



American
Water Works
Association

Request for Proposal

Process Control System Security Guidance for the Water Sector (WITAF# 503)

Released: February 19, 2013

Reply By: March 18, 2013

PURPOSE: The purpose of this request for proposals is to acquire technical support services to assist AWWA in the development of water sector guidance that provides a consistent and repeatable recommended course of action to reduce vulnerabilities in process control systems. The target audience for this resource is water utility General Managers, Chief Information Officers and Utility Directors with oversight and responsibility for process control systems.

NEED: In 2008, the [Roadmap to Secure Control Systems in the Water Sector](#) identified a series of challenges and gaps in the water sector security protocols. Recent assessments^{1,2,3} have supported pronouncements that the number one threat to the Nation's critical infrastructure is a cyber-attack on process control systems. More recently, Executive Order on Improving Critical Infrastructure Cybersecurity⁴ was issued to strengthen the cybersecurity of critical infrastructure by increasing information sharing and developing a framework of cybersecurity practices. At a minimum this effort aims to inform that process and ideally fulfill the need for the water sector in collaboration with key partners and stakeholders.

BACKGROUND: The water sector had been a leader in advancing the national homeland security mission, which includes process control systems. In fact, the Cyber Security Evaluation Tool (CSET) which is a Department of Homeland Security (DHS) product used to assist organizations in protecting cyber assets evolved from research initiated by the water sector. The threats and vulnerabilities are recognized, but an absence of coherent guidance for all CI/KR is a major impediment to reducing the risk.

¹ DHS ICS-ALERT-12-046-01—Increasing Threat To Industrial Control Systems, February 15, 2012. http://www.us-cert.gov/control_systems/pdf/ICS-ALERT-12-046-01.pdf

² DHS, ICS-CERT Monitor, Oct/Nov 2012. http://ics-cert.us-cert.gov/pdf/ICS-CERT_Monthly_Monitor_Oct-Dec2012.pdf

³ GSN, "Cyber attacks on infrastructure more critical, and damaging, says Panetta", October 12, 2012, <http://www.gsnmagazine.com/node/27573>

⁴ White House, Executive Order on Improving Critical Infrastructure Cybersecurity, February 12, 2013. <http://www.whitehouse.gov/the-press-office/2013/02/12/executive-order-improving-critical-infrastructure-cybersecurity-0>

A recent GAO study⁵ concluded that there is no lack of cybersecurity guidance for protecting infrastructure, but government could do a better job of providing advice and assistance to non-regulated industries in protecting themselves. Given the plethora of guidance⁶ available, prospective users may be challenged in identifying the guidance that is most applicable and effective in improving their security posture. GAO recommended that developing a better understanding of the available guidance and best practices would help both federal and private-sector decision-makers coordinate protection of critical cyber-reliant assets.

APPROACH: Contractor will support the development of guidance for process control system owners and operators in the water sector. The contractor will provide support on the following tasks to ensure project success:

Task 1: Subject Matter Expert Identification

The contractor shall support the identification of subject matter experts (SMEs) from the field of process control systems to participate in one or more expert workshops. This includes staff from water utilities, process control system manufactures, system integrators and engineering firms that support the water sector. The list will be reviewed and developed in coordination with AWWA staff and the Project Steering Committee. The intent of this process is to identify leaders in the water sector or from related sectors that can provide critical insight on developing a more robust process control system security protocol.

Task 1 Deliverable: A list of all identified water sector SMEs with name and contact information within four (4) weeks of contract approval.

Task 2: State of Knowledge

Prior to expert workshop(s), the contractor will develop a short survey to determine the resources (standards, guidance, best practices) water sector professionals currently leverage for securing process control systems. The baseline for this survey assessment will be the resources included in the GAO report *Cybersecurity Guidance Is Available, but More Can Be Done to Promote Its Use*, GAO-12-92. AWWA prefers that the contractor use an automated survey tool, such as Survey Monkey, to expedite analysis. All data collected becomes proprietary to AWWA upon completion of the project and may not otherwise be used by the contractor.

Task 2 Deliverable 1: Automated survey to collect water sector cybersecurity guidance used by control systems owners and operators

Task 2 Deliverable 2: A draft report of findings within eight (8) weeks of contract approval.

