



# City of Grand Island

Tuesday, August 10, 2004

Council Session

## Item G14

**#2004-196 - Approving Bid Award - Feeder Protection Relays**

Staff Contact: Gary R. Mader;Dale Shotkoski

# Council Agenda Memo

**From:** Gary R. Mader, Utilities Director  
Dale Shotkoski, Asst. City Attorney/Purchasing

**Meeting:** August 10, 2004

**Subject:** Bid Award – Feeder Protection Relays

**Item #'s:** G-14

**Presenter(s):** Gary R. Mader, Utilities Director

## Background

Over the past decade, the capabilities of protective relaying for electric distributive systems have been greatly enhanced by the development of electronic, computer based systems. The electronic systems replace the previously used electro mechanical relays. In 2001, the Electric Department began the upgrade of the Grand Island system to modern industry standards. Approximately, 2/3 of the distribution system protective relaying has been upgraded. This project has been scheduled to be systematically completed over a number of years. The project has progressed to the point of ordering additional relays for installation.

## Discussion

In order to continue the relay upgrade project, specifications were prepared for the purchase of twenty-eight (28) Feeder Protective Relays. The specifications were advertised and bids publicly opened in accordance with the City Purchasing Code. Six bids were received as tabulated below.

<b>Bidder Manufacturer &amp; Product</b>	<b>Commercial Exceptions</b>	<b>Mounting Dimension Exception</b>	<b>Communication Exception</b>	<b>Bid Price (with tax)</b>
Areva T & D MiCOM P143Feeder Management Relay	No	Yes (12.19" x 6.97")	No	\$66,171.00
Kriz Davis Company Cooper Edison Idea	No	Yes (8.67" x 5.22")	Yes	\$67,840.50
NxtPhase Corporation F-PRO	No	No (19" x 5.22")	Yes	\$75,315.75
Wesco Distribution Inc		No		

ABB DPU2000R	No	(19" x 5.22")	No	\$81,706.80
Schweiter Engineering Laboratories Inc SEL 351	No	No (19" x 5.22")	Yes	\$90,064.92
Harold K Scholz Co ABB DPU2000R	No	No (19" x 5.25")	Yes	\$112,040.13

As is often the case with new technologies, particularly with electronic, programmable technologies, there were initially a variety of shapes, sizes, communication and configuration options. In the U.S., the industry is moving toward rack mounted relays with standard mounting dimensions of 19 1/2" x 5.22". The Electric Department has adopted that standard.

Also, there are a number of equipment communications systems available for various applications. The two most widely used relay communication protocols are referred to as DNP and MODBUS. In Grand Island, the distribution system protective relaying communication system utilizes a fiber optic Ethernet communication link. The communication path from remote locations is; serial output from protective relays, conversion to Ethernet, via Ethernet to Windows based status and control program at the Control Center. A similar sequence applies to the reverse path for control signals to the substations. Each portion of the communication link must integrate well with the other to provide for smooth system operation. For protective relays, the Electric Department utilizes the MODBUS and Ethernet protocols.

Two of the vendors took exception to the 19 1/2" rack mount requirement. The 19 1/2" rack mounted configuration is readily available from domestic manufacturers. Adoption of a standard size reduces dependence on a single manufacturer and enables future upgrades to be performed with minimal disruption. If the relays were intended to be mounted in brand new panels that could be designed for any width, the size of the relay would not be an issue until future improvements are necessary. However, since the relays will be installed in existing panels, size and orientation become important. The relays that are designed to fit in a 19 1/2" rack can be mounted either vertically or horizontally (the manufacturer simply rotates the display and keypad 90 degrees). The MiCom P143 relay offered by Areva T&D is only available in a horizontal configuration. The width is such that two relays can not be mounted side by side within our existing panels.

The Cooper Edison Idea and NxtPhase F-PRO bidders took exception to the specified MODBUS / Ethernet communication protocol for relay input/output. Both offered DNP Ethernet and MODBUS without Ethernet. Neither of these configurations meets the specified Ethernet relay communication protocol. Conversion of the relay MODBUS outputs to the specified output configuration is possible with an external device, and the specifications made a point to tell bidders that was an acceptable option. Requiring vendor furnished protocol support, places the responsibility for selecting a working combination of equipment on the equipment supplier, which was intended by the specifications.

