



# City of Grand Island

Tuesday, February 04, 2003

Council Session

## Item G6

### #2003-42 - Approving Bid Award for Electrical Circuit Breakers

**Background:**

*Most of the Electric Department's oil circuit breakers are at least 30 years old. Since the circuit breakers were first installed, the City's electric demand has tripled. With the system expansions required to satisfy the increased electric demand, in both City facilities and the regional grid, many circuit breakers are now or will shortly be undersized.*

*The Department did an extensive investigation to determine if the existing breakers could be upgraded to handle the increased loading. One of the major problems was that the type of breakers purchased 30 years ago have been out of production for about 15 years. The breaker manufacturers responded that they were not able to increase the electrical ratings. The existing breakers have been kept functional by cannibalizing used units.*

*Additionally, the EPA has recently passed new regulation requiring the development of Spill Prevention Control and Countermeasures (SPCC) plans for oil filled equipment; such plans require installation of secondary containment facilities; dikes, retaining walls, oil separators, drainage plans, facility inspections, etc.*

*Because of the inability to upgrade existing breakers, the obsolescence and lack of spare parts availability, and the EPA pending regulation, planning for breaker replacement was begun a year ago. The '02-'03 Electric Budget includes \$4,600,000 to replace all but two of the existing oil circuit breakers. In November '02, the engineering firm of DeWild Grant Reckert & Associates (DGR) was hired to do detailed design and prepare detailed specifications for the replacement breakers.*

**Discussion:**

*Three types of circuit breakers are recommended for purchase; 123,000 volt (123kV), 15,000 volt (15kV) 1200 amp, and 15,000 volt (15kV) 3000 amp. DGR prepared specifications for replacement circuit breakers. The specifications were advertised and bids received in accordance with the City Purchasing Code. Bids were opened on January 14, 2003. Five firms submitted bids, but not all bid on each breaker type. The bids are tabulated below:*

*Item #1 (35)- 123kV Breakers - Crescent Supply, Omaha, NE: No Bid. Mitsubishi, Warrendale, PA: \$1,777,349.70. Power Delivery Systems, Ralston, NE: \$1,798,332.50. Siemens T&D, Jackson MS: \$1,733,287.50. Alstom T&D, Charleroi, PA: \$1,695,400.00.*

*Item #2 (37)- 15kV Breakers - 1200 amp - Crescent Supply, Omaha, NE: \$546,175.50. Mitsubishi, Warrendale, PA: No Bid. Power Delivery Systems, Ralston, NE: \$556,004.18.*

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*Power Delivery Systems, Ralston, NE (Alternate):\$449,059.38. Siemens T&D, Jackson, MS: \$569,689.00. Alstom T&D, Charleroi, PA: \$391,387.50.*

*Item #3 (5) 15kV Breakers - 3000 amp - Cresent Supply, Omaha, NE: \$138,802.15. Mitsubishi, Warrendale, PA: No Bid. Power Delivery Systems, Ralston, NE: \$182,248.15. Siemens T&D, Jackson, MS: No Bid. Alstom T&D, Charleroi, PA: \$116,085.00.*

*123kV Breakers: Four firms bid on the 123kV circuit breakers. The bids are all within about 6% of each other. The products offered by the two "as read" low bidders, Siemens and Alstom, do not meet the specifications for the contact operating mechanism and SF6 tank design. After an extensive investigation into the operating experiences of other users, DGR recommends that the bid not be awarded to either of the non-compliant bidders. Mitsubishi Electric is the low compliant bidder and received favorable references. DGR recommends the 123kV circuit breakers be awarded to Mitsubishi Electric. The Utilities Department concurs in that recommendation.*

*15kV Breakers:*

*Two of the circuit breakers types are rated for 15kV, for which Alstom T&D is low bidder, by a wide margin. The 15kV breakers offered by Alstom T&D complied with specifications. DGR recommends award to Alstom T&D. The Utilities Departments concurs.*