⁵ GAO. Cybersecurity Guidance Is Available, but More Can Be Done to Promote Its Use, GAO-12-92. <http://www.gao.gov/assets/590/587529.pdf>

⁶ DHS. Control Systems Standards & References. http://www.us-cert.gov/control_systems/csstandards.html

Task 3: SME Workshop

The contractor shall conduct a literature review, specifically reviewing standards and guidance developed by DHS and others to support security needs of process control systems. Critical resources which may serve as a baseline for this project include the following:

- ANSI/AWWA G430-09: Security Practices for Operations and Management
- NIST. Special Publication 800-39, Managing Information Security Risk: Organization, Mission, and Information Systems View: <http://csrc.nist.gov/publications/nistpubs/800-39/SP800-39-final.pdf>
- NIST. Interagency Report 7628, Guidelines for Smart Grid Cyber Security, Volume 1. http://csrc.nist.gov/publications/nistir/ir7628/nistir-7628_vol1.pdf
- DHS. Cyber Security Evaluation Tool (CSET): http://www.us-cert.gov/control_systems/satool.html
- DOE. Cybersecurity Risk Management Process (RMP) Guideline. <http://energy.gov/sites/prod/files/Cybersecurity%20Risk%20Management%20Process%20Guideline%20-%20Final%20-%20May%202012.pdf>
- NARUC. Cybersecurity for State Regulators with Sample Questions for Regulators to Ask Utilities. <http://www.naruc.org/Grants/Documents/NARUC%20Cybersecurity%20Primer%20June%202012.pdf>
- ANSI & ISA. The Financial Impact of Cyber Risk: 50 Questions Every CFO Should Ask. <http://webstore.ansi.org/cybersecurity.aspx>

The contractor shall facilitate at least one face-to-face workshop utilizing Task 1 SMEs to evaluate findings in Task 2 to support the development of a risk management model for process control systems in the water sector. The workshop objective is designed to reach consensus on key principles, policies and procedures that water utilities can implement to advance process control system security at their facilities. The objective of the work product is a deliverable that resonates with utility leadership to inform them of key management and operational principles that they may follow. In addition, the intent of this product is to provide the water sector community, especially small and medium systems that are likely dependent on contractor support, with the information and criteria necessary to define needs and expectations for process control system security support services.

Task 3 Deliverable: The contractor shall conduct initial workshop within twelve (12) weeks of contract approval.

Task 4: Socialization Strategy

The contractor will support the development of a socialization strategy to facilitate distribution and awareness of the final guidance. This will include the development of PowerPoint slides that can be used to promote the guidance. Contractor should also be prepared to participate in at least one educational webinar and to speak about the guidance at one or more national conferences including ACE and the Emergency Preparedness & Security Conference.

Task 4 Deliverable: The contractor submit draft strategy and supporting materials for review within eighteen (18) weeks of contract approval. Final materials will be selected based on review of AWWA and the Project Steering Committee.

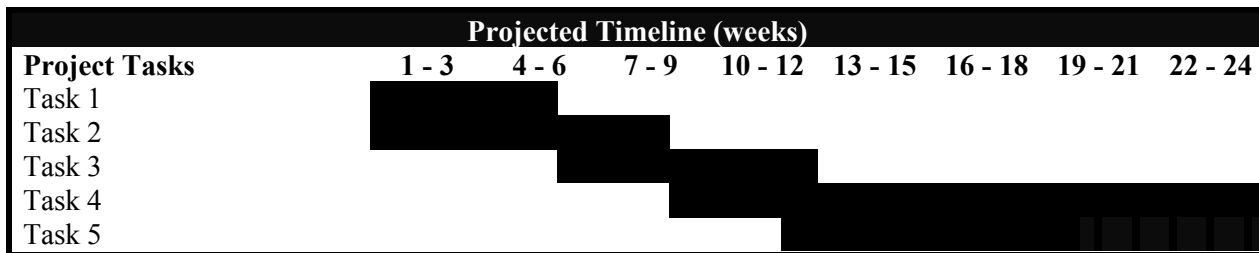
Task 5: Water Sector Process Control System Security Guidance

This project is estimated to require approximately 6 months for completion. Workshop SMEs and Project Steering Committee will be engaged in the review and finalization of the guidance.

Task 5 Deliverable: The contractor shall provide AWWA with draft report for review within 3 week of final SME workshop. The final guidance document will be subject to review by the experts that participated in the workshop, the Project Steering Committee and AWWA.

PROJECT SCHEDULE & BUDGET

The exact project schedule will be determined by the project steering committee in consultation with the selected contractor. The target timeline is as follows:



- RFP Release: February 19, 2013
- RFP Reply By: March 19, 2013
- Selection of Contractor: on or before April 12, 2013
- Signed Contract and Kickoff Conference Call: on or before April 19, 2013
- First Workshop: by or before week 12
- Second Workshop: TBD
- First Draft of Manual: by or before week 15
- Final Report: by or before week 24

Estimated Value

Significant consideration will be given to the level of subject matter expertise in process control system security; leveraging by participating SMEs or other organizations is encouraged. If this project entails conference calls, meetings or travel, such activities will be pre-approved by AWWA and AWWA will pay for travel associated direct charges separate from the contract amount. AWWA currently estimates that this project will not cost more than \$70,000.