The ABB DPU2000R offered by Wesco complies with both the dimensional and communications requirements. In addition, it fully meets the technical specification for feeder protection. Harold K. Scholz Company offered the ABB DPU2000R also. However, their bid was higher and did not include the available Ethernet option that was required to meet the specifications.

The ABB DPU 2000R relay, bid by WESCO of Grand Island, is the lowest bid meeting the specifications.

### **Alternatives**

It appears that the Council has the following alternatives concerning the issue at hand. The Council may:

1. Approve the award of the purchase of the Feeder Protective Relays to Wesco Distribution Inc.
2. Approve the award of the purchase of the Feeder Protective Relays to another bidder.
3. Deny award of the purchase of the Feeder Protective Relays.
4. Table the issue.

### **Recommendation**

City administration recommends that the purchase of Feeder Protective Relays be awarded to Wesco Distribution Inc., of Grand Island, in the amount of \$81,706.80.

### **Sample Motion**

I move that the purchase of the Feeder Protective Relays be awarded to Wesco Distribution Inc., in the amount of \$81,706.80.

**INTEROFFICE MEMORANDUM**

Dale M. Shotkoski, Assistant City Attorney



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Better Tomorrow, Today*

**BID OPENING**

**BID OPENING DATE:** July 30, 2004 at 11:00 a.m.

**FOR:** (28) Feeder Protection Relays

**DEPARTMENT:** Utilities

**ENGINEER'S ESTIMATE:** \$112,000.00

**FUND/ACCOUNT:** 520 Enterprise

**PUBLICATION DATE:** July 7, 2004

**NO. POTENTIAL BIDDERS:** 8

**SUMMARY**

<b>Bidder:</b>	<u>Schweitzer Engineering Laboratories, Inc.</u>	<u>NXT Phase Corporation</u>
	Pullman, WA 99163	Vancouver, BC - Canada
<b>Bid Security:</b>	Cashier's Check	Cashier's Check
<b>Exceptions:</b>	Noted	Noted
<b>Bid Price:</b>	\$84,568.00	\$75,315.75 (includes tax)

<b>Bidder:</b>	<u>Harold K. Scholz Company</u>	<u>Wesco Distribution, Inc.</u>
	Ralston, NE	Grand Island, NE
<b>Bid Security:</b>	Fidelity & Deposit Company	CNA Surety
<b>Exceptions:</b>	Noted	Noted
<b>Bid Price:</b>	\$112,040.13 (includes tax)	\$81,706.80 (includes tax)

<b>Bidder:</b>	<u>Areva T &amp; D, Inc.</u>	<u>Cooper Power Systems/Kriz-Davis Co.</u>
	Bethlehem, PA 18017	Milwaukee, WI/Grand Island, NE
<b>Bid Security:</b>	Liberty Mutual Insurance	Safeco Insurance Company of America
<b>Exceptions:</b>	Noted	Noted
<b>Bid Price:</b>	\$66,171.00 (includes tax)	\$63,700.00

R E S O L U T I O N 2004-196

WHEREAS, the City of Grand Island invited sealed bids for Twenty-eight (28) Feeder Protection Relays for the Utilities Department, according to plans and specifications on file with the City Clerk; and

WHEREAS, on July 30, 2004, bids were received, opened and reviewed; and

WHEREAS, Wesco Distribution, Inc. of Grand Island, Nebraska, submitted a bid in accordance with the terms of the advertisement of bids and plans and specifications and all other statutory requirements contained therein, such bid being in the amount of \$81,706.80; and

WHEREAS, Wesco Distribution, Inc.'s bid is less than the estimate for such items.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE CITY OF GRAND ISLAND, NEBRASKA, that the bid of Wesco Distribution, Inc. of Grand Island, Nebraska, in the amount of \$81,706.80 for twenty-eight (28) feeder protection relays is hereby approved as the lowest responsible bid.

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Adopted by the City Council of the City of Grand Island, Nebraska, August 10, 2004.

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RaNae Edwards, City Clerk

Approved as to Form	☐ _____
August 5, 2004	☐ City Attorney