Advanced Metering Infrastructure Procurement Process

Board Workshop
May 30, 2019
Purpose: Review AMI procurement process, including draft evaluation criteria, and receive Board guidance
Presentation Outline:

- Introduction
- AMI Procurement:
  - Procurement Strategy & Timeline
  - Proposal Data
- Evaluation Overview:
  - Methodology
  - Technical Evaluation
  - Financial Evaluation
- Next Steps
### Abbreviation Sheet:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMI</td>
<td>Advanced Metering Infrastructure</td>
<td>NaaS</td>
<td>Network as a Service</td>
</tr>
<tr>
<td>CapEx</td>
<td>Capital Expenditure</td>
<td>NPV</td>
<td>Net Present Value</td>
</tr>
<tr>
<td>CIS</td>
<td>Customer Information System</td>
<td>O&amp;M</td>
<td>Operations &amp; Maintenance</td>
</tr>
<tr>
<td>GPM</td>
<td>Gallons Per Minute</td>
<td>OpEx</td>
<td>Operational Expenditure</td>
</tr>
<tr>
<td>IoT</td>
<td>Internet of Things</td>
<td>PoC</td>
<td>Proof of Concept</td>
</tr>
<tr>
<td>IRR</td>
<td>Internal Rate of Return</td>
<td>QA/QC</td>
<td>Quality Assurance &amp; Quality Control</td>
</tr>
<tr>
<td>IT</td>
<td>Information Technology</td>
<td>RF</td>
<td>Radio Frequency</td>
</tr>
<tr>
<td>KPI</td>
<td>Key Performance Indicator</td>
<td>RFP</td>
<td>Request For Proposal</td>
</tr>
<tr>
<td>LPWAN</td>
<td>Low Power Wide Area Network</td>
<td>ROI</td>
<td>Return On Investment</td>
</tr>
<tr>
<td>MDMS</td>
<td>Meter Data Management System</td>
<td>SaaS</td>
<td>Software as a Service</td>
</tr>
<tr>
<td>MHz</td>
<td>MegaHertz</td>
<td>UAT</td>
<td>User Acceptance Testing</td>
</tr>
<tr>
<td>mW</td>
<td>milliWatt (measure of Power)</td>
<td>W</td>
<td>Watt (measure of Power)</td>
</tr>
</tbody>
</table>
Partnering to define our AMI future

Joel Carty, EMA AMI Consultant

• 19+ years experience

• **Focus Areas**: Project management; residential & CII water meter applications; AMI/AMR technology; water metering technology; water meter installations; AMI deployment; MDM design; implementation and testing; change management; public outreach; customer service
Partnering to define our AMI future

Mark Germscheid, EMA Project Manager
• 20+ years experience
• **Focus Areas:** Project management; advanced metering infrastructure; request for proposal development; telecommunications architecture and management; telecommunications vendor management; customer service system administration; change management; voice and data services; software and hardware procurement

Sharon Peters, EMA Vice President
• 30+ years experience
• **Focus Areas:** Customer service; workforce planning; change management and organizational development; program management; strategic planning; technology planning; operations and maintenance management; asset management.
AMI Project Goals and Business Drivers:

- Revenue Continuity
- Customer Engagement
- District Absorption
- Operational Enhancements
- Schedule & Value

Business Drivers:

1. Revenue Protection (RP)
2. Operational Efficiency (OE)
3. Improve Distribution System Management (DS)
4. Enhanced Customer Service (CS)
5. Societal Benefits (SB)
6. Smart City (SC)

Non-Financial Benefits
Financial Benefits
AMI Project Timeline

Design Study, Communications Feasibility, IT Preparation

CEQA

Procurement Process & Vendor Selection

PoC Deployment & Validation

Full Deployment

Needs Workshop

Evaluation Criteria

PoC Validation

Financial Analysis

Results of Procurement

Public Outreach

Business Process Re-engineering

Phase-1

Phase-2

Phase-3

2018

2019

2020

2021

2022

Today

- Board Input Milestones

Evaluation Criteria

Phase-1

Phase-2

Phase-3

Today
We’re buying a suite of business & customer service solutions.
Section 1:

AMI Procurement Overview
A number of contracts are required to execute the AMI Project.

