CITY OF HIGH POINT
AGENDA ITEM

Title: ACS (Advanced Control Systems) Informal Bid/Sole Source

From: Garey S. Edwards, Electric Utilities Director **Meeting Date:** September 5, 2017

Public Hearing: N/A **Advertising Date / Advertised By:** N/A

Attachments:
Attachment A: ACS-PRISM System Upgrade-Firm Offer
Attachment B: Letter of Sole Source for ACS Prism Solutions
Attachment C: Letter of Recommendation from City of High Point-Electric Department

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PURPOSE:
To replace and upgrade our SCADA system.

BACKGROUND:
Advanced Control Systems has provided the City of High Point with excellent service over the past thirty plus years. The City of High Point-Electric Department has used this manufacturer's SCADA equipment and software since the early 1980's. It is vital equipment to our department for all that it does, such as monitor, control, report, and many other features that it provides. It is compatible with all our other equipment and performs with minimal down time. This is a sole source that must be provided by the manufacturer ACS.

BUDGET IMPACT:
Funds are available in the 2017-2018 Annual Budget.

RECOMMENDATION / ACTION REQUESTED:
City Council is requested to approve this informal bid/sole source provider.

City of High Point
Electrical Department
Municipal Operations Center
Post Office Box 230, 816 E Green St.
High Point, NC 27262

NORTH CAROLINA'S INTERNATIONAL CITY™

September 1, 2017

Erik Conti, Purchasing Manager
City of High Point-Purchasing Division
220 South Hamilton Street
High Point, North Carolina 27260

Dear Mr. Conti:

Our current SCADA system (Supervisory Control and Data Acquisition) has become older and is in need of replacement. This SCADA system helps us to monitor and control our electric system remotely. It is a valuable piece of equipment for our department and the City. We have had the SCADA system made by ACS (Advanced Control Systems) since the early 1980's, and have received great service and product support from them. Our current system has been in service since about 1999 and is at the time for replacement because the lifespan of the equipment is ten to fifteen years. The warranty for this equipment has passed as well.

We would like to keep ACS as our SCADA vendor because of compatibility issues and standardization. We have some older field equipment that works seamlessly with this system. It would require additional capital to replace these other pieces of equipment if we changed vendors. We have been trained on this system and a change of systems would require extensive re-training. There is a newer version of software being released and it will require the new hardware for this software to run on. The new hardware will be compatible with the older field equipment as well as any new equipment that is being produced currently.

Sincerely,

Philip Hiatt

Philip Hiatt, P.E.
Senior Electrical Engineer/Substation Engineer

Advanced Control Systems

2755 Northwoods Parkway | Norcross Georgia 30071
T: 770 446 8854 | www.acspower.com

August 23, 2017

To: **High Point Electric Utilities Dept.**
816 E. Green Dr.
High Point, NC 27260

Attn: Scott Foster
Phone: (336) 883-3133
Email: scott.foster@highpointnc.gov

Offer Number: PR-1701-1136
Description: PRISM System Upgrade

Dear Scott,

Advanced Control Systems, Inc. is pleased to present to High Point Electric Utilities Dept. this offer to perform an upgrade of your ACS PRISM system to our newest release of the core software, PRISM 11.

Our records indicate that your current system is running PRISM 10. In order to continue to effectively support your system and ensure that you have the latest features and performance capability that ACS has to offer, it is important that you consider a PRISM upgrade at this time.

PRISM 11 is ACS' first true 64-bit version of our system software. This affords many advantages over your existing software, but chief among them is the increased system performance – including the ability to process 10x more database changes/sec than prior version. The new release also provides enhanced alarm/event functionality and security features, among other improvements. You can find details on the changes made in the accompanying documentation.

The upgrade to PRISM 11 requires modern 64-bit hardware, and thus this proposal includes not only the software upgrade, but replacement of your existing hardware that is running PRISM. Your upgrade will include the loading, configuration and testing of the new hardware in the ACS factory as described in the proposal. This is the optimal way of ensuring that your upgrade proceeds smoothly with minimal, if any, system downtime.

Please let us know if you have any questions. We are here to support you and to ensure that your system includes our latest technology to enable you to manage your network as efficiently and effectively as possible.

