Notice of Request for Proposals (RFP)
Procurement of SCADA HMI Software Package
Metropolitan Water District of Salt Lake & Sandy

Issued: April 16, 2025

Background

The Metropolitan Water District of Salt Lake & Sandy (Metro Water), created in 1935, is a wholesale water provider to Salt Lake City and Sandy City. Metro Water produces clean water for nearly 500,000 people each day.

Metro Water invites the submittal of proposals from qualified vendors for the procurement of a SCADA HMI software package (software only) to support its ongoing operational needs. This RFP is limited to the provision of software licenses, including necessary drivers and support, and excludes hardware, integration, or programming services. Metro Water will provide all hardware meeting the software's minimum or recommended system requirements.

This Request for Proposals (RFP) will be posted on Metro Water's website and on the Utah Public Procurement Place (U3P).

System Scope

Metro Water's SCADA system, currently built on GE iFix, operates across two primary treatment plants (Little Cottonwood and Point of the Mountain) and multiple standalone sites. The system is supported by redundant servers, standalone server-client systems, client workstations, development workstations, and historian servers, interfacing with Allen-Bradley ControlLogix 5570 (L7 series) PLCs via the EtherNet/IP protocol. This RFP seeks proposals for an HMI software solution, whether an updated GE iFix deployment or a new system, to replace the existing platform while meeting current operational needs and allowing for future growth.

Tag licensing is a key consideration, as HMI software packages vary in how they define and count tags, impacting licensing levels and costs. In Metro Water's GE iFix system, tags include every process database block (physical I/O and internal variables), resulting in higher counts than systems counting only I/O-linked tags. Detailed information on Metro Water's current system configuration, including approximate in-use tag counts, licensed capacities, and component breakdowns, is provided in Appendix A. Vendors should review this appendix to understand Metro Water's infrastructure and propose a solution sized appropriately, detailing their tag counting methodology and how it applies to Metro Water's operations.

Vendor Expectations

Metro Water requests vendors to propose an HMI solution that:

- Provides a detailed explanation of the proposed HMI's tag counting methodology, including how tags are defined (e.g., I/O-only vs. database blocks), and proposes licensing levels based on this approach, using Metro Water's current GE iFix tag counts as a reference for sizing.
- Supports two pairs of redundant servers. One pair at LC and another pair at PM. Each individual server with SCADA Synchronization and drivers for plant operations (see Appendix A, SCADA Servers).

- Support individual servers for Ozone and UV process areas each with drivers for operations (see Appendix A, SCADA Servers).
- Accommodates standalone systems with drivers and data caching, operable independently during telemetry loss (see Appendix A, Standalone SCADA Systems).
- Provides client licenses for workstation SCADA HMI access at various locations throughout our facilities (see Appendix A, Client Workstations).
- Includes development workstation licenses in an out-of-production environment, each with unlimited tag capacity and driver support, capable of emulating any listed system and Historian functionality (see Appendix A, Historian Servers).
- Offers Historian licenses on the secure SCADA network, with independent operation at LC and PM, and Enterprise access for simultaneous users via reports, queries, and trend charts (see Appendix A, Historian Servers).
- Ensures integration with field devices via drivers supporting EtherNet/IP communication with the existing Allen-Bradley ControlLogix 5570 (L7 series) PLCs, matching or exceeding the capabilities of the current GE iFix IGS drivers (see Appendix A, I/O Driver Licenses).
- Incorporates secure remote access and alarm notification capabilities (see Remote Access and Alarm Notification).
- Provide system requirements: Vendors must specify the minimum and recommended hardware requirements (e.g., processor, memory, storage) for their proposed HMI software to ensure compatibility with Metro Water-provided hardware.
- Includes information on the vendor's financial stability, years in business, average number of employees, and location of primary offices to demonstrate organizational capacity and reliability.
- Provides a description of the software's user interface, including screenshots or demo access, and details on training requirements to allow Metro Water to assess ease of use.
- Supports reusable graphical objects or templates that reliably update across instances, reducing maintenance effort for Metro Water's HMI, with details on functionality provided during the presentation phase.

Proposals should optimize reliability and flexibility, with all submissions evaluated fairly, including the option to propose an updated GE iFix system.