Required procurements:

- AMI Deployment Contract (RFP 1)
- Customer Portal Contract (RFP 2)
- CIS Modifications (Sole Source, Cayenta)
- Construction Support (Amendment, EMA)
AMI Procurement Strategy

A. AMI System Elements

- Supply of materials:
  - Radio transmitters
  - Data Collectors* 
  - Handhelds
  - Meter Data Management (MDMS)
- Software Installation and testing
- Interface Programming
- Data collector installations*
- Acquisition of collector sites*

B. Metering Elements
- Water Meter Supply
- Register Supply
- Pressure Sensor Supply

C. Installation Elements
- Installation labor
- Installation materials
- Project Management / Supervision
- Customer Service
- Public Outreach
- Data QA/QC

* If required
AMI Procurement Strategy

- Advantages of a single lead entity procurement:
  - Responsibility for all components in a single vendor.
  - Provides competitive evaluation of value-added features.
  - Payment is tied to functionality.
  - Easier to allow for potential financing options.
  - Warranty is all inclusive.
Procurement & Selection Process

Evaluation Criteria (2mth)
Establish criteria for proposal evaluation.

Proposal Evaluation (2mth)
Staff evaluation of proposals against rubric. Interviews with top Proposer/s.

Step 1
RFP Development (4mth)
Translate District’s AMI needs and specifications into contracting language.

Step 2
Evaluation Criteria (2mth)
Establish criteria for proposal evaluation.

Step 3
Solicitation (8wk)
8wk advertising period. Project briefing & RFI responses.

Step 4
Proposal Evaluation (2mth)
Staff evaluation of proposals against rubric. Interviews with top Proposer/s.

Step 5
Negotiation (~4wk)
Potential additional Informational meetings and negotiation of contract.

Step 6
Selection & Award
Results of procurement presentation by Staff.
**Procurement & Selection Process**

- **Step 1**: RFP Development (4mth)
  - Translate District’s AMI needs and specifications into contracting language.

- **Step 2**: Evaluation Criteria (2mth)
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- **Step 3**: Solicitation (8wk)
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- **Step 4**: Proposal Evaluation (2mth)
  - Staff evaluation of proposals against rubric. Interviews with top Proposer/s.

- **Step 5**: Negotiation (~4wk)
  - Potential additional Informational meetings and negotiation of contract.

- **Step 6**: Selection & Award
  - Results of procurement presentation by Staff.
Step 1 - The RFP development is 90% Complete

- Scope statement.
- Technical specifications.
  - Reflects Design Study decision set.
- Legal requirements.
- Proposal requirements.
  - Mandatory elements.
  - Optional elements.
- Evaluation process.
- Sample contracts.
Step 1 – RFP Specifications describe the Draft Scope of Work

- Draft scope of work.
- Specification writing:
  - Minimum Requirements.
  - Should’s.
  - Shall’s.
Step 1 - Proposal Requirements

**Volume I – Technical Proposal**

- Statement of project understanding.
- AMI system data.
- Metering equipment data.
- Installation services data.
- Project approach and schedule.
- Statement of Experience.
- Public Works forms.
- Exceptions.
Step 1 - Proposal Requirements

Volume I – Technical Proposal

- AMI system data:
  - Answers to RFP evaluation questions, and value added.
  - RF siting and Propagation Study (if applicable).
  - Equipment specifications.
  - Experience.
Step 1 - Proposal Requirements

Volume I – Technical Proposal

- Metering equipment data:
  - Answers to RFP evaluation questions, and value added.
  - Equipment specifications.
  - Alternative metering proposal.
  - Experience.
Step 1 - Proposal Requirements

Volume I – Technical Proposal

- Installation services data:
  - Answers to RFP evaluation questions, and value added.
  - Approach & level of effort.
  - Qualifications & Experience.

ACWD Business Drivers
Step 1 - Proposal Requirements

Volume II – Financial Proposal

- Deployment capital costs schedule.
  - Optional value-added project elements.
- Lifecycle operational cost schedule.

AMI Business Case

Scenario 2 Analysis:

<table>
<thead>
<tr>
<th>Item</th>
<th>Estimate</th>
<th>Description</th>
<th>Total CapEx</th>
</tr>
</thead>
<tbody>
<tr>
<td>CapEx</td>
<td></td>
<td></td>
<td>-$29.21M</td>
</tr>
<tr>
<td>Meter Box</td>
<td>-$18.85M</td>
<td>Equipment Costs</td>
<td></td>
</tr>
<tr>
<td>AMI System Costs</td>
<td>-$8.18M</td>
<td>Endpoint deployment, IT initialization</td>
<td></td>
</tr>
<tr>
<td>Project Support</td>
<td>-$2.18M</td>
<td>Project and Construction Management</td>
<td></td>
</tr>
<tr>
<td>Revenue Improvements</td>
<td>+$1.19M</td>
<td>Revenue recovery from meter deployment accuracy improvements</td>
<td></td>
</tr>
<tr>
<td>Operational</td>
<td>+$2.14M</td>
<td>Cross-departmental business process improvements</td>
<td></td>
</tr>
<tr>
<td>Operational Costs</td>
<td>-$1.18M</td>
<td>Additional service and licensing costs</td>
<td></td>
</tr>
</tbody>
</table>

Results:
- 20yr NPV: +$6.79M
- 20yr IRR: 4.62%
- Payback: 15.2 yrs
- 20yr ROI: 46.5%
AMI Procurement Questions

Ben Egger – Project Engineer, ACWD
Joel Carty – AMI SME, EMA Inc
Section 2:

Step 2 - Evaluation Criteria
Procurement & Selection Process

Evaluation Criteria (2mth)
Establish criteria for proposal evaluation.