We appreciate you being a part of the ACS family.

Sincerely,

Janie Schmidt

Janie Schmidt
Sales Director
Advanced Control Systems, Inc.
404-861-7380
janie.schmidt@acspower.com

High Point Electric Utilities Dept.

PRISM System Upgrade

Firm Offer

Offer No.: PR-1701-1136
Rev. 00
Date: August 23, 2017

This document contains proprietary information

Originated by: Christelle Ndjaboue

ACS
Advanced Control Systems

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1 INTRODUCTION

When High Point Electric Utilities Dept. collaborates with Advanced Control Systems, Inc. (ACS), you are harnessing the talents and focused energies of business people who are pioneers in substation automation, and leading providers of smart grid solutions.

Competitive advantage in the power industry relies on the ability to make processes faster, more flexible, more efficient and, above all, more cost effective. ACS is your partner integrating business processes across all levels, and helping you create your competitive advantage.

The latest version of our long-standing core PRISM system platform will help you deliver real-time information and automate processes 10 times faster than with previous versions. Continuing a long history of improvements and updates to PRISM, this upgrade will bring significant enhancements to both features and performance across the spectrum of PRISM applications.

Advanced Control Systems, Inc. is pleased to present this offer in response to your request for the upgrade of the existing PRISM system.

We very much appreciate that you and other staff members invest your time and effort in reviewing our submittal.

2 SOLUTION DESCRIPTION

2.1 PRISM System Upgrade

Though most software updates are developed mainly to address security holes in programs, we upgraded PRISM with bug fixes and enhancements to considerably increase system's performance, sizing, capabilities and speed. PRISM 11 has been designed with enhanced processing capabilities and expanded capacities to meet your needs. The PRISM system upgrade will help you be more agile and responsive when it comes to effectively managing the electrical network and infrastructure as shown below:

	PRISM 10	PRISM 11
Performance (RTDB changes/sec)	5,000	50,000
Max. Number of Stations Points / Category	10,000	100,000
Control Queue - Buffer Size	512	5,000
Max. Number of Graphical Operator Interface (GOI) Windows	160	300

Figure 1 - System Performance Comparison PRISM 10 vs PRISM 11

Following are the primary benefits this upgrade will provide to your system:

- **Improved system performance and speed**: During a major storm or other outage event, your system must be able to perform at its best. Previous versions of PRISM processed real-time information at a maximum rate of 5,000 database changes/second. The upgraded PRISM will increase the processing capability tenfold, enabling your system to process up to 50,000 network events per second in order to deliver mission-critical performance.

- **Increased platform for system expansion**: With the proliferation of IEDs and other automated devices and sensors being deployed on today's grid, a modern automation system requires almost unlimited expansion capability. The upgraded system will now support up to 100,000 stations with up to 100,000 points per category.

- **Enhanced alarm/event functionality:** The upgraded PRISM system will include many new features and enhancements to improve ease-of-use for operators.

- **Expanded reporting functionalities:** New functionalities have been added in Greport, the reporting tool accessed via the PRISM GOI, to enhance its capabilities. The upgraded PRISM system has an integrated spreadsheet-based reporting tool, LibreOffice incorporating more features and improvements than the previous OpenOffice.

- **Heightened situational awareness for operators**: Previous PRISM versions support up to 160 Graphical Operator Interface (GOI) devices. The upgraded system will now support up to 300 devices, enabling you to deliver increased situational awareness with more connections to PRISM system displays and reporting devices, whether locally, remotely, or on large multi-display video walls.

- **Increased control capability:** Historically, the number of controls issued in a SCADA system was relatively low and did not push the queue limit of 512 concurrent controls. This limit has now been increased to 5,000 to support the increased use of controls required by applications such as Integrated Volt/VAR Control (IVVC), which also utilizes a "keep alive" mechanism.

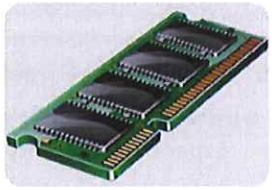
- **Enhanced system security features:** A security hole can endanger your utility. Exploiting security vulnerabilities in programs to deliver malware is a common method employed by cybercriminals. We designed PRISM 11 to enhance the security of your system against serious attacks. The cryptographic network protocol Secure Shell (SSH) will be the standard when it comes to remote login, making backups, and remote file transfer via scp or sftp.