Remote Access and Alarm Notification

Historically, SCADA systems were designed as isolated networks to ensure security and reliability. However, recent decades have seen a growing need for connectivity to support operational efficiency, remote monitoring, and data-driven decision-making - a trend expected to continue as Metro Water modernizes its infrastructure. Recognizing this shift, Metro Water seeks to incorporate secure remote access and enhanced alarm notification capabilities into the new HMI software package, aligning with our adoption of the Purdue Enterprise Reference Architecture (Purdue model) while adhering to industry cybersecurity standards and recommendations. Proposals should address the following:

Secure Remote Access: The HMI software must support secure remote access to the SCADA system (Purdue model Level 2) from the Enterprise level (Purdue model Level 4), enabling authorized users to

monitor and interact with the system remotely. Solutions must comply with current Cybersecurity and Infrastructure Security Agency (CISA) recommendations and industry standards, including NIST 800-53 (Security and Privacy Controls) and IEC 62443 (Industrial Automation and Control Systems Security), as listed in Terms and Conditions. Vendors should propose a secure connection mechanism (e.g., VPN, encrypted web interface) that integrates with Metro Water's evolving Purdue model architecture, potentially leveraging a DMZ at Level 3.5. While network infrastructure modifications remain Metro Water's responsibility, vendors are encouraged to recommend complementary infrastructure changes (e.g., DMZ enhancements, firewall configurations) to optimize remote access security and performance, provided these are clearly identified as optional and outside the software scope of this RFP.

Alarm Notification: The HMI software must provide visual alarm notification capabilities (e.g., text messages, email alerts) compatible with or expanding upon Metro Water's existing Win911 system, currently used for fire alarm callouts at Point of the Mountain. This feature must support critical alarm notifications at both Little Cottonwood and Point of the Mountain treatment plants, enabling a single operator, when away from the control desk in noisy environments, to receive immediate visual alerts rather than voice calls. Vendors should propose a solution that ensures reliable delivery of these notifications, integrating with the HMI's alarm management system and adhering to industry standards for operational continuity and operator safety.

Location and Contact

Proposals and inquiries for this RFP will be managed through the Utah Public Procurement Place (U3P) at:

- https://utah.bonfirehub.com/portal
- Metro Water Address: 3430 East Danish Road, Cottonwood Heights, UT 84093
- Telephone: (801) 942-1391
- Contact: Breana Jackson, Executive Administrator (inquiries via U3P only; see Instructions for Submitting a Proposal)

Vendors should not contact other Metro Water staff directly.

Virtual Tour

Metro Water offers prospective vendors an optional virtual tour of the current SCADA system, including remote access considerations, to inform proposal development. Interested vendors should request access through U3P (see Location and Contact) by the Deadline for Written Questions in the Anticipated Schedule; participation is not mandatory.

Instructions for Submitting a Proposal

Proposals must be submitted in writing with the following guidelines:

- **Submission Method:** Via the Utah Public Procurement Place (U3P; see Location and Contact).
- **Submission Deadline:** See Due Date for Proposal in Anticipated Schedule. Late submissions will not be accepted.
- **Format:** Proposals should be in PDF format for electronic submissions through U3P.

Contact for Questions: Submit all inquiries via U3P (see Location and Contact) by the Deadline for Written Questions. Responses will be provided to all potential vendors through U3P by the Publish Final Response to Questions date (see Anticipated Schedule).

Proposal Content:

- Detailed description of the HMI software including features, capabilities, and system requirements.
- Compatibility statement with Metro Water's current SCADA system.
- Licensing, maintenance, and support options along with costs.
- Proposed purchase contract, including the required terms outlined in Terms and Conditions (e.g., Utah governing law, mediation and arbitration, minimum one-year warranty).
- Vendor qualifications, experience, financial stability, years in business, average number of employees, location of primary offices, and references from at least three similar projects.
- A completed cost proposal.
- Acknowledgment of RFP terms, including GRAMA compliance.

Anticipated Schedule

A schedule of anticipated key dates for the RFP process is as follows:

- Deadline for Written Questions: April 30, 2025
- Publish Final Response to Questions: May 7, 2025
- Due Date for Proposal: May 14, 2025, 5:00 PM MST
- Proposals Distributed to Selection Committee: May 15, 2025
- Notice for Presentation: May 26, 2025
- Presentations: June 9–June 19, 2025
- Complete Negotiation & Contract Terms with Preferred Vendor: July 7, 2025
- Anticipated Board Award of Contract: August 18, 2025

Note: Dates are subject to change at Metro Water's discretion. Any updates will be communicated via U3P.

