

# CITY OF HIGH POINT

## AGENDA ITEM



**Title: Agenda Item – Sole Source for City Lake Raw Water Pump #3 VFD  
Siemens Industry Inc.**

**From:** Terry Houk – Public Services Director  
Derrick Boone – Asst. Director Public Services  
Wendell Pickett- Water Plant Superintendent

**Meeting Date:** September 16, 2019

**Public Hearing:** No

**Advertising Date:** N/A

**Advertised By:** N/A

**ATTACHMENTS:** Quote

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### **PURPOSE:**

To utilize Siemens Industry Inc. to perform a total cell refurbishment and panel upgrade on the VFD (variable frequency drive) for pump #3 at the City Lake Raw Water Pump Station.

### **BACKGROUND:**

The City Lake Raw Water Pump Station is utilized to pump water from Arnold Koonce City Lake to the Ward Water Plant for treatment. There are two 18 MGD pumps and one 13 MGD pump in the pump station. VFDs were installed on the two 18 MGD pumps in 2004. Due to the age of the VFDs, the manufacturer (Siemens Industry Inc.) is recommending that the City replace the power cells and control panels to extend the life of the VFDs. Public Services plans to upgrade VFD# 3 on this budget year and upgrade VFD #2 during FY 2020-2021.

### **BUDGET IMPACT:**

Funding is available in the 2019-2020 Budget.

### **RECOMMENDATION / ACTION REQUESTED:**

The Public Services Department is recommending that Siemens Industry Inc. be approved as a sole source vendor to perform the total cell refurbishment and panel upgrade on VFD # 3 at the City Lake Raw Water Pump Station in the amount of \$116,875.00.

Financial Services

Purchasing Division



NORTH CAROLINA'S INTERNATIONAL CITY™

Requisition #

**CITY OF HIGH POINT**  
**SOLE SOURCE JUSTIFICATION FORM**  
(For Items Costing \$10,000.00 or More)  
Statutory Reference N.C.G.S. 143-129(e)6

Vendor:

Item(s):

**Justification:**

Siemens Industry Inc. is considered the Center of Excellence for repair of components of Medium Voltage Perfect Harmony Drives. Repair technicians are trained and certified with the most current Quality Standards. All testing of equipment follows Siemens ISO9001 standards before it leaves the factory. Siemens is the manufacturer representative of the VFD drive at City Lake Raw Water.

Estimated expenditure for the above item(s):

Accounting Unit and Account(s):

**CHECK ALL ENTRIES BELOW THAT APPLY TO THE PROPOSED PURCHASE.**  
**ATTACH A MEMO CONTAINING JUSTIFICATION AND SUPPORT DOCUMENTATION.**

1. ☒ Performance or price competition for a product are not available.
2. ☒ A needed product is available from only one source of supply.
3. ☐ Standardization or compatibility is the overriding consideration.
4. ☐ The parts/equipment are required from this source to permit standardization.
5. ☐ None of the above applies. A detailed explanation and justification for this sole source request is contained in attached memo and support documentation.

The undersigned requests that competitive procurement be waived and that the vendor identified as the supplier of the material or service described in this sole source justification be authorized as a sole source for the material or service.

Department Head/Authorized Personnel  Digitally signed by Derrick Boone  
DN: cn=Derrick Boone, o=Public Services Department, ou=City of  
High Point, email=derrick.boone@highpointnc.gov, c=US  
Date: 2019.09.03 16:21:34 -04'00'

Department/Division  Date

APPROVAL PROCESS

Purchasing Manager  Digitally signed by Erik Conti  
Date: 2019.09.09 11:35:04 -04'00'

Financial Services Director  Digitally signed by Bobby Fitzjohn  
Date: 2019.09.09 11:37:01 -04'00'

City Council (\$30,000 – Up)  Digitally signed by Greg Demko  
Date: 2019.09.09 11:39:53 -04'00'

# PLANTS Purchasing Form

Vendor: SIEMENS INDUSTRY, INC. (58097)