Proposal Evaluation (2mth)
Staff evaluation of proposals against rubric. Interviews with top Proposer/s.

Selection & Award
Results of procurement presentation by Staff.

Step 1
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Step 2

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8wk advertising period. Project briefing & RFI responses.

Step 4

Step 5
Negotiation (~4wk)
Potential additional Informational meetings and negotiation of contract.

Step 6
Price per technical point
The “Price per point” methodology identifies value.

Three steps:
1. Technical evaluation of Volume I.
2. Financial evaluation of Volume II.
3. Perform “price per technical point” calculation.

Assurances:
- Quality: Strong specifications & minimum technical score.
- Financial: Combined capital & lifecycle costs.
- Flexibility: Allow alternatives to be evaluated.
- Value-added: Optional proposal elements.
## Price per point example:

<table>
<thead>
<tr>
<th></th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Proposer 1</td>
</tr>
<tr>
<td>Technical Evaluation</td>
<td>900</td>
</tr>
<tr>
<td>Financial Evaluation</td>
<td>$38,000,000</td>
</tr>
<tr>
<td>Price per technical Points</td>
<td>$42,222</td>
</tr>
</tbody>
</table>

**Best value proposal**
Technical Evaluation

- Three levels of technical weighting.
- Allows the District to prioritize what is important.
  - Level 1 – focus on the main corners of the triangle
  - Level 2 – focus on the sub-component
  - Level 3 – ask questions the Proposer will be asked to respond to (over 150 questions)
- Each level allows for the District project team to weight what is important.
- Scoring at Level 3 by the Evaluation Team will roll up into total overall score
## Technical Evaluation
### Level 1 & 2 Matrix

<table>
<thead>
<tr>
<th>Level 1 Description</th>
<th>Level 2 Description</th>
<th>Level 1 Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Overview</strong></td>
<td>Project Goals and Business Drivers</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Project Management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Completion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>User Acceptance Testing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Project Plan</td>
<td></td>
</tr>
<tr>
<td><strong>AMI System</strong></td>
<td>AMI System Experience</td>
<td>350</td>
</tr>
<tr>
<td></td>
<td>Radio Transmitter</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AMI Network</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Software</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AMI Software</td>
<td></td>
</tr>
<tr>
<td><strong>Installation Services</strong></td>
<td>Installation Project Experience</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>Field Personnel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Work Requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Data Management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Customer Service</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Public Outreach</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Quality Control/Assurance</td>
<td></td>
</tr>
<tr>
<td><strong>Water Meter Supply</strong></td>
<td>Water Meter Experience</td>
<td>250</td>
</tr>
<tr>
<td></td>
<td>Water Meter Functionality and Features</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Encoder Register Functionality and Features</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Product Warranty and History</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water Meter Support and Training</td>
<td></td>
</tr>
<tr>
<td><strong>Total Technical Score</strong></td>
<td></td>
<td>1000</td>
</tr>
</tbody>
</table>
Technical Evaluation
Level 3

- Technical proposals will be based on responses to a series of questions.
- Responses to questions will be evaluated and rolled up.

<table>
<thead>
<tr>
<th>Question Scoring Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>10</td>
</tr>
</tbody>
</table>
## Technical Evaluation

**Level 3 Example**

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3 Questions</th>
<th>Proponent Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Overview</strong></td>
<td><strong>Project Goals and Business Drivers</strong></td>
<td>4. Describe how the proposed solution achieves each of the utility business drivers detailed in Section 1.1.3. Please use the business drivers’ reference within the response.</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td><strong>Project Management</strong></td>
<td>6. Provide a project organization chart that details the personnel who will be assigned to the project and highlight the company each project team member is employed by.</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. The Proposal should include brief descriptions the Project Manager and key project team members stating their key responsibilities (by key component), including team member(s) who will oversee the meter and RF transmitter installations and related services, lead the AMI network deployment, the deployment of the AMI software (headend, MDM and customer portal)?</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7. Resumes of key members to be provided in the Appendix. Resumes to include education, work experience and project experience specifically related to water meter installation and AMI.</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Completion</strong></td>
<td>8. Provide a list of at least three (3) projects that show the completion rate of the project. Include the following total number of: expected meters installation, actual meter installations, actual completed installation (including tasks), total proposed cost, actual cost.</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9. Describe the proposed methodology for achieving at least 98.5% of completed installation?</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td><strong>User Acceptance Testing</strong></td>
<td>10. Describe the proposed User Acceptance Testing that will be conducted.</td>
<td>5</td>
</tr>
</tbody>
</table>