Evaluation Process

Initial Evaluation:

Proposals will be evaluated based on the following criteria to create a short-list:

Evaluation Criteria:

- **Cost**: (25%) Comprehensive breakdown of all costs, including software licenses, drivers, maintenance, and support for the initial term (minimum one year). Costs will be evaluated based

on total value, considering both initial and recurring expenses, relative to proposed functionality and compliance with RFP requirements.

- **Compatibility**: (20%) Evidence of compatibility with Metro Water's existing infrastructure (e.g., Allen-Bradley ControlLogix 5570 PLCs, EtherNet/IP protocol).
- **Licensing Model**: (10%) Scalability and flexibility of the licensing structure.
- **Support and Maintenance**: (5%) Terms of technical support, updates, and maintenance services.
- **Ease of Use**: (15%) Intuitiveness of the user interface, training needs, and workflows for system management (e.g., configuration updates, version control, deployment), based on provided descriptions, screenshots, or demo access. Vendors are encouraged to elaborate on advanced management features during the presentation phase (see Short-List and Presentation).
- **Vendor Experience**: (10%) Proven track record with similar SCADA systems, supported by financial stability, years in business, and organizational capacity.
- **References**: (5%) Quality and relevance of past project references.
- **Contract Terms**: (5%) Quality of the proposed purchase contract, including but not limited to compliance with required terms (Utah governing law, mediation and arbitration, minimum one-year warranty) and clarity of warranty provisions.
- **Innovation**: (5%) Additional beneficial features or capabilities enhancing Metro Water's operations, such as change management tools, versioning systems, or streamlined deployment processes.

Short-List and Presentation:

From the initial evaluation, a short list of vendors will be invited to give a presentation to demonstrate their proposed SCADA HMI software solution. Presentations will be scheduled as per the Anticipated Schedule, with specific dates and times communicated to each short-listed vendor by the Notice for Presentation date in the Anticipated Schedule, following the initial evaluation process. In-person presentations are preferred at Metro Water's address (see Location and Contact), though virtual meetings may be accommodated if necessary. Vendors selected for the short-list will receive a performance document by the Notice for Presentation date (see Anticipated Schedule), specifying:

- Demonstration of software functionality with real or simulated Metro Water data.
- User interface walkthrough showing ease of use and customization.
- Demonstration of reusable template management, including creation, updating, and propagation to instances, with emphasis on reliability and maintenance efficiency.
- Overview of change management, versioning, and deployment features, showing how the software supports configuration tracking (e.g., version control akin to Git), testing in development environments, and deployment to production systems.
- Explanation of data security and compliance with industry standards.
- Overview of training programs for staff.

- Discussion of support services, including response times and escalation procedures.
- Any other specific demonstrations or information Metro Water deems necessary for evaluation.

Presentations will be scored based on the criteria outlined in the performance document, with emphasis on practical application to Metro Water's needs, clarity of presentation, and responsiveness to queries. Scores will contribute to the final selection process, informing the selection committee review and subsequent contract negotiations.

Proposal Opening

Proposals will be distributed to the selection committee members as per the Anticipated Schedule. Results from the initial review will be available, and vendors will be notified of presentation invitations, per the dates listed in the Anticipated Schedule.

Award

Following the presentations, the Evaluation Committee will meet and select a preferred Vendor. Once the preferred Vendor is selected, Metro Water staff will negotiate price and contract terms. The Metro Water Board of Trustees will approve the award of the contract as per the Anticipated Schedule.

Terms and Conditions

Contract Scope: The contract will cover only the procurement of the HMI software package, including licenses, drivers, and specified support services. This RFP excludes hardware (which will be provided by Metro Water to meet the software's minimum or recommended requirements), as well as integration, programming, or implementation services.

Purchase Contract Terms: The purchase contract must include the following terms:

- Governing law shall be the laws of the State of Utah.
- Venue shall be proper in the State of Utah.
- A mandatory mediation and arbitration provision.
- A warranty of a minimum of one year for the software product and workmanship.