Address: PO BOX 371-034

PITTSBURGH, PA 15251

Mike Livengood

09/05/19

Ordered By

Date \_\_\_\_\_

<b>PO#:</b>		<b>RQ#:</b>	
<b>CODE:</b>	621757-527101		
<input type="checkbox"/> Emergency	<input checked="" type="checkbox"/> Order	<input type="checkbox"/> Blanket	<input type="checkbox"/> BID
Rick Riley		09/05/19	
Supervisor Signature		Date	

## ORDER

Quantity	Unit	DESCRIPTION (For Blanket Orders indicate date range)	Unit Price	Total
1	LOT	NBH,1250HP(932KW),4160V,200A cell part no. A1A461D63.200 qty of 15 cells per drive	79,710.00	79,710.00
1	LOT	NXGI to NXG PRO Control Upgrade on 1x Harmony VFD	37,165.00	37,165.00
		Purpose: City Lake Raw Water Pump #3 Total Cell		
		Refurbishment & Control Board Upgrade		
		<b>Total:</b>		\$116,875.00

- ☒ (MWP) Ship to Ward WTP
- ☐ (MLS) Ship to Ward WTP (parts for Sewage Lift Stations)
- ☐ (MWE) Ship to Ward WTP (parts for Eastside WWTP)
- ☐ (MWW) Ship to Ward WTP (parts for Westside WWTP)
- ☐ (MES) Ship to Eastside WWTP
- ☐ (MWS) Ship to Westside WWTP

**PLEASE EMAIL PURCHASE ORDER ONLY TO:**

**CONTACT NAME:** Tom Sheffield

**EMAIL:** [thomas.sheffield@siemens.com](mailto:thomas.sheffield@siemens.com)

**PHONE: 770-548-6298**



May 29, 2019

Mike Livengood  
City of High Point  
121 N Pendleton St.  
High Point, NC 27260

**Subject: Budgetary Quotation# RC000201852 – City of High Point City Lake Raw Water Pump #2 Total Cell Refurbishment Perfect Harmony Air Cooled Drive**

Dear Mike Livengood,

On behalf of Siemens Large Drives Pittsburgh Repair Center, I would like to thank you for providing us the opportunity to submit this budgetary sales offer for refurbishment of power cells for the City of High Point.

The following pages detail the prices, components and configurations for the service(s) outlined below:

- Refurbishment of power cells by the Pittsburgh Repair Center

All services are performed by factory trained technicians and our network of services can be accessed by calling 1-800-333-7421.

In addition to the products referenced above, we offer a complete line of services to maximize the availability of your equipment including:

- Training programs to allow you to operate and maintain your equipment at peak performance
- Technical Service Agreement to maximize the reliability of your equipment
- Upgrade programs to enhance your equipment with our current state-of-the-art features
- Startup and Commissioning to ensure the best performance from your equipment
- Blanket Purchase Order (BPO) to ensure after hours dispatch of a Siemens FSR for emergency on-site service and parts

Should you have any questions or would like additional information on any of our services, please contact me at 724-420-3297, your local Siemens sales representative, Lou Solomon, KL Shane at 919-833-6343, or your Siemens Regional Service Sales Specialist, Thomas Sheffield at 770-548-6298.

Thank you for allowing Siemens to present our offering of services and we look forward to working with you in the near future.

Sincerely,

*Marilyn Wills*

Marilyn Wills  
Sr. Project Manager  
Pittsburgh Repair Center

**Siemens Industry, Inc.**

500 Hunt Valley Road  
New Kensington, PA 15068  
Customer Call Center

Tel: 724-339-9500  
Fax: 724-339-9562  
Tel: 1-800-333-7421

Siemens Large Drives Pittsburgh Repair Center is considered the Center of Excellence for repair of components of Medium Voltage Perfect Harmony Drives.

- Our repair technicians are trained and certified with the most current Quality Standards
- All testing of equipment follows Siemens ISO9001 standards before it leaves the factory
- All power cells are cleaned and bolt checked during the repair/refurbishment process

Please review the information below of what our repair center can offer:

- Repair or replace components and assemblies of the Perfect Harmony Drive as well as many of our legacy drives that are still in service.
- Refurbishment of components to enhance the life span of the power cells located in your medium voltage drives.
- Blanket purchase orders for ease in requesting Return Material Authorizations (RMA) and allowing the repair center to begin repairing your products as soon as they are received into the repair center.

