li>g. Symmetric key algorithms with no over-the-air key exchange.</li> <li>h. SSL encryption for backend IP-infrastructure.</li> <li>i. Device keys shall be securely provisioned during manufacturing.</li> </ul> |     |    |

### 3.2.16 CYBERSECURITY

| Preparing and Informing Personnel                                                                                                                                                                | YES | NO | N/A |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| Does your organization protect descriptions of JPEC's Control System Domain (CSD) systems or architecture, unless JPEC releases this information for public consumption?                         |     |    |     |
| Does your organization perform personnel background checks for those personnel that will service JPEC equipment and/or be present at JPEC facilities?                                            |     |    |     |
| Does your organization have a means of ensuring that competent security leads are assigned to JPEC's projects?                                                                                   |     |    |     |
| Does your organization follow applicable standards and procedures regarding confidentiality and user agreements, including agreements signed by all persons having access to JPEC's Environment? |     |    |     |

| Security Contact                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | YES | NO | N/A |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| Does your organization have a Control System Security Focal Point in the organization who is responsible and accountable for the following activities? <ul style="list-style-type: none"> <li>a. Acting as liaison with JPEC, as appropriate, about compliance of its systems with JPEC policies?</li> <li>b. Communicating your organization's point of view on control system security to JPEC's staff.</li> <li>c. Ensuring that tenders to JPEC are aligned and in compliance with both JPEC's and your internal requirements for control system security.</li> <li>d. Communicating deviations from, or other issues not conforming with JPEC's policies.</li> </ul> |     |    |     |
| Does your organization have a means to provide JPEC with timely information about cyber security vulnerabilities in your supplied systems and services?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |    |     |

| Practices                                                                                                                                                                                                                            | YES | NO | N/A |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| Does your organization provide a list of membership and level of membership participation in recognized security standards development working groups or other process control security initiatives (e.g., ICSJWG for PCS Security)? |     |    |     |
| Has your organization obtained control security certificates for either your product being offered and/or your services provided (e.g., SSAE16, ISO27001, etc.)?                                                                     |     |    |     |

| System Hardening                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | YES | NO | N/A |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| Does your organization practice and maintain a policy of hardening requirements for systems in a distributable hardening guide, which includes at least the following: <ul style="list-style-type: none"> <li>a. Removal or non-installation of software and functionality that is not required by JPEC, nor for the intended functional purpose of the system, email, office applications, games, USB ports, Bluetooth and Wi-Fi communications, etc.</li> <li>b. Protection of physical and logical access to diagnostic and configuration ports.</li> <li>c. Disabling all unused ports on switches and routers to assist in preventing unauthorized access to the network.</li> <li>d. Proper maintenance processes to maintain the system-hardened state during the system lifetime.</li> </ul> |     |    |     |
| Does your organization have policies and procedures for security testing and approval and maintenance policies and procedures for 3rd party software integrated into your systems?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |    |     |
| Does your organization have policies and procedures for 3rd party security architecture reviews including security risk assessments?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |     |    |     |
| For interfaces identified as untrusted, does your organization provide compensating security mechanisms to protect the control system?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |     |    |     |
| Does your organization document special mechanisms and procedures needed to minimize recognized security weaknesses inherent in communication protocols?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |     |    |     |

| Protection                                                                                                                                      | YES | NO | N/A |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| Does your organization support the use of anti-malware software?                                                                                |     |    |     |
| If anti-malware software is not technically possible are other mitigating controls documented and implemented to reduce the risk of infection?  |     |    |     |
| Does your organization provide JPEC with documented instructions for the proper installation, configuration, and update of anti-virus software? |     |    |     |

| Patch Management                                                                                                                                                                                                                                                           | YES | NO | N/A |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| Does your organization provide documentation describing the software patching policy for your systems?                                                                                                                                                                     |     |    |     |
| Does your organization review its patching policy at least annually to address new threats and vulnerabilities?                                                                                                                                                            |     |    |     |
| Does your organization qualify all relevant software patches and service packs for use on its system during its supported lifetime including security patches that are released by the manufacturer of the operating system and third-party software used on their system? |     |    |     |
| Does your organization provide JPEC with documented reasons for not patching if a security patch is considered not relevant for use on your systems?                                                                                                                       |     |    |     |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| Does your organization document the reason and remediation plan for security patches not approved for use on your systems? Does the remediation plan describe how a solution will be provided within 12 months?                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| Does your organization maintain a list of software patches and service packs relevant to its system including the approval status of each? Can you provide the list to JPEC?                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |
| Does your organization inform JPEC about approved, not approved, and not relevant software patches that affect its systems within 30 days after release by the manufacturer of the software?                                                                                                                                                                                                                                                                                                                                                     |  |  |  |
| Does your organization provide tools to audit the current security patch status of your systems and provide a list of missing security patches?                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| Does your organization describe the approved patching procedures and configuration instructions for your systems, describing how to perform patching both manually and via a patch management server? <ul style="list-style-type: none"> <li>a. When using a patch management server, does documentation show how to configure your systems to receive updates?</li> <li>b. For manual patching using portable media, are detailed instructions supplied for how to install patches and how patching status reports will be provided?</li> </ul> |  |  |  |
| Is your organization's recommended roll-out procedure for software patching and upgrading all parts of your system documented and available for JPEC to review?                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |

| Account Management                                                                                                                                                    | YES | NO | N/A |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| Do your organization's systems provide the capability to support default passwords used for system accounts which can be changed by JPEC?                             |     |    |     |
| Do your organization's systems provide the capability to remove or disable unused default system accounts, such as super-user, guest, and back-door/support accounts? |     |    |     |

| Account Management Continued                                                                                                                                                                                             | YES | NO | N/A |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| Do your organization's systems provide the capability for users to be prompted to change their passwords at most 30 days prior to expiration?                                                                            |     |    |     |
| Do your organization's systems log and report unsuccessful login attempts in a timely manner to an interface specified by JPEC?                                                                                          |     |    |     |
| Do your organization's systems provide the capability to set service, auto-login, and operator accounts so they never expire or become disabled automatically?                                                           |     |    |     |
| Do your organization's network devices provide the capability to enable role-based access features?                                                                                                                      |     |    |     |
| Do your organization's systems provide the capability to support unified account management to centralize security policies and to decentralize execution of the security policies?                                      |     |    |     |
| Does your organization have established methods, processes and procedures that generate logs of sufficient detail to create historical audit trails of individual user account access activity for a minimum of 90 days? |     |    |     |

| Backup/Restore Process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | YES | NO | N/A |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| Does your organization have a documented backup strategy and architecture for your systems, including but not limited to the following: <ul style="list-style-type: none"> <li>a. Provisions for regular back-ups at intervals which fulfill the data restore and disaster recovery objectives for the system?</li> <li>b. Provisions to back-up the following types of data: operating system files, applications, including middleware, such as an OPC tunneler, configuration data, database files, log files, electronic logbook, unconventional file types such as network equipment settings, Control Systems controller settings including tuning parameters, set points, alarm levels, etc., field instrumentation parameters and user access directories (e.g., Microsoft Active Directory)?</li> <li>c. Provisions to backup other files identified by your organization which are required to create a complete backup of the systems?</li> <li>d. Instructions on how to make a full backup of your systems.</li> </ul> |     |    |     |
| Does your organization recommend a procedure for verification of successful system backup?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     |    |     |
| Do your organization's systems provide the capability for JPEC's control and automation technicians to restore the system?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     |    |     |
| Does your organization have procedures for control and management of removable backup media?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |    |     |

| Network Visibility                                                                                                                                                                                                                  | YES | NO | N/A |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| Do your organization's systems provide the capability to monitor system security using at least one of the following methods: Syslog, Windows Management Instrumentation (WMI), or Simple Network Management Protocol (SNMP) traps? |     |    |     |

| Audit Log Interfaces                                                                                                                           | YES | NO | N/A |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| Do your organization's systems provide the capability to collect historical data using an open standard communication protocol (e.g., syslog)? |     |    |     |
| Do your organization's systems provide the capability to log all state changes?                                                                |     |    |     |

| Verifying Operations                                                                                                                                                                                                                                                                                                                                                                                                             | YES | NO | N/A |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| Does your organization have a documented policy and procedure for managing and approving changes to operating conditions that come from remote or advisory set points? Do your organization's systems support the capability of requiring operator acknowledgement and approval action to verify a new set point or modification of an existing set point, requiring the use of the last approved set point if not acknowledged? |     |    |     |
| When operating conditions change due to automated operation (those without human intervention), do your organization's systems provide the capability to log the event and notify the operator in a timely manner?                                                                                                                                                                                                               |     |    |     |

| Wireless Connection                                                                                                                                                                                                         | YES | NO | N/A |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| Where wireless devices are appropriate, do your organization's systems provide the capability to use wireless devices that comply with approved international wireless standards (e.g., IEEE, ISA, IEC)?                    |     |    |     |
| Does your organization restrict the use of proprietary and non-standard protocols unless approved by JPEC?                                                                                                                  |     |    |     |
| Are industrial wireless field devices based on ISA 100 or WirelessHART? The use of other techniques shall not be used unless approved by JPEC.                                                                              |     |    |     |
| Are wireless devices and systems, including infrared and non-RF, compliant with approved international standards (e.g., NIST, ANSI, IEEE, IEC, ISO) or with regulatory requirements governing licensing of frequency bands? |     |    |     |
| Do your organization's systems provide the control system's capability to configure wireless field instruments similarly to the one used to configure wired field instruments?                                              |     |    |     |
| Do your organization's systems provide the capability to view the latest configuration of a wireless field device used for monitoring and control from the control system?                                                  |     |    |     |