Vendors must submit a proposed purchase contract with their proposal, which will be evaluated as part of the selection process (see Evaluation Process). Metro Water reserves the right to negotiate contract terms with the preferred vendor during the negotiation phase (see Anticipated Schedule).

Payment Terms: Payment will be made post-delivery and acceptance, per Metro Water standards. Progress payments are not permitted.

Compliance: Vendors must comply with all applicable laws, regulations, and the following industry standards as they pertain to the software:

- NIST 800-53 (Security and Privacy Controls for Information Systems and Organizations)
- ISO 27001 (Information Security Management)
- IEC 62443 (Industrial Automation and Control Systems Security).

These standards apply to the software's design, functionality, and support processes; integration and programming, which are excluded from this RFP, remain Metro Water's responsibility.

Termination: Metro Water retains rights to terminate for cause or convenience.

Ownership: Metro Water will retain all rights to data and configurations.

Government Records Access and Management Act (GRAMA): Metro Water is subject to the Utah Government Records Access and Management Act, Utah Code Ann. § 63G-2-101, et seq. (GRAMA). A vendor who desires to request protected status of any information submitted in the response must specifically identify the information that the vendor desires to protect and the reasons that the information should be afforded protection under Utah State law. In making this request, the vendor shall comply with the requirements of Utah Code Ann. § 63G-2-305, Utah Code Ann. § 63G-2-309, and all other applicable requirements of law. Metro Water will not be bound by any instructions contained in a proposal, but rather, will only be governed by GRAMA and Metro Water GRAMA regulations. All materials become the property of Metro Water.

Note: Additional terms may be included in the final contract negotiations.

Submission Checklist

- ✓ HMI software description
- ✓ Compatibility statement
- ✓ Licensing, support details
- ✓ Cost breakdown
- ✓ Past Project References
- ✓ Vendor qualifications, financial stability, years in business, average number of employees, location of primary offices, and references
- ✓ Acknowledgment of RFP terms

Appendix A: Current System Configuration and Tag Usage

The tables below provide approximate in-use tag counts under the GE iFix model, and licensed capacities as a reference for sizing proposals:

SCADA Servers

Site	Servers	Tags Licensed	Tags In Use	Add-Ons
Little Cottonwood (LC)	2 Redundant	Unlimited	~29,000	SCADA Synchronization, Enhanced IGS driver, Enhanced Failover, Development
Point of the Mountain (PM)	2 Redundant	Unlimited	~18,000	SCADA Synchronization, Enhanced IGS driver, Enhanced Failover, Development
LC Ozone	1	Unlimited	~4,500	Enhanced IGS driver
PM Ozone	1	Unlimited	~4,000	Enhanced IGS driver
PM UV	1	Unlimited	~8,000	Enhanced IGS driver

Purpose: Manage plant processes (e.g., pumps, valves, chemical dosing, Ozone, UV) for 24/7 reliability.

Standalone SCADA Systems

Site	Systems	Tags Licensed	Tags In Use	Add-Ons
Terminal Reservoir	1	Unlimited	~2,000	Enhanced IGS driver
Deer Creek	1	900	~500	Enhanced IGS driver
Jordan Narrows	1	1,500	~1,000	Enhanced IGS driver
10 Million Gallon Reservoir	1	New	~100	None (Ignition pilot)

Purpose: Provide local control and data collection at standalone sites, independent of remote connections, with capability to store data during connectivity loss and transmit it to Historian servers once restored.

For reference, the current setup varies by site. Terminal Reservoir uses a virtual machine (VM) hosting a GE iFix SCADA node with its own process database and tags, paired with a separate physical

workstation running a GE iFix iClient. Deer Creek and Jordan Narrows each use a physical workstation running a GE iFix server license, process database, and workspace for local HMI, with Little Cottonwood servers (LCSVR) pulling tags from the PLCs for most screens and Historian data. The 10 Million Gallon Reservoir, as a pilot program, uses Ignition for local HMI on a standalone physical workstation, with Little Cottonwood iFix servers providing remote HMI access.

Proposed systems may employ different architectures (e.g., virtualized or all-in-one setups), and the current configurations are provided solely to inform proposal sizing and layout.

