



PREQUALIFICATION CRITERIA

Prequalification No.: MR-DCS-Upgrade
Title: LGWO DCS/DAS Systems Upgrade
Buyer/SCA: Tess Klatt
Due Date: June 13, 2019

URS | CH2M Oak Ridge LLC (UCOR) intends to issue a Request for Proposal (RFP) for award of a **FIRM FIXED PRICE** subcontract to provide services generally described below.

To prequalify for this RFP, a potential Offeror must provide documentation necessary to demonstrate its ability to meet each element of the Prequalification Criteria set forth in this Prequalification Request. Please organize submitted information in such a manner that reviewers can easily locate responses to questions and requirements. Information submitted that does not directly address the Prequalification Criteria below will not be considered. Failure to clearly state how the criteria are met or failure to respond by the stipulated time may result in a potential Offeror not receiving an RFP.

To support the prequalification evaluation process, provide the following prime potential Offeror information:

Potential Offeror Company Name: _____
Address: _____

Contact Name: _____
Phone Number: _____
Email Address: _____
DUNS No.: _____

It is expected that potential Offerors will be prequalified based primarily upon the experience and capabilities of the prime prequalifying company as described in its prequalification submission. The prime company may elect to satisfy some Prequalification Criteria that cannot be met directly by the prime through the prequalification of a teaming partner(s) and/or lower-tier subcontractor(s). Any change in the composition of the company, team, or other legal entity (including business unit changes) that prequalifies will cause that company, team, or other legal entity's prequalification to be void. Prospective Offerors that encounter a change in the composition of its company, team, or legal entity must resubmit a new prequalification submission for evaluation and approval before their proposal will be accepted.

Experience of the potential prime Offeror (potential prime subcontractor), lower-tier subcontractors, or other teaming partners shall be limited to its corporate experience. Experience of parent companies, subsidiaries, or other corporate affiliates will not be considered unless these corporate entities are also a part of the potential Offerors team and meet all applicable requirements of these Prequalification Criteria. UCOR will only consider employees currently on staff or potential employees from whom written commitment to participate in any resultant agreement with the potential Offeror has been documented and submitted with responses to Prequalification Criteria.

NOTE: UCOR reserves the right to disqualify a firm and/or its teaming partners from proposing on work if UCOR has actual knowledge of poor safety, quality, financial, and/or schedule performance on existing and/or past work for UCOR or others. This right to disqualify applies even if the firm and/or their teaming partners have otherwise met all other UCOR Prequalification Criteria.



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The **FIRM FIXED PRICE** Subcontract contemplated may include, but not necessarily be limited to, the following work:

Summary Scope of Work:

Under the East Tennessee Environmental Cleanup Contract, UCOR is responsible for the execution of the Environmental Restoration and Waste Management program at The United States Department of Energy's Oak Ridge Reservation in Oak Ridge, TN.

In support of this mission, UCOR will require the upgrade/replacement of its Liquid and Gaseous Waste Operations (LGWO) Distributed Control System (DCS) and Data Acquisition Systems, collectively known as the LGWO DCS/DAS. This system provides the process control and/or monitoring of approximately 2,216 process points across multiple facilities within Bethel and Melton Valleys near Oak Ridge, TN. These process points span all three major LGWO systems (Process Waste, Liquid Low-Level Waste (LLLW) and Gaseous Waste), along with several other Oak Ridge National Laboratory (ORNL) points that warrant real-time monitoring, alarm response, and notification to others of anomalous conditions.

Work Included:

The major activities associated with this project are:

- Design of the upgrade/replacement system
 - Design hardware, software, and network communication products to upgrade the LGWO DCS/DAS Operator Console network to current technology with the ability to monitor and control all process points from any operator console position to the same or better rigor of the current system
 - Design hardware, software, and network communication products to upgrade the Process Control Unit/PLC network to current technology with the ability to utilize inter-processor I/O interlocking to the same or better rigor of the current system
- Purchase of all equipment and material
- Development of an upgrade sequence plan to minimize process interruptions while transitioning to the new systems
- Development of a test plan to validate installed systems
- Development of internal work controls necessary to implement installation, testing, and validation
- Physical installation of the systems
- System testing and logic validation
- Facilitate training such that initial and all future cyber-security, system administration, system programming, report generation, configuration control, and corrective/preventive maintenance functions may be performed by UCOR personnel
- Provide extended maintenance support

Work Not Included:

- All electrical wiring will be done by UCOR



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Additional Information:

- All networks associated with the LGW DCS/DAS are air-gapped from any connection to external networks for cyber-security compliance. Wireless network communication is preferred, if technology shows to be sufficiently robust and secure.
- As UCOR progresses with work at the Oak Ridge Reservation, several buildings will be demolished. System design efforts must consider provisions for reconfiguration and relocation of the Operator Console, some external field signals, and communications options (fiber relocation vs. wireless options, etc.) as buildings are removed from service.
- System backups are critical to the consistent and reliable restoration of system components in the event of failure. System design efforts are to consider image backup/restore capabilities for any Operator Console at minimum.
- System design shall include the capability to retain four (4) weeks of system trends at a resolution of one-minute average for each trend point.
- System design shall include historical data retention (historian package) as an option.
- Current fiber optic interconnections utilize fusion, mechanical, and patch stations as methods of interconnection. The system design for communication shall consider standardization to fanned-out patch panels for fiber termination.
- The scope of this project is bound from the termination of field process I/O wiring to the new system(s) up through the Graphical User Interfaces. Installation of new field I/O process equipment will not be considered.
- The current system includes the following (see Tables 1 and 2 for further information relative to communications, processor, and I/O capacity.):
 - 5 each – Operator Consoles
 - 7 each – Process Control Units
 - 3 each – Interface Gateways into DCS PCU Communication Loop
 - 3 each – Remote I/O Stations
 - 8 each – Process Logic Controllers
 - 11 each – Ethernet Switches with Fiber Optic Port Connectivity

Location of the Work:

All work will take place on the Oak Ridge Reservation, with a majority of services taking place at ORNL.

Subcontract Type: Firm Fixed Price

Period of Performance: Date of Award to July 31, 2020

Socio-Economic Set-Aside: Competitive, Open

Anticipated RFP NAICS Code: 541512 “Computer Systems Design Services”

Size Standard for NAICS Code: \$27.5 Million

Labor Standard Determination: TBD

Classified Work is included: Yes No



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Potential Offerors (prime subcontractor), their teaming partners, and/or subcontractors, as appropriate, must be able to answer “yes” to each of criterion listed below to be considered prequalified to receive an RFP issued as a result of this Prequalification Request.

UCOR may elect not to prequalify a potential Offeror that has relied too heavily on subcontractors to satisfy Prequalification Criteria.

1. Commercial Data

- A. Has the potential Offeror signed up and entered their information in [UCOR's Supplier Portal](#)?
- Yes No
- B. Has the potential Offeror, including parent companies or subsidiaries, within the last five years, completed all contract work without default and without a Performance Bond being called to complete performance that the Respondent otherwise failed to complete?
- Yes No

2. Environment, Safety & Health

All subcontracted work will be executed in accordance with UCOR's Environmental, Safety and Health Program.

- A. Has your company worked the previous three (3) years without a fatality or without receiving any willful or non-willful citations or fines from OSHA or other regulatory organizations?
- Yes No
- B. Has your company worked the previous three (3) years without receiving, or contributing to the receipt of, any citations, or fines for Price-Anderson Amendments Act (PAAA) or Worker Safety & Health enforcement non-compliances?
- Yes No
- C. Has your company worked the previous three (3) years without receiving, or contributing to the receipt of, any citations by a Federal or state agency for violations of an environmental regulatory requirement?
- Yes No, were any fines or penalties levied? Yes No

3. Quality Assurance Program

Does your company have a Quality Assurance Program meeting the requirements of 10 CFR 830 Subpart A?

- Yes No

Potential Offeror shall furnish **only** a copy of the QA Program Table of Contents and a brief summary that clearly identifies how each of the following requirements will be implemented under a resulting Subcontract.

The summary must include the following elements, and the implementation of each of these elements must be clearly addressed (the level of rigor applied to the elements shall be commensurate with the risks associated with the Work):

- A description of the organizational structure, functional responsibilities, levels of authority, and interfaces for those managing, performing, and assessing the Work.
- Personnel Training and Qualifications
- Documents and Records
- Work Processes
- Design
- Procurement
- Inspection and Acceptance Testing



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NOTE: After review of the table of contents and QA summary, UCOR may require submittal of the company QA Plan in its entirety. The prequalifying company shall provide this only upon request.

The potential Offeror agrees that subcontracted personnel shall work to the UCOR Quality Assurance Program meeting the requirements of 10 CFR 830 Subpart A?

Yes No

4. Technical Criteria:

A. Does the prime potential Offeror or its lower-tier subcontractors, and/or teaming partners have directly relevant experience in the following items:

- Ability to design, implement, and maintain a complex DCS?
 Yes No
- Experience installing software and hardware at a government-run facility? (DOE experience is preferred)
 Yes No
- Ability to design a DCS capable of integrating with multiple communication protocols?
 Yes No
- Ability to design a DCS with very remote control and monitoring stations?
 Yes No

5. Direct Relevant Experience Documentation:

Provide a reference list of example projects that demonstrate the directly relevant project experience to support each of the foregoing Prequalification Criteria. Example projects should be detailed as to both the technical scope of the project and the Offeror's participation in the project.