### **Repair or Replacement Service**

Siemens Large Drives Pittsburgh Repair Center will repair your product at time and material basis. Our technicians will evaluate the unit when it is received into the repair center. A quotation will be provided for approval to repair the unit and upon approval the unit will be placed on the schedule to be repaired. If during the evaluation the technician finds the unit beyond economical repair we will provide a recommendation to purchase a new product.

### **Refurbishment Service**

We offer refurbishment of your power cells to help enhance the lifespan of these units. The patented Siemens Perfect Harmony drives design – featuring the integration of industry-proven components, redundant bypass control technology, and hierarchical warning systems – ensures a level of reliability, efficiency, and versatility that is unmatched in the power controls industry.

### **Why do we offer refurbishment of power cells?**

Even with high-quality parts and the industry-leading design of our systems, the probability of failure for industrial equipment that utilizes electronic components increases with age. Furthermore, the combination of aging electrical components, demanding operating conditions and taxing environmental conditions (high ambient temperature, dust, dirt, high humidity, etc.) work together to significantly reduce a component's lifetime.

The power cells in the Perfect Harmony drives are designed with parts that when operated at their rating still has a limited life time. The capacitors used in a Harmony Cell are electrolytic capacitors. Electrolytic capacitors rely on an electro chemical reaction to maintain the dielectric of the capacitor. As the cap heats the electrolyte it will off gas to form hydrogen atoms. Overtime the amount to electrolyte still in the can does not allow the aluminum oxide to maintain adequate thickness to provide sufficient dielectric. During this time in the capacitors life the failure rate of the capacitors will increase and potentially lead to catastrophic failures in the cell. To minimize the potential of catastrophic failures it is suggested that after a predetermined time the capacitors are replaced to minimize the possibility of catastrophic failures that will have a greater financial impact to you our customers.

Along with the power capacitors it is suggested to change all control boards as just like the power capacitors they also use electrolytic capacitors that in a high heat area will also fail over time. This can lead to critical process shutdowns that may severely impact production, revenues, safety, and the environment.

Capacitor and board upgrades are offered to support drives with aged, obsolete or degraded components. Capacitor and board components are replaced to help prolong the lifecycle and enhance the performance of your equipment. The cells will be upgraded with the newest version of cell control boards. The capacitors will be replaced as they can degrade over time. These enhancements to the cells will help maximize the life of your equipment as well as maximize your investment.

Refurbishment service is a fixed price offer. This service requires a purchase order at least 14-16 weeks prior to your shutdown so that we may purchase the components required to perform the service without delay once we receive the units into the repair center. The below chart references the listing of drives located at the City of High Point, NC.

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Note: Siemens assumes that the service will be completed one drive at a time in series or three power cells at a time depending on how the customer chooses.

Option	Product Type	SO#	Drive Part #	Serial No.	Upgrade Price per cell	Extended price per drive
1	NBH,1250HP(932KW),4160V,200A cell part no. A1A461D63.200 qty of 15 cells per drive	HR9204918	A1A31000549.01	9687	<b>\$5,314.00</b>	<b>\$79,710.00</b>

**Site Location:**

City of High Point  
City Lake Pump Station  
4300 Pump Station Road  
High Point, NC 27260

Site contact: Mike Livengood

Phone: 336-847-1192

Email: mike.livengood@highpointnc.gov

**Scope of work to be performed:**

- Siemens repair technician will perform a complete evaluation of the power cells.
- All power capacitors will be replaced to extend the lifecycle of the power cell.
- The power cell will be upgraded to the current version part no. A5E02757134.
  - The cell control board will be replaced with a newer version.
  - The wire harness will be replaced.
  - Thermistor will also be replaced.
  - Fuses and fuse blocks will be replaced.
  - IGBTs will be replaced.
- The power cells will be cleaned and all functional parts will be bolt checked.
- The power cell will be tested and inspected as per Siemens ISO9001 specifications.
  - Ohm check/inspect
  - High pot
  - Rectifier test
  - Preliminary test
  - Current run
  - Out of Saturation Check
  - Thermal testing

In the event that any defective parts are discovered during the course of the repair, the matter will be brought to your attention and we will replace the defective component upon your approval and receipt of your revised PO.