| Remote Access                                                                                                                                                                                                                                                                   | YES | NO | N/A |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| If remote access is required, does your organization's system provide the capability for remote access using a secure application and protocol subject to approval by JPEC?                                                                                                     |     |    |     |
| Does your organization provide detailed instructions for how to install, configure and operate the selected remote access software on your systems?                                                                                                                             |     |    |     |
| Does your organization provide adequate information about proposed methods of data transfer between your systems and other systems and networks to allow JPEC to assess the risk and approve the method of data transfer before it is implemented, and periodically thereafter? |     |    |     |

| Deployment Management                                                                                                                                                                          | YES | NO | N/A |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| Does your organization conduct a control system security risk assessment at the beginning of commissioning phases?                                                                             |     |    |     |
| Does your organization provide JPEC with documentation describing built and installed equipment connections and configurations (e.g., manufacturing data files, management information, etc.)? |     |    |     |
| After completion of commissioning, does your organization remove all temporary user accounts used during system testing and commissioning from all systems?                                    |     |    |     |
| During testing and commissioning, does your organization obtain approval from JPEC for the use of troubleshooting tools prior to being used?                                                   |     |    |     |
| During testing and commissioning, does your organization inform JPEC of any adverse effects that hardware or software troubleshooting tools may have on network performance?                   |     |    |     |

### 3.2.17 SYSTEM TESTING AND COMMISSIONING

| System Hardening                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | YES | NO | N/A |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| During system testing and commissioning, does your organization demonstrate security mechanisms installed in accordance with the approved procedures, including compliance with your hardening guidelines?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |    |     |
| During system testing and commissioning, does your organization verify the following conditions have been successfully completed? <ul style="list-style-type: none"> <li>a. Software and functionality that is not required for the intended functional purpose of the system; email, office applications, games, USB ports, Bluetooth, and Wi-Fi communication, etc., have been removed or not installed unless approved by JPEC.</li> <li>b. Physical and logical access to diagnostic and configuration ports is protected.</li> <li>c. Unused ports on switches and routers that have been disabled so as to prevent unauthorized access to the network.</li> <li>d. If requested by JPEC, demonstrate maintenance processes that maintain the system hardened state during the system lifetime.</li> </ul> |     |    |     |
| During system testing and commissioning, does your organization verify that the point of connection to a control system network includes a stateful firewall with documented and maintained firewall rules; or provide JPEC with verification that firewall rules are up to date if JPEC is responsible for maintaining them?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |    |     |
| During system testing and commissioning, does your organization verify that the point of connection within the control system network between wired and wireless networks is firewalled with documented and maintained firewall rules?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     |    |     |
| During system testing and commissioning, does your organization verify that the point of connection within the control system network is firewalled with documented and maintained firewall rules?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |     |    |     |
| During system testing and commissioning, does your organization verify the point of connection within the control system network to a data warehouse is firewalled with documented and maintained firewall rules?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |     |    |     |

| Protection from Malicious Code                                                                                                                                                                                                    | YES | NO | N/A |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| Prior to system testing and commissioning, does your organization update the document describing the configuration of the virus detection software installed on each component?                                                   |     |    |     |
| Where the installation of anti-virus software is not technically possible, prior to testing and commissioning, does your organization update the document describing all computers where anti-virus software cannot be installed? |     |    |     |
| Prior to testing and commissioning, does your organization update the document describing all the uses of all mitigating features and functions used to reduce the risk of incident?                                              |     |    |     |

| Protection from Malicious Code                                                                                                                                                                           | YES | NO | N/A |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| Prior to system testing and commissioning, does your organization provide documentation to ensure that the use of correctly installed, configured, and up-to-date anti-virus software has been verified? |     |    |     |

| Secure Account Management                                                                                                                                                                                                                                | YES | NO | N/A |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| During system testing and commissioning, does your organization demonstrate that invalid login attempts are logged and reported in a timely manner to an interface specified by JPEC?                                                                    |     |    |     |
| During system testing and commissioning, do your organization's systems demonstrate the capability to create unique usernames and passwords?                                                                                                             |     |    |     |
| Prior to system testing and commissioning, does your organization verify that usernames and passwords approved by JPEC to be shared by your organization's service group are correctly logged and maintained?                                            |     |    |     |
| During system testing and commissioning, does your organization demonstrate the capability to create and maintain system accounts (such as an Administrator account)?                                                                                    |     |    |     |
| During testing and commissioning, does your organization demonstrate and verify that users are prompted to change their passwords 14-30 days prior to expiration?                                                                                        |     |    |     |
| During system testing and commissioning, does your organization demonstrate and verify that workstations located in areas that are normally unattended have the required authentication and have an active automatic locking or disconnection mechanism? |     |    |     |