*Recommendation:*

*It is the recommendation of the Utilities Department that the contract for 123kV breakers be awarded to Mitsubshi of Warren, PA in the amount of \$1,777,349.70, and that the 15kV-1200 amp and 15kV-3000 amp breakers be awarded to Alstom T&D of Charleroi, PA in the amount of \$391,387.50 and \$116,085.00 respectively, for a total award amount of \$2,284,822.20.*

*Fiscal Effects:*

*Expenditure of \$2,284,822.20 from Electric Fund 520. There are sufficient funds available. This purchase is included in the '02-'03 Electric Department budget.*

*Alternatives:*

*None recommended. See attached RESOLUTION.*

*Staff Contact: Gary R. Mader; Dale Shotkoski*

**BID SUMMARY**

**FURNISHING ELECTRICAL CIRCUIT BREAKERS  
CITY OF GRAND ISLAND  
GRAND ISLAND, NEBRASKA**



DeWild Grant Reckert & Associates Company  
Consulting Engineers  
Rock Rapids, IA 51246  
DGR Project No. 420101

**Bid Opening:** January 14, 2003  
11:00 a.m. CST  
City Hall, Conf Rm #1

Bidder and Address	Acknowledge Addendum #1	Bid #1			Bid #2			Bid #3			
		Unit Price Total Bid	Manuf.	Low Bid Comparison	Unit Price Total Bid	Manuf.	Low Bid Comparison	Unit Price Total Bid	Insulation Medium	Manuf.	Low Bid Comparison
Crescent Electric Supply 3726 S 149th St Omaha, NE 68144	N **	No Bid			\$14,761.50 \$546,175.50	GE	Above Low Bid by: \$154,788.00	\$27,760.43 \$138,802.15	Vacuum	GE	Above Low Bid by: \$22,717.15
Mitsubishi Electric 512 Keystone Drive Warrendale, PA 15086	Y	\$50,781.42 \$1,777,349.70	MEPPI	Above Low Bid by: \$81,949.70	No Bid			No Bid			
Power Delivery Systems 7561 Main Street, Ste 425 Ralston, NE 68127	Y	\$51,380.93 \$1,798,332.50	ABB	Above Low Bid by: \$102,932.50	\$15,027.14 \$556,004.18	ABB	Above Low Bid by: \$164,616.68	\$36,449.63 \$182,248.15	SF6	ABB	Above Low Bid by: \$66,163.15
Power Delivery Systems 7561 Main Street, Ste 425 Ralston, NE 68127	Y				\$12,136.74 \$449,059.38	Alternate Bid ABB	Above Low Bid by: \$57,671.88				
Siemens T&D P.O. Box 6289 Jackson, MS 39288	Y	\$49,522.50 \$1,733,287.50	Siemens	Above Low Bid by: \$37,887.50	\$15,397.00 \$569,689.00	Siemens	Above Low Bid by: \$178,301.50	No Bid			
Alstom T&D One AEG Place Charleroi, PA 15022	Y	\$48,440.00 \$1,695,400.00	Alstom	Above Low Bid by: \$0.00	\$10,578.04 \$391,387.50	Alstom	Above Low Bid by: \$0.00	\$23,217.00 \$116,085.00	Vacuum	Alstom	Above Low Bid by: \$0.00

\*\* This Addendum pertained only to 123 kV SF6 breakers, which Crescent Electric did not bid.

January 27, 2003

Mr. Burhl Gilpin, PE  
Assistant Utility Director  
City of Grand Island  
Phelps Control Center  
700 E Bischeld Street  
P.O. Box 1968  
Grand Island, NE 68802-1968

**Re: Recommendation of Award of Contract  
Furnishing Electrical Circuit Breakers  
DGR Project No. 420101**

Dear Burhl:

We have reviewed the bids received for the above project. We have checked the bids for mathematical accuracy and compliance with the bid specification. A copy of the Bid Summary is enclosed