**\*\*Any additional scope of work required that is not specifically included in this Siemens proposal are considered additional and may result in project schedule delays and additional project costs.**

**Warranty**

Siemens standard warranty for repair of one year will apply.

- (a) Labor. All labor provided by Siemens ("Labor") is warranted to be free from defects in workmanship.
- (b) Product. Siemens warrants all materials, products, equipment and parts ("Product") provided by Siemens is free from defects in material and workmanship.

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## Proprietary Information

This document contains information proprietary to Siemens. Your acceptance of it is an acknowledgment of a confidential relationship between you and Siemens with respect to this proposal document. We require it to be returned or destroyed when no longer required. We also require that neither this document nor any information contained herein is to be reproduced, transmitted, disclosed or used otherwise in whole or in part without the written authorization of Siemens.

## Blanket Purchase Order

A Blanket Purchase Order (BPO) with Siemens Industry Large Drives Repair Center will ensure that any service request will have no delay in the processing of a purchase order or RMA request. This will alleviate any lost time when you need service on your Siemens equipment.

### Requirements of a BPO

- BPO must be no less than \$15,000 and will be valid for one year.
- There will be a pre-approved set of terms and conditions with BPO approval.
- The BPO will cover the equipment identified above.

### Purchase Order and Payment Terms

1. Siemens standard payment terms are Net 30 Days from invoice date.
2. Pricing is valid until September 27, 2019 and assumes completion of services within one year of proposal date. Any purchase order or releases after this date will be subject to a maximum of 5% increase.
3. Taxes will be assessed on the order if customer does not provide Tax Exempt Certificate along with PO.
4. The purchase order must have the quoted price on the order. If accepting the Exchange option, the before discount price must appear as the value of the purchase order.
5. Any additional scope of work required that is not specifically included in this Siemens quotation are considered additional and may result in project schedule delays and additional project costs.
6. For all purchase orders (POs) –

#### **PO Address and Mail to:**

Siemens Industry, Inc.  
500 Hunt Valley Road  
New Kensington, PA 15068  
Or you may fax the PO to 724-339-3240;  
Or email the PO to [marilyn.wills@siemens.com](mailto:marilyn.wills@siemens.com)

7. Freight charges, including crating, will be prepaid by Siemens and added to the invoice.  
(If shipped collect, payment will be the responsibility of the customer.)
8. Point of shipment: FOB New Kensington, PA.
9. Customer assumes responsibility for goods upon shipment from factory.
10. If Customer sends equipment or components to a Siemens facility for repair or refurbishing, Customer is required to provide Siemens with authorization to proceed with repairs/refurbishing within sixty (60) days for Siemens receipt of such equipment or components. If Customer fails to provide such authorization, Siemens will be entitled, at its sole discretion, to either (i) return the equipment or component to Customer at Customer's sole cost; or (ii) charge Customer a storage fee in the amount of \$10.00 per unit for each day that Siemens stores such equipment or component. If Siemens elects to store any equipment or component, Customer acknowledges that title and all risk of loss remains with Customer during storage.

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## **TERMS & CONDITIONS**

Proposals are made in accordance to the Siemens Industry Inc., Customer Services Division, General Terms and Conditions of Service, which can be found at:

<http://www.industry.usa.siemens.com/topics/us/en/standard-tandc/Documents/Siemens-Standard-Terms-for-Joint-Product-and-Services-Offering.pdf>, and are hereby incorporated by reference into this document and any resulting contract.

However, in the event that mutually accepted terms exist between Siemens and customer for the type of services provided herein, such terms may be used to govern this agreement upon written consent by both organizations.

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