| Backup and Restoration Support                                                                                                                                                                                                                                                                                                               | YES | NO | N/A |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| During system testing and commissioning, does your organization perform a back-up for all systems and verify that the system will be regularly backed-up and that the scheduled intervals fulfill JPEC's data restore and disaster recovery objectives for the system?                                                                       |     |    |     |
| Prior to system testing and commissioning, does your organization provide JPEC with logical and physical infrastructure architecture diagrams in AutoCAD or MS Visio drawing formats, which verify that your organization's systems and components are compliant with the infrastructure architectural requirements described by JPEC?       |     |    |     |
| During system testing and commissioning, does your organization verify that the Control System Network (CSN or Layer 3) and Distributed Control System (DCS) internal bus (Layer 2) are physically separated in a secure fashion (e.g. dedicated firewall, or router with ACLs, or dual-homed host with blocked routing between interfaces)? |     |    |     |

| Wireless Connections                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | YES | NO | N/A |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| During system testing and commissioning, does your organization verify that JPEC has approved the use of wireless devices as part of a control loop?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |    |     |
| <p>Prior to system testing and commissioning, does your organization verify that its systems architecture documentation describing wireless systems is up to date in its description of the following:</p> <ul style="list-style-type: none"> <li>a. Data exchange between Layer 1 and wireless instrumentation.</li> <li>b. Data exchange between Layer 2 and Layer 3 through a secure wireless link.</li> <li>c. Bridge connecting the Layer 3 network using a secure wireless link.</li> <li>d. Security mechanisms that prevent an intruder from gaining access to the systems using the wireless system.</li> <li>e. Security mechanism that restricts access by workers with handheld wireless devices.</li> <li>f. Where required, security mechanisms that provide remote management of wireless systems.</li> </ul> |     |    |     |
| During system testing and commissioning, does your organization verify that its system plan for the use of frequencies in wireless infrastructures, addressing non-interference and co-existence is up-to-date and approved by JPEC?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |    |     |

| Remote Access                                                                                                                                                                                                                                | YES | NO | N/A |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| During system testing and commissioning, does your organization demonstrate that if remote access is required it is possible to remotely access its system using one of the allowed connectivity applications which comply with JPEC policy? |     |    |     |
| Prior to system testing and commissioning, does your organization verify that all system-to-system connections and user-to-system connections are approved by JPEC in accordance with the required review time?                              |     |    |     |

#### 4. INSTALLATION OF AMI METERS, END OF LIFE METER TESTING AND STORAGE OF REMOVED METERS

##### 4.1. SPECIFICATIONS

Proposed products/services must meet the following specifications:

- When completing meter exchange, installer shall complete service order, while onsite, through NISC's AppSuite.
- During installation through JPEC's acceptance, a single point of contact with 24/7 accessibility will be provided.
- End of life testing:
  - Test facility and meter testers shall have certification from the Kentucky Public Service Commission.
  - All meter testing data shall be submitted in a CSV file as specified in Exhibit B.
  - All meters shall be tested, and results returned to Jackson Purchase Energy within fourteen (14) days following removal.
  - All meters shall be tested for accuracy and stored for six (6) months; If meter shows an average meter error that is two (2) percent or greater, fast or slow, or if the meter is stuck or dead, the meter should be returned to Jackson Purchase Energy's Paducah Office within 48 hours following testing.

Additionally, proposals should include the following:

- Pricing to replace approximately (400) meter bases to allow consolidation of meter forms. This encompasses replacing all 3S, 4S, 5S, 6S, and 16K bases with 9S bases. See Exhibit A for meter inventory list.
- Methodology for deployment, including proposed process maps and deployment schedules for the products/services proposed in order to meet Jackson Purchase Energy's desired acceptance date of December 6, 2024, for pilot and, June 26, 2026, for full installation.
- Turnkey solutions and third-party installation services should provide information outlining services they can offer related to communications hardware installation, AMI meter installation (see Exhibit B), and end of life testing and 6 months of storage for old meters.
- Identify any exceptions to Jackson Purchase Energy's specifications.

##### 4.2 FEATURES/FUNCTIONALITY CHECKLIST

Respond as follows:

- |     |                                                                                    |
|-----|------------------------------------------------------------------------------------|
| YES | Feature/Functionality is part of the product(s) being quoted in this proposal.     |
| NO  | Feature/Functionality is NOT part of the product(s) being quoted in this proposal. |

| 4.2.1 Meter Installation/ End of Life Testing Requirements                                                              | YES | NO |
|-------------------------------------------------------------------------------------------------------------------------|-----|----|
| GPS data on installed meter will be provided without additional cost.                                                   |     |    |
| Vendor trains all employees in safety, customer relations, hazardous conditions, and identification of meter tampering. |     |    |
| Meter jaw tension testing.                                                                                              |     |    |

## **5. MDMS/METER DATA ANALYTICS**

JPEC will utilize NISC's MDMS but welcomes vendors to propose data analytics software to assist with engineering functions and system monitoring.