- **Increased efficiency and profitability:** The upgraded system will even better manage the electrical network and infrastructure, increasing the overall profitability and efficiency.

In order to get the best performance from your PRISM system, and most importantly, to stay protected against cyber-attacks and malicious threats, we strongly recommend an upgrade to PRISM 11 for all utilities currently running PRISM 10.x or earlier versions.

Please refer to Attachment A - PRISM 11 Features and Capabilities for the list of additions and enhancements provided with the latest version of the PRISM system.

2.2 Upgrade Considerations



As a true 64-bit application, PRISM systems now can take advantage of the increased memory space and parallel processing capabilities offered by 64-bit architecture. PRISM 11 is the first 64-bit version of our core platform, and requires Red Hat Enterprise Linux 6.5 (RHEL 6.5 - 64 bit) or later versions of RHEL. Therefore, applications using the ACS Application Programming Interface (API) library will require libraries compiled on RHEL 6.5.

The requirements on the upgraded system can be resumed as follows:

2.2.1 Software requirements

Software License	Requirements
PRISM 11 – 64 bit	• O.S: Linux (64-bit) • Version: Red Hat Enterprise Linux Server/Desktop 6.5 or later versions of RHEL
Red Hat 5.x and 6.x nodes	• PRISM systems should NOT contain a mix of Red Hat 5.x and 6.x nodes. This creates maintenance issues and complicates support and future upgrades.
Important Note: - ACS standard servers are now HP Gen 9 and they can only run RedHat v6 or higher natively. - Red Hat Enterprise Linux Server/Desktop v5.x and lower are not compatible with PRISM 11 - Due to the above requirements, customers requesting to add new RedHat v6 hardware to the system will be required to upgrade all nodes to Red Hat 6.x as part of the upgrade. This applies even if customers do not choose to upgrade to PRISM 11 for any reason. - Existing PRISM 10 (which is 32-bit) can be re-installed on new Red Hat v6 hardware.	
Disclaimer: PRISM 11 is not compatible with RHEL v5.x and lower versions. Therefore, ACS cannot resolve any issues related to PRISM 11 when running on these operating systems.	
Other Software requirements o DASdb 6.0 or later (if applicable) o Oracle 11G or higher if genHDA	

- Customer applications using the ACS application programming interface (API) will require re-compilation with ACS 64-bit libraries

2.2.2 Hardware Requirements

Hardware	Requirements
Server/ Memory	• HP ProLiant DL380 G9 Server or later versions should replace all previously deployed Linux servers • 16GB minimum for systems with maps and servers – the more the better
Workstation /Memory	• HP z640 PC workstation should replace all previously deployed Linux workstations • 8GB minimum recommended for workstations • 16GB minimum for workstation-based masters
Older HP Hardware HP ProLiant DL380 G8 HP ProLiant DL380 G7 HP z620 workstation z600 workstation	• Certified for RHEL v6.5 • Discontinued by HP/ Not supported anymore • To be handled on a case -by-case basis • More memory required
Disclaimer: ACS has not performed PRISM 11 testing on the above retired HP hardware and cannot guarantee the system increased performance and security when running PRISM 11 on such hardware.	
Important Note: - If PRISM 11 is deployed on older generations of servers or workstations not supported anymore by the original manufacturer, any issues will have to be replicated on the newer generation to exclude any hardware related issues. - ACS standard server and workstation should be used to avoid system maintenance issues and complicated support	

2.3 Cost and System Considerations

- The license upgrade to PRISM 11 is covered under the ACS Full Subscription Support and Long-Term Support Agreement (LTSA) programs. Therefore, all existing ACS software licenses under the programs will be upgraded to the latest revision at no license cost.
- Furthermore, LTSA engineering hours may be utilized for the upgrade services.
- ACS has developed an automated tool to guarantee consistent, qualification of both the core Linux OS and all PRISM files and applications on the target system.
- Documented processes and project management tools are used to help *ensure a smooth system transition with minimal, if any, downtime*.