Project Steering Committee (PSC)

A PSC for the project will provide guidance, review all interim and final products, and generally monitor project performance on behalf of AWWA. The AWWA staff and contractor shall meet to discuss progress and resolve any outstanding technical or project management issues at least once every month during the contract period.

RFP Response

Written proposals to fulfill contract are due to the following contact no later than March 19, 2013. The proposal should briefly: state the project team's members and qualifications; summarize a strategy to undertake the proposed tasks within the timelines provided, and estimate the cost of the project effort. Proposals will be evaluated using the criteria in the following Contractor Selection Criteria and Scoring form. Proposals that simply repeat the project description provided in the RFP will be deemed nonresponsive.

Delivery of the proposal should be by email to the following address, kmorley@awwa.org. Proposals should be in Word or Adobe Acrobat format and no longer than 10 pages exclusive of team qualifications.

For additional information contact:

Kevin Morley
AWWA
1300 Eye Street, NW, Suite 701W
Washington DC 20005
Email: kmorley@awwa.org
Direct: (202) 326-6124

Decision and Contracting Process

AWWA's decision-making and contracting process is bound by federal regulations required of non-profits receiving grant funds and, as such, will comply with all applicable federal statutes and executive orders. AWWA's staff and volunteers will review each of the proposals and select the contractor whose offer is responsive to this solicitation and is most advantageous to AWWA and its customers. Deciding factors include but are not limited to price, experience, and quality of response. In addition, AWWA will make positive efforts to utilize small businesses, minority-owned firms, and women's business enterprises and encourages representatives of those groups to submit proposals.

In addition, the contract for this project will include the following among other things:

1. The contractor will agree to be bound by all applicable state and federal statutes and regulations. All awards will comply with applicable laws, regulations, and terms and conditions of federal funding.
2. No funds will be disbursed without a formal invoice. The contractor will submit signed original invoices presented on a monthly or less frequent basis to the AWWA Project Manager.
3. The contractor will certify that it is not excluded from receiving government grants and contracts or listed on the GSA "[List of Parties Excluded From Federal Procurement and Nonprocurement Programs](http://epls.arnet.gov/)" (<http://epls.arnet.gov/>).
4. AWWA will have the right to reproduce, publish, use, and authorize others to use works developed with funds for this project. To the extent that materials are copyrighted, or otherwise give rise to intellectual property rights or interests, those copyrights and other rights or interests will be owned by AWWA. AWWA shall have the right to maintain editorial control over the form and substance of the content and the materials to be developed.
5. The contractor is and shall perform these services as an independent contractor, and as such, shall have and maintain complete control over all of its employees, agents, and operations. Neither the contractor nor anyone employed by it shall be, represent, act, or purport to act or be deemed to be the agent, representative, employee or servant of the AWWA.
6. The contractor must acknowledge that AWWA is an equal opportunity employer, and, as such, does not discriminate on the basis of age, sex, race, religion, color, and national origin, or physical or mental disability. Upon execution of a contract, the contractor agrees to support AWWA's non-discrimination policy and require all subcontractors to support this policy and abide by all laws, rules, and executive orders governing equal employment opportunity. The contractor also agrees to make available to AWWA, upon reasonable request, proof of its efforts to comply.
7. The contractor selected will be working as an independent contractor and will be required to take out and keep in force all permits, licenses, certifications, other approvals, and or insurance that may be required by AWWA. Failure to comply with any of these items would be grounds for immediate cancellation of the project agreement.
8. The contractor selected will be required to indemnify AWWA in an appropriate manner.

SELECTION CRITERIA AND SCORING*

Contractor: _____

Reviewer: _____

<u>CRITERIA/WEIGHT</u>	<u>EVAL (1-10)</u>	<u>SCORE</u>
<u>Technical Criteria = 70%</u>		
Demonstrated capacity to organize and facilitate workshops of subject matter experts- 50%	20 x _____	= _____
Demonstrated subject knowledge and capability to communicate and process technical information - 30%	30 x _____	= _____
Demonstrated ability to develop and prepare succinct technical reports in plain english - 20%	20 x _____	= _____
<u>Management Criteria = 25%</u>		
Demonstrated success preparing technical reports and supporting educational materials – 10%	10 x _____	= _____
Ability to provide necessary level of effort to meet project timeline described in the project RFP – 15%	15 x _____	= _____
<u>Past Performance = 5%</u>	5 x _____	= _____
	Total Score = _____	

* Weighted values scoring system (weight x eval = score) (10 = highest eval)

Comments

Strengths: _____

Weaknesses: _____