Metro Water expects software to support data caching at standalone sites, leveraging Metro Water-provided hardware storage to achieve a minimum caching duration of three days (assuming sufficient storage), with a preference for longer durations. Vendors should detail their caching solution, including how it utilizes available hardware storage for capacity (e.g., time or data volume) and ensures data integrity and transmission reliability during and after connectivity disruptions. All hardware, including hard drives, will be provided by Metro Water to meet the software's requirements; this RFP is for software only.

Historian Servers

Site	Servers	Tags Licensed	Tags In Use	Add-Ons
Little Cottonwood (LC)	1	5,000	~3,000	None
Point of the Mountain (PM)	1	5,000	~4,000	None
Enterprise	1	8,000	~7,000	DMZ intermediary

Purpose: Store historical data for analysis, reporting, and maintenance planning, with independent plant operation and secure Enterprise access.

Current Setup: One Historian server at Little Cottonwood and one at Point of the Mountain allow independent operation of each plant. Remote sites and standalone systems (e.g., LC Ozone, PM UV) cache data during connectivity loss, transmitting it to Historian servers once restored. The Enterprise Historian aggregates read-only data from all servers below via a DMZ intermediary.

Requirement: On the secure SCADA network, Historian licenses must support all tags across the outlined infrastructure (Little Cottonwood, Point of the Mountain, Terminal Reservoir). The HMI software must include or support a mechanism to relay historical SCADA data to the Enterprise Historian at the Purdue model Enterprise level (Level 4) via a DMZ intermediary (Level 3.5), accommodating the total tag count from all outlined infrastructure (~15,500 Historian tags from SCADA-level servers) for read-only access. On the Enterprise network, support up to five simultaneous users accessing historical data for analysis via reports, queries, and trend charts (see Remote Access and Alarm Notification for related connectivity requirements).

Client Workstations

Site	Location	Quantity	Notes
Little Cottonwood (LC)	Control Room	3	Dual monitors
	Anionic	1	
	Filter Gallery	1	
	Boiler	1	
	Lime Slaker	1	
	Ozone	1	
Point of the Mountain (PM)	Control Room	3	Dual monitors
	Filter Gallery	1	
	Electrical	1	
	Chemical	1	
	Ozone	1	
	UV	1	
Terminal Reservoir	Terminal Reservoir	1	

Development Workstations

Site	Workstations	Tags Licensed	Add-Ons
Little Cottonwood (LC)	1	Unlimited	Enhanced IGS driver
Point of the Mountain (PM)	1	Unlimited	Enhanced IGS driver

Purpose: Allow staff to configure and test system changes, including historical data management, in a non-production setting.

Requirement: Development workstations hosted in an out-of-production environment, each with unlimited tag capacity and driver support, capable of emulating any treatment plant or standalone system, including Historian functionality, for development and testing prior to deployment.

I/O Driver Licenses

Quantity: Twelve

Purpose: Ensure seamless communication between the HMI system and field devices (e.g., sensors, actuators).

Current Details: Enhanced IGS drivers (one per server).

Driver Explanation: In the current GE iFix system, the IGS (Industrial Gateway Server) driver is a high-performance OPC server supporting multiple protocols, including EtherNet/IP for communication with Metro Water's Allen-Bradley ControlLogix 5570 (L7 series) PLCs, with advanced features like redundant communication paths and dynamic tag updates. Metro Water uses IGS over basic v7 drivers for its reliability, scalability, and ability to handle complex PLC/RTU integrations across diverse field devices. The 10 Million Gallon Reservoir, using Ignition, employs a separate driver (e.g., OPC UA), not included in the IGS driver count. Proposals should reference this setup to size drivers that ensure seamless EtherNet/IP communication with the existing PLCs.

Summary Table

Component	Quantity	Tags Licensed	Purpose
SCADA Servers	7	16,000 + Unlimited	Redundant SCADA at LC and PM. One UV and two Ozone SCADA.
Standalone Systems	4	2,500 + Unlimited	Local SCADA at standalone sites (see Appendix A, Standalone SCADA Systems)
Client Workstations	16	N/A	Operator access across sites
Development Workstations	2	Unlimited	Out-of-production configuration
Historian Servers	3	10,000 + Enterprise mirror	Data storage across all sites
I/O Driver Licenses	12	N/A	Field device integration