## **6. TRAINING SERVICES AND SUPPORT**

Vendor will provide training to support the deployment and operation of the proposed system as part of the service.

At a minimum, vendor must provide the following training services:

- Two weeks on-site initial training with the option to purchase one additional week of on-site training.
- One week follow-up on-site training upon request.

Training will take place at JPEC's Headquarters in Paducah, KY. Vendor must provide recommended positions intended for training. Vendor should also provide a course listing and associated fees for all available optional off-site, WebEx and user group training.

Minimum topics to be covered during training:

### **A. System Introduction**

The course will introduce relevant services, Consumer Web Portal, Hardware, Software and Support System and documentation.

### **B. System Installation, Operation, and Maintenance Training**

The course will train selected JPEC maintenance personnel on the installation, operation, and maintenance of the proposed system. At the end of the training the meter maintenance personnel will understand the meter fault error codes, proper installation & maintenance procedures, and operation of software and troubleshoot best practices. IT Staff will understand installation, and maintenance of backend services and operating systems.

### **C. Operator Training**

The course will train JPEC's operators how to access and utilize all services. At the end of the training the operators should know how to log into the system, request on demand meter read, request historical data, assist consumers in configuring the prepayment system and use the outage and asset monitoring services.

### **D. Maintenance and Operation**

The course will train selected JPEC personnel to configure and change services to support JPEC's meter database and configurations. At the end of the session, JPEC personnel will know how to add, delete, or modify consumer meter information, update meter asset monitoring, and enroll consumers in prepayment systems while also maintaining network infrastructure equipment and update systems.

### **Support**

Vendor must state the hours of operation for support service, a description of services offered, and an overview of the support staff including the number of persons on the team.

## 7. PRICING AND PROPOSAL REQUIREMENTS

JPEC expects priced proposals that offer complete transparency and exposure of all costs that are associated with the vendors offer. This includes all purchase and implementation costs as well as all annual operating expenses for the expected lifetime of the proposed system. Vendors must submit their priced proposals in an editable (e.g., MS-Excel or Word) format. **Other file types will not be accepted.** The sheets that follow provide a suggested format for the priced proposals. If you need to modify the form or to add additional space, please do so as needed.

You must provide unit prices for each of the items in your offer. These unit prices will be used for internal evaluation and to account for the fact that specific meter and device quantities could vary. In addition, and where applicable, you must clearly define:

- quantity discount volumes and prices,
- minimum quantities required for specific price levels,
- parameters for price escalation/reduction related to future purchases,
- thresholds for data transfer volumes which affect recurring/monthly price levels,
- software development that is custom to **JPEC** and the impact of this development on annual recurring expenses,
- other variables unique to your solution which affect your pricing or the inherent support costs for your system.

JPEC is also interested in knowing if optional cost savings are available with neighboring utilities through joint use of existing AMI system.

**7.1 SOFTWARE AND DELIVERY SUPPORT FOR AMI APPLICATIONS (You may use a separate sheet for each of these applications)**

| Item #                                                                                                                                                                                          | Description                                                                                                          | Quantity | Required or Optional | Unit Price |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------|----------------------|------------|
| 1                                                                                                                                                                                               | License Agreement for Standard Software Application                                                                  |          |                      |            |
| 2                                                                                                                                                                                               | Additional software licenses, applications, integration, or services required to meet the JPEC specifications        |          |                      |            |
| 3                                                                                                                                                                                               | Additional software licenses, applications, integration, or services required to meet the JPEC specifications        |          |                      |            |
| 4                                                                                                                                                                                               | Additional software licenses, applications, integration, or services required to meet the JPEC specifications        |          |                      |            |
| 5                                                                                                                                                                                               | Fees required to support JPEC through start-up and SAT (including documentation, training, project management, etc.) |          |                      |            |
| 6                                                                                                                                                                                               | Training                                                                                                             |          |                      |            |
| 7                                                                                                                                                                                               | Project management                                                                                                   |          |                      |            |
| 8                                                                                                                                                                                               | Documentation                                                                                                        |          |                      |            |
| 9                                                                                                                                                                                               | Travel costs                                                                                                         |          |                      |            |
| 10                                                                                                                                                                                              | Other (if more space is needed for detail, please add to the table.)                                                 |          |                      |            |
| 11                                                                                                                                                                                              | Other (if more space is needed for detail, please add to the table.)                                                 |          |                      |            |
| <b>Options</b>                                                                                                                                                                                  |                                                                                                                      |          |                      |            |
| 12                                                                                                                                                                                              | Application 1                                                                                                        |          |                      |            |
| 13                                                                                                                                                                                              | Application 2                                                                                                        |          |                      |            |
| <b>Expected by JPEC</b><br>In the spaces below please list all items which you expect JPEC to provide in order to meet the specification – e.g., Oracle or SQL licenses, Microsoft Office, etc. |                                                                                                                      |          |                      |            |
| 14                                                                                                                                                                                              |                                                                                                                      |          |                      |            |
| 15                                                                                                                                                                                              |                                                                                                                      |          |                      |            |
| 18                                                                                                                                                                                              |                                                                                                                      |          |                      |            |