Each reference will include an explanation of relevance. Relevant experience in work of a nature directly similar in type and magnitude to that set forth in this Prequalification extends over a period of the last five (5) years:

Include the following information as a minimum (please provide additional narrative, capability statements, etc. as necessary to show relevant experience):

Client Name, Address, Contact and Telephone Number:

Work Description:

Value:

Location:

Performance Dates:

6. Business Response

Potential Offerors are requested to provide the following:

- A typical milestone payment schedule for a similar project.
- An approximate, high-level schedule for design, installation, training, and maintenance of a similar project.

NOTE: All information provided will be used for RFP planning purposes only and will not be considered an offer to perform work nor will any information be used external to UCOR and its client, The United States Department of Energy.



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RESPONSE SUBMITTAL

Electronic response (e-mail w/ attachments) is the preferred method of response and is required by no later than **Thursday, June 13, 2019 by 2:00 PM Eastern Standard Time**. When an electronic response is not possible, prequalifying documentation may be sent via U.S. Mail or Priority Mail (e.g. Fed-X, UPS, DHL, etc.) but must be received by the due date to be considered.

Include the name, title, address, telephone number, and e-mail address of the responsible person to whom future communications regarding the pre-qualification should be addressed.

Note: All information submitted in response to this prequalification must be submitted by the prime potential Offeror (i.e., the Respondent).

Address any questions and all prequalifying documentation and evidence to:

Tess Klatt
Email: tess.klatt@ettp.doe.gov
Telephone: 865-241-3953

For delivery by Mail, the address is:

URS | /CH2M Oak Ridge LLC
P.O. Box 4699
Oak Ridge, Tennessee 37831
Attention: Tess Klatt
Prequalification No.: MR-DCS-Upgrade

Table 1 Existing Fiber Optic Infrastructure

Location 1	Fiber Count	Location 2
7961 PCU #1	8 Multi-Mode	Pole #25
Pole #25	24 Multi-Mode 6 Single-Mode	Pole #22
Pole #22	24 Multi-Mode 6 Single-Mode	7966 PCU #6
	24 Multi-Mode 6 Single-Mode	Pole #28
Pole #28	24 Multi-Mode 6 Single-Mode	3608 PCU #3 Operator Console
3608 PCU #3 Operator Console	12 Multi-Mode	2649 PCU#5
	12 Multi-Mode	3544 PCU #2 Operator Console
2649 PCU#5	12 Multi-Mode	2099 PCU #4
	6 Multi-Mode	2531 Conc #3
	6 Multi-Mode	2537 RIO
2537 RIO	6 Multi-Mode	2568 RIO
3544 PCU #2 Operator Console	12 Multi-Mode	3130 Operator Console x 2 Engineering Workstation Network Monitor
	12 Multi-Mode	2600 PCU #8
	6 Multi-Mode	3502 Conc #4
2600 PCU #8	12 Multi-Mode 6 Single Mode	7856 PLC Operator Console
7856 PLC Operator Console	6 Single Mode	7872 Conc #7
7872 Conc #7	6 Single Mode	7895 PLC
3130 Operator Console x 2 Engineering Workstation Network Monitor	12 Multi-Mode	Pole @3105
Pole @3105	6 Multi-Mode	3092 RIO
	12 Multi-Mode	2099 PCU #4
	6 Multi-Mode	3105 Conc #1 Conc #5

Table 2 - Existing Processor and Field I/O Capacity

Location	Processor Count	I/O Module Count	Analog Inputs	Analog Outputs	Digital Inputs	Digital Outputs
7961 PCU	1 Redundant Pair	11	23	4	102	40
3544 PCU	1 Redundant Pair	10	23	4	86	40
3608 PCU	2 Redundant Pairs	30	47	30	232	144
2099 PCU	1 Redundant Pair	13	45	0	80	80
3092 Remote I/O	Using 2099 Processor	5	30	8	32	0
2649	1 Redundant Pair	28	90	0	176	176
2537 Remote I/O	Using 2649 Processor	3	30	0	16	0
2568 Remote I/O	Using 2649 Processor	4	30	0	32	0
7966	1 Redundant Pair	14	60	0	80	80
2600	1 Redundant Pair	11	15	0	112	48
3105 - Conc#1	1	6	12	0	32	32
3105 - Conc#5	1	9	24	0	64	16
2531 - Conc#3	1	10	30	0	32	48
3502 - Conc#4	1	4	12	0	16	16
7872 - Conc#7	1	4	12	0	16	16
7856	1	27	152	12	144	80
7863	1	7	16	4	32	48
7895	1 Allen	8	12	0	76	44
Totals	24	204	663	62	1360	908