2.4 ACS System Upgrade Plan

ACS understands the investments that our customers make to their SCADA system. When your PRISM SCADA software/hardware become obsolete, we suggest that our Full Support/ LTSA Customers turn to the ACS System Upgrade (SU) Plan.

The System Upgrade (SU) process is designed with the long-term satisfaction of our customers as our top priority. The proper method for ensuring this long-term satisfaction is for ACS to verify the existing system's components, perform the necessary upgrades to hardware and software components, perform configuration tune-up services, and to document all changes completely and accurately. With this plan, your short term goals will be met, while building the proper foundation for the utility's system roadmap for the future.

The ACS System Upgrade (SU) Plan provides the following functions:

System design: When the customer accepts a SU Plan, ACS will analyze the existing system design to ensure that the system is configured properly.

System Hardware: With the SU Plan, ACS will analyze all of the hardware used in your PRISM SCADA system. If any hardware is obsolete, retired, or is no longer being supported, ACS will identify this hardware and provide a list to the customer. ACS will also provide a price for this hardware along with current specifications and recommendations for virtualization, if desired. If the customer would prefer to purchase the hardware themselves, ACS would make plans to have the hardware shipped directly to our Factory.

System Software: ACS understands that the heart of your SCADA system is the software that is running on your system. Per the Full Subscription Support and Long-Term Support Agreement (LTSA) programs, ACS will provide at no license cost the latest revision of the ACS software that is existing on your system – this revision includes all patches, updates and upgrades available to all ACS software.

System Loading: ACS will load all software, and transfer the existing database, displays, historical files, and reports of your current system to the new system. If the customer desires any new applications, this software will be loaded in the new system as well. The software licenses will be installed on the new hardware before shipping to customer site.

System Testing: As part of the SU Plan, ACS will set up the entire system on our factory test bed and ensure proper operations of all system features prior to shipment. As with any new system, our customers are always welcome to witness this testing.

Special Installation / Startup / Commissioning / On-Site Training: As part of the SU Plan, ACS will provide system installation, system startup, system commissioning and on-site training, if required.

System Warranty: ACS believes that following a SU Plan, the updates system mirrors a new system and therefore the entire system is warrantied for twelve (12) months following the Customer's Acceptance of the system.

3 SCOPE OF SUPPLY

3.1 Base Scope

Advanced Control Systems, Inc. is pleased to present this offer in response to your request for the upgrade and expansion of the existing PRISM system.

New 64-bit hardware will be supplied with new Red Hat OS licenses and the latest version of PRISM licenses will be installed for each workstation. The workstations master will be rack mounted in the cabinet.

The following new hardware will be supplied to High Point Electric Utilities Dept.:

Item	Primary	Backup	New System Hardware
1			**New Workstations Master**
	1	1	HP z640 PC workstation (or equivalent) configured with: · Intel Xeon E5-1620v3 (1P-4C, 3.5GHz, 10MB/2133) cpu · 32GB (2x4GB) DDR4-2133 registered memory · Two (2) 300GB 15k SAS SFF disk drives · LSI 9217-4i4e 8-port SAS 6Gb/s RAID card · Slim SuperMulti DVDRW SATA drive · Intel Ethernet I210-T1 PCIe NIC card · NVIDIA NVS 310 512MB 2xDP graphics card · USB standard keyboard and optical scroll mouse · (1) New RHELv6 OS environment to be installed
2			**New Monitors for Workstations**
	1	1	24" LCD monitors
	1	1	PC Speaker Bar for 24" LCD monitors
3			**Network and Miscellaneous Hardware**
	1	1	Rackmount Kit for HP Z6 series Workstations
	1	1	Battery Backup for workstations
	1	1	PRISM System Restore - standard
	1	1	Network-Serial Port Servers (Commtrols to replace Equinox)

Per the current Full Subscription Support Warranty, the following existing software licenses will be upgraded to the latest revision of ACS software at no license cost. The software licenses will be installed on the new hardware before shipping to customer site.

Item	Primary	Backup	Existing System Software to be upgraded
5			**Existing PRISM SCADA Software (per Support Agreement)**
	1	1	PRISM SCADA Software including: Command Interpreter, Historical Data Collection, SOE, OpenOffice Spreadsheet Report Writer, Area of Assignements, System Vector Graphics, PRISM Restore, Data Trending, and StickyNotes.