### Question Scoring Criteria

<table>
<thead>
<tr>
<th>Score</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Did not respond to question</td>
</tr>
<tr>
<td>2</td>
<td>Some expectations were met</td>
</tr>
<tr>
<td>5</td>
<td>Most expectations were met</td>
</tr>
<tr>
<td>7</td>
<td>All expectations were met</td>
</tr>
<tr>
<td>10</td>
<td>Exceeded expectations</td>
</tr>
</tbody>
</table>

---

The table above outlines the technical evaluation criteria for a project, focusing on specific areas such as project goals, business drivers, project management, completion, and user acceptance testing. Each question is scored based on the level of expectation met, ranging from 0 to 10, with detailed criteria provided for each score level.
Proposal Evaluation Team

- Multiple Proposals
  - Evaluation
  - Consensus
  - Recommended Solution
  - Board of Directors

- Steering Committee
- Legal
- Project Manager
  - EMA Team
  - Operations & Maintenance Representative
  - Meter Reading & Customer Service Representative
  - Information Technology Representative
  - Water Supply / Public Outreach Representative
Evaluation Responsibilities

- Each member of the evaluation team will review and complete an individual evaluation.
- Evaluation team will meet to develop a consensus score.
- Minimum technical (short listed) score threshold:
  - Allowing only those eligible solutions to continue to be considered.
  - Eligible solutions that meet the specifications.
Technical Evaluation

- Eligible Solution (short list).
  - Moves to presentation and demonstrations.
- Presentation / Demonstration.
  - Provide clarity on the Technical Proposal.
- Opening financial proposals (Financial Evaluation)
- Best Value Proposer.
  - Moves to negotiation and if successful final recommendation.
Financial Evaluation

- Financial Evaluation includes:
  - Initial Capital Cost.
  - Lifecycle costs and assumptions.
    - OpEx costs.
    - Revenue improvements.
- Award Recommendation is based on:
  - Price per Technical Point.
    - Lowest price per technical point is recommended.
**Example Proposal Evaluation:**

<table>
<thead>
<tr>
<th>RFP Specifications</th>
<th>Proposal # 1</th>
<th>Proposal # 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMI Technology</td>
<td>Exceeds all</td>
<td>Meets all</td>
</tr>
<tr>
<td>Installation</td>
<td>Exceeds all</td>
<td>Meets all</td>
</tr>
<tr>
<td>Water Meter</td>
<td>Meets all</td>
<td>Meets all</td>
</tr>
</tbody>
</table>

**Total Available Points = 1000**

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Proposal # 1</th>
<th>Proposal # 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Cost</td>
<td>$33,000,000</td>
<td>$31,000,000</td>
</tr>
<tr>
<td>Life Cycle Cost</td>
<td>$5,000,000</td>
<td>$5,000,000</td>
</tr>
<tr>
<td>Price Per Point</td>
<td>$42,222</td>
<td>$51,428</td>
</tr>
</tbody>
</table>

**Total Technical Score = 900**

**Total Technical Score = 700**

**Best value proposal**
Evaluation Criteria Questions

Joel Carty – AMI SME, EMA Inc
Ben Egger – Project Engineer, ACWD
Section 3:

Next Steps for the AMI Project
**Procurement & Selection Process**

1. **Evaluation Criteria (2mth)**
   Establish criteria for proposal evaluation.

2. **Proposal Evaluation (2mth)**
   Staff evaluation of proposals against rubric. Interviews with top Proposer/s.

3. **Solicitation (8wk)**
   8wk advertising period. Project briefing & RFI responses.

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7. **Step 3**
   Potential additional Informational meetings and negotiation of contract.

8. **Step 4**
   Staff evaluation of proposals against rubric. Interviews with top Proposer/s.

9. **Step 5**
   Results of procurement presentation by Staff.
Key Objectives of the Phase-2 Procurement Process:

- Develop an RFP to solicit competitive proposals.
- Selection of a single AMI, Meter & installation solution.
- Award of the AMI Deployment Contract, and supporting contracts.
# Workshop presentation checklist:

<table>
<thead>
<tr>
<th>Presentation Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present evaluation methodology &amp; criteria</td>
</tr>
<tr>
<td>Solicit feedback &amp; consensus on the evaluation approach</td>
</tr>
<tr>
<td>Provide project status update</td>
</tr>
</tbody>
</table>

- Present evaluation methodology & criteria: ✔️
- Solicit feedback & consensus on the evaluation approach: ✔️
- Provide project status update: ✔️
Questions

Ben Egger – Project Engineer, ACWD
Joel Carty – AMI SME, EMA Inc