## 7.2 SERVERS/HARDWARE FOR AMI SYSTEM

In the spaces below, please enter the specifications/ requirements and price for each item. The table below allows 2 servers. If more space is needed, expand this table, or create a table similar to the one below. Please be specific and detailed with your response. It is possible that JPEC will purchase all recommended hardware directly from local sources.

| Item #                                                                                                                                                                                            | Description | Quantity | Required or Optional | Unit Price |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------|----------------------|------------|
| <b>Server # 1</b>                                                                                                                                                                                 |             |          |                      |            |
| 1                                                                                                                                                                                                 |             |          |                      |            |
| 2                                                                                                                                                                                                 |             |          |                      |            |
| 3                                                                                                                                                                                                 |             |          |                      |            |
| 4                                                                                                                                                                                                 |             |          |                      |            |
| 5                                                                                                                                                                                                 |             |          |                      |            |
| 6                                                                                                                                                                                                 |             |          |                      |            |
| 7                                                                                                                                                                                                 |             |          |                      |            |
| 8                                                                                                                                                                                                 |             |          |                      |            |
| 9                                                                                                                                                                                                 |             |          |                      |            |
| <b>Server # 2</b>                                                                                                                                                                                 |             |          |                      |            |
| 10                                                                                                                                                                                                |             |          |                      |            |
| 11                                                                                                                                                                                                |             |          |                      |            |
| 12                                                                                                                                                                                                |             |          |                      |            |
| 13                                                                                                                                                                                                |             |          |                      |            |
| 14                                                                                                                                                                                                |             |          |                      |            |
| 15                                                                                                                                                                                                |             |          |                      |            |
| 16                                                                                                                                                                                                |             |          |                      |            |
| 17                                                                                                                                                                                                |             |          |                      |            |
| <b>Expected to be Supplied by JPEC</b><br>In the spaces below please list all items which you expect JPEC to provide in order to meet the specification – e.g., specific network interfaces, etc. |             |          |                      |            |
| 18                                                                                                                                                                                                |             |          |                      |            |
| 19                                                                                                                                                                                                |             |          |                      |            |
| 20                                                                                                                                                                                                |             |          |                      |            |
| 21                                                                                                                                                                                                |             |          |                      |            |

### 7.3 NETWORK INFRASTRUCTURE – INCLUDES LAN AND EQUIPMENT REQUIRED FOR AMI

JPEC expects that the AMI Vendor will select/identify location points for all network infrastructure hardware. If the design does not meet the specified performance parameters, AMI vendor will redesign it at its cost. In the spaces below, provide the details and costs for all hardware and software required to operate your communications infrastructure. This section should include any test apparatus, and separate lists for recommended and required spare parts required to operate your network.

In this table, we expect that an initial system delivery will be quoted as well as an expected cost for the full system roll-out (based on current prices for Network hardware).

| Item #                                                                                                                                                       | Description | Quantity | Required or Optional | Unit Price | Unit Price to install equipment |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------|----------------------|------------|---------------------------------|
| <b>Infrastructure for Initial Deployment and System Acceptance Test</b>                                                                                      |             |          |                      |            |                                 |
| 1                                                                                                                                                            |             |          |                      |            |                                 |
| 2                                                                                                                                                            |             |          |                      |            |                                 |
| 3                                                                                                                                                            |             |          |                      |            |                                 |
| 4                                                                                                                                                            |             |          |                      |            |                                 |
| 5                                                                                                                                                            |             |          |                      |            |                                 |
| 6                                                                                                                                                            |             |          |                      |            |                                 |
| 7                                                                                                                                                            |             |          |                      |            |                                 |
| 8                                                                                                                                                            |             |          |                      |            |                                 |
| 9                                                                                                                                                            |             |          |                      |            |                                 |
| 10                                                                                                                                                           |             |          |                      |            |                                 |
| <b>Expected Full Deployment Infrastructure to Reach 100% of the JPEC Meter Locations<br/>(please include any recommended test equipment and spare parts)</b> |             |          |                      |            |                                 |
| 11                                                                                                                                                           |             |          |                      |            |                                 |
| 12                                                                                                                                                           |             |          |                      |            |                                 |
| 13                                                                                                                                                           |             |          |                      |            |                                 |
| 14                                                                                                                                                           |             |          |                      |            |                                 |
| 15                                                                                                                                                           |             |          |                      |            |                                 |
| 16                                                                                                                                                           |             |          |                      |            |                                 |
| 17                                                                                                                                                           |             |          |                      |            |                                 |
| 18                                                                                                                                                           |             |          |                      |            |                                 |
| 19                                                                                                                                                           |             |          |                      |            |                                 |
| 20                                                                                                                                                           |             |          |                      |            |                                 |