Item	Primary	Backup	Existing System Software to be upgraded
	1		Reflections X
	1	1	DNPnet
6			**Existing Operating System Software Licenses**
	1	1	Red Hat Enterprise Linux v6- Workstation Edition

The existing system may be configured with the following equipment:

	Existing Equipment Onsite	Supplied by Customer
	Existing Network and Miscellaneous Hardware	
1	NTP	
1 Lot	Cables and miscellaneous hardware for system integration in equipment cabinets.	
	The existing system may be configured with the following equipment:	**Supplied by Customer**
	Existing PRISM Communication Interfaces	
2	PRISM Communication Interface, equipped with:	
	· Power Supply	
	· Host Processor Module	
	· Gateway Modules and Gateway Interface Modules	

	ACS System Upgrade Services	
Lot	**Design & Consultation:** Review existing drawings and update as necessary to make certain that they accurately depict the current system, ensuring that ACS is aware of any prior configuration changes and existing interfaces that could impact system design. Review any outstanding issues and special customer requirements, identifying the appropriate solutions.	**Included**
Lot	**Engineering and Documentation:** Equipment manufacturing & testing, system engineering and integration testing of the staged equipment at ACS' facilities. Provide new product documentation and ACS hardware & software manuals where required. ACS will provide a detailed trip report upon completion of the project.	**Included**
Lot	**Post Installation, Testing and Certification:** After installation and start-up services, the Customer Engineer will test the re-configured system and make adjustments as needed in order to ensure that the system is performing as expected. The Engineer will make backup images for the customer and for ACS, and hold a closeout meeting prior to departure.	**Included**

	ACS System Upgrade Services	
Lot	**Additional Services:** Customer will receive 24x7 HelpDesk Phone support for seven (7) consecutive days upon completion of installation. Customer will receive follow-up from ACS Quality Assurance and Customer Service to verify that the upgraded system continues to function properly.	**Included**

ACS personnel will transfer the real-time database and historical data files to the upgraded system.

3.2 Additional Scope

Item	Primary	Backup	Additional System Hardware
O1			**Remote Tower PC**
	8		HP EliteDesk 800 G2 Tower PC (or equivalent) configured with: · Intel Core i7-6700 processor · 8GB (1x8GB) DDR4-2133 registered memory · One (1) 1TB 7200rpm SATA disk drive · LSI 9217-4i4e 8-port SAS 6Gb/s RAID card · Slim SuperMulti DVDRW SATA drive · Intel Ethernet I210-T1 PCIe NIC card · NVIDIA NVS 310 512MB 2xDP graphics card · USB standard keyboard and optical scroll mouse · Microsoft Windows 10 Pro 64 OS
			PRISM Remote Desktop Access software
	1	1	ePRISM Desktop Access license with 4 concurrent users
	4	4	ePRISM Desktop Access additional concurrent users
			New Monitors for X-Term Workstations
	8		24" LCD monitors
	8		PC Speaker Bar for 24" LCD monitors
O2			**Optional Monitors for Workstations**
	1	1	42" LCD monitors
O3			**Network Cabinets**
	1	1	Equipment Cabinet with Power Distribution Units
	1	1	Cables and miscellaneous hardware for system integration in equipment cabinets

4 PRICING

The total price for the proposed system upgrade is **$32,595 (Thirty-Two Thousand, Five Hundred and Ninety-Five) U.S. Dollars plus Expenses.**
Customer will be billed for travel time, plus all travel and living expenses at cost.

The price for (8) Xterminal Workstations (items #O1) is **$29,682 (Twenty-Nine Thousand, Six Hundred and Eighty-Two) U.S. Dollars**

The optional price for two large 42" Monitors (items #O2) is **$1,790 (One Thousand, Seven Hundred and Ninety) U.S. Dollars.**

The optional price for two equipment cabinets and associated labors (items #O3) is **$15,481 (Fifteen Thousand, Four Hundred and Eighty-One) U.S. Dollars.**

The optional price for 3 days ACS On-site Services to move 1 Sub and 8 RTU Generators from the existing FEP to the PCI is **$5,850 (Five Thousand, Eight Hundred and Fifty) U.S. Dollars.**

The above pricing is based on standard ACS configuration and is defined under the following conditions:

- Firm, in USD, for the validity of the Offer
- All taxes are excluded from price
- Limited to the Scope of Supply

5 TERMS AND CONDITIONS

5.1 Terms of Payment

High Point Electric Utilities Dept. will be invoiced in accordance with the payment schedule described below:

- 20% Due at Receipt of Order
- 35% Due at Receipt of Hardware at ACS Factory
- 35% Due at Delivery of System from ACS Factory
- 10% Due at Customer Acceptance of system, or 90 Days after system delivery

Payments not received within this period will be subject to interest charges. In a mutual base other terms of payment can be discussed.
The terms and conditions governing this offer are set forth in **Attachment B – ACS General Terms and Conditions of Sales**.

5.2 Shipping & Handling

Standard shipping within the continental US is typically 5-7 business days.

A shipping & handling fee of $35 will be added to each small package shipment. No separate freight invoice will be submitted. Packages exceeding $35 freight charges will be billed at cost, or fixed pre-quoted cost if applicable.

Charges for premium shipping (next day morning delivery, afternoon delivery, etc.) will be billed at cost.

6 DELIVERY

The proposed delivery time is 90 days from Purchase Order subject to further agreements.

Purchase orders need to reference the Estimate Number, Billing and Shipping Information.

All purchase orders should be sent to the address below.
Advanced Control Systems, Inc.
2755 Northwoods Parkway Norcross, Georgia 30071
Attn: Order Entry Team
FAX: 01-770-448-0957
Email:ACSOrderEntryTeam@acspower.com

7 VALIDITY

This Offer is valid for a period of 90 days from the date of this offer.

8 WARRANTY

ACS warrants that the supplies shall be free from original defect in materials and workmanship for a period of 12 (twelve) months from delivery, in accordance with the delivery terms agreed with the Contractor.

The Contractor shall, within 30 (thirty) days, inform ACS in writing regarding any original defect found in the supplies during the warranty period, fully describing those defects, and return such defective supplies for repair or replacement, if appropriate.

ACS shall at its own cost repair or replace the defective materials within the adequate period of time to perform the necessary enquiries, changes, repairs and/or replacements and tests.

The material repaired and/or replaced shall benefit from an additional warranty period similar to the original one.

Any repair and/or replacement performed by the Contractor or by a third party during the warranty period, without ACS' prior written consent, shall immediately and definitively cease the warranty granted by ACS.

The warranty is exclusively limited to the supplies and does not cover improper and incorrect use or maintenance, negligence, accidents, abuses, lack of vigilance, incorrect assembly, normal deterioration, inappropriate environment, external chemical, electrical or electro-chemical influences, unauthorized operation or modification, disregard for instructions contained in user's manual.

9 EXCLUSIONS FROM OFFER

The following points must be considered as explicitly excluded from the offer:

- Any equipment or service not explicitly mentioned in this offer

10 SUPPORTING DOCUMENTATION

Attachment A - PRISM 11 Features and Capabilities

Attachment B – ACS General Terms and Conditions of Sales

ACS
Advanced Control Systems

August 23, 2017

Mr. Scott Foster
High Point Electric Utilities Department
816 East Green Drive
High Point, NC 27260
Scott.foster@highpointnc.gov

Re: Sole Source for ACS PRISM Solutions

Dear Scott:

Per your request, this letter indicates ACS' presence as the sole source provider for the PRISM Real-time platform. The PRISM platform includes PRISM SCADA solutions, DMS solutions, OMS solutions, and NTX series products and services. The PRISM Solutions are solely manufactured by Advanced Control Systems, Inc. in Atlanta, Georgia.

All PRISM systems, software and parts are provided and serviced by ACS. ACS maintains all copyright privileges for their products and these products must be purchased directly from the company. There are no agents or dealers authorized to resale these products.

Thank you for your request and your interest in and support of ACS, our Products and Services.

Best regards,

Advanced Control Systems, Inc.

David Estock

David Estock
Manager of Proposals

2755 Northwoods Parkway Norcross, Georgia 30071 Tel: 770.446.8854 Fax: 770.448.0957
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