| Expected Full Deployment Infrastructure to Reach 100% of the JPEC Meter Locations<br>(please include any recommended test equipment and spare parts)                                                          |  |  |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|
| 21                                                                                                                                                                                                            |  |  |  |  |  |
| 22                                                                                                                                                                                                            |  |  |  |  |  |
| 23                                                                                                                                                                                                            |  |  |  |  |  |
| 24                                                                                                                                                                                                            |  |  |  |  |  |
| 25                                                                                                                                                                                                            |  |  |  |  |  |
| 26                                                                                                                                                                                                            |  |  |  |  |  |
| Expected to be Supplied by JPEC<br>In the spaces below please list all items which you expect JPEC to provide in order to meet the<br>specification – e.g., backhaul communications, frequency licenses, etc. |  |  |  |  |  |
|                                                                                                                                                                                                               |  |  |  |  |  |
|                                                                                                                                                                                                               |  |  |  |  |  |
|                                                                                                                                                                                                               |  |  |  |  |  |
|                                                                                                                                                                                                               |  |  |  |  |  |
|                                                                                                                                                                                                               |  |  |  |  |  |
|                                                                                                                                                                                                               |  |  |  |  |  |

#### 7.4 AMI METERS

| Item # | Description                                                                                     | Meter Manufacturer | Unit Price for Meter | Unit Price to install Meter |
|--------|-------------------------------------------------------------------------------------------------|--------------------|----------------------|-----------------------------|
| 1      | AMI meter for 1Φ (Form 2S CL 200) meter manufacturer 1                                          |                    |                      |                             |
| 2      | AMI meter for 1Φ (Form 2S CL 200) meter manufacturer 2                                          |                    |                      |                             |
| 3      | AMI meter for 1Φ (Form 2S CL 200) meter manufacturer 1 with disconnect                          |                    |                      |                             |
| 4      | AMI meter for 1Φ (Form 2S CL 200) meter manufacturer 2 with disconnect                          |                    |                      |                             |
| 5      | AMI meter for 1Φ (Form 2S CL 320) meter manufacturer 1                                          |                    |                      |                             |
| 6      | AMI meter for 1Φ (Form 2S CL 320) meter manufacturer 2                                          |                    |                      |                             |
| 7      | AMI meter for 1Φ (Form 2S CL320) meter manufacturer 1 with disconnect                           |                    |                      |                             |
| 8      | AMI meter for 1Φ (Form 2S CL320) meter manufacturer 1 with disconnect                           |                    |                      |                             |
| 9      | AMI meter for 1Φ or 3Φ (Form 9S) meter manufacturer 1                                           |                    |                      |                             |
| 10     | AMI meter for 1Φ or 3Φ (Form 9S) meter manufacturer 2                                           |                    |                      |                             |
| 11     | AMI meter for 3Φ (all self-contained forms and classes for kWh applications) meter manufacturer |                    |                      |                             |
| 12     | AMI meter for 3Φ (all self-contained forms and classes for kWh applications) meter manufacturer |                    |                      |                             |
| 13     | AMI meter for 3Φ (all transformer rated meter forms and classes for kWh applications) meter     |                    |                      |                             |
| 14     | AMI meter for 3Φ (all transformer rated meter forms and classes for kWh applications) meter     |                    |                      |                             |
| 15     | AMI meter for 3Φ (all transformer rated meter forms and classes for kVARh applications) meter   |                    |                      |                             |
| 16     | AMI meter for 3Φ (all transformer rated meter forms and classes for kVARh applications) meter   |                    |                      |                             |

## 7.5 RECURRING AND MISCELLANEOUS COSTS

Please provide details for the recurring and miscellaneous costs associated with the delivery and operation of your system. Expand the table as needed to completely summarize anticipated costs.

| Item #                                                                                                                                                          | Description | Quantity | Required or Optional | Unit Price |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------|----------------------|------------|
| <b>System Installation and Maintenance Tools</b>                                                                                                                |             |          |                      |            |
| 1                                                                                                                                                               |             |          |                      |            |
| 2                                                                                                                                                               |             |          |                      |            |
| 3                                                                                                                                                               |             |          |                      |            |
| <b>Spare Parts</b>                                                                                                                                              |             |          |                      |            |
| 4                                                                                                                                                               |             |          |                      |            |
| 5                                                                                                                                                               |             |          |                      |            |
| 6                                                                                                                                                               |             |          |                      |            |
| <b>Recurring Fees</b>                                                                                                                                           |             |          |                      |            |
| 7                                                                                                                                                               |             |          |                      |            |
| 8                                                                                                                                                               |             |          |                      |            |
| 9                                                                                                                                                               |             |          |                      |            |
| <b>Professional Services Fees</b>                                                                                                                               |             |          |                      |            |
| 10                                                                                                                                                              |             |          |                      |            |
| 11                                                                                                                                                              |             |          |                      |            |
| 12                                                                                                                                                              |             |          |                      |            |
| <b>Cost Savings Options</b>                                                                                                                                     |             |          |                      |            |
| 13                                                                                                                                                              |             |          |                      |            |
| 14                                                                                                                                                              |             |          |                      |            |
| 15                                                                                                                                                              |             |          |                      |            |
| <b>Expected to be Supplied by JPEC</b><br><b>In the spaces below please list all items which you expect JPEC to provide in order to meet the specification.</b> |             |          |                      |            |
| 16                                                                                                                                                              |             |          |                      |            |
| 17                                                                                                                                                              |             |          |                      |            |
| 18                                                                                                                                                              |             |          |                      |            |
| 19                                                                                                                                                              |             |          |                      |            |

## **8. RFP TERMS AND CONDITIONS**

### **A. RIGHT TO CANCEL PROCUREMENT OR REJECT ALL OFFERS**

This RFP in no manner obligates Jackson Purchase Energy to the purchase of any products or services described, implied or which may be proposed until confirmed by a written contract. Progress towards this end is solely at the discretion of Jackson Purchase Energy and may be terminated without penalty or obligations at any time prior to the signing of a contract. Jackson Purchase Energy reserves the right to cancel this RFP at any time, for any reason, and to reject any or all proposals or any parts thereof.

### **B. VENDOR EXPENSES**

Expenses for developing and presenting proposals shall be the entire responsibility of the vendor and shall not be chargeable to Jackson Purchase Energy. All supporting documentation submitted with this proposal will become the property of Jackson Purchase Energy.

### **C. WITHDRAWALS**

Proposals may be withdrawn if requested, in writing, or on the vendor's letterhead signed by an authorized representative and received by Jackson Purchase Energy prior to RFP closing time.

### **D. COMPLIANCE WITH LAWS**

The vendor shall comply with all applicable federal, state, and local laws, statutes, rules, regulations, and ordinances.

### **E. RFP AND PROPOSAL PART OF CONTRACT**

This RFP, along with all submitted proposals and materials will become part of the final contract upon which implementation and performance shall be based.

### **F. ASSURANCES**

By submitting a proposal, vendor makes the following assurances:

- A. Vendor has read and understands all instructions, requirements, site conditions, and terms and conditions contained herein, including the attachments and Exhibits listed in this RFP.
- B. Vendor has the authority and/or responsibility to submit a proposal and to bind the vendor's organization in all phases of this RFP process.
- C. The information provided is true and accurate to the best of the vendor's knowledge.
- D. Vendor has not and will not discriminate against any employee or subcontractor.

## Exhibit A – Meter Forms

### Current Meter Inventory

| Form | Count  | Class 20 | Class 100 | Class 200 | Class 320 |
|------|--------|----------|-----------|-----------|-----------|
| 1s   | 193    |          | 193       |           |           |
| 2s   | 28,928 |          |           | 27,602    | 1326      |
| 3s   | 64     | 64       |           |           |           |
| 4s   | 100    | 100      |           |           |           |
| 5s   | 33     | 33       |           |           |           |
| 6s   | 12     | 12       |           |           |           |
| 9s   | 342    | 342      |           |           |           |
| 16s  | 502    |          |           | 442       | 60        |
| 16k  | 186    |          |           | 3         | 183       |

### Consolidated Meter Inventory

| Form | Count | Class 20 | Class 100 | Class 200 | Class 320 |
|------|-------|----------|-----------|-----------|-----------|
| 1s   |       | 240      |           |           |           |
| 2s   |       |          |           | 28,602    | 1,526     |
| 9s   | 788   |          |           |           |           |
| 16s  |       |          |           | 500       | 100       |

**\*See shape files sent with RFP for the following information:**

- Meter locations
- Pole locations
- Transformer locations
- Outdoor light locations
- Existing tower locations
- Substation locations
- Fiber route
- JPEC headquarters location

## **Exhibit B – Meter Exchange and Testing Requirements**

### **A. Meter Exchange Data Requirements**

- Before and after picture of meter exchange.
- Data will be processed through NISC's AppSuite using service orders created by JPEC for each exchange.
- Data processing will require iOS or android devices provided by vendor.

### **B. End of Life Meter Testing Requirements for Data**

\*See CSV file

## **RFP Recipients**

### AMI Vendors

Aclara/Hubbell

Sensus/Xylem

Eaton

Landis+Gyr

Tantalus

Honeywell

Itron/NRTC

Verizon

### Meter Exchange and Testing Vendors

Quality Resources, LLC

Luthan Electric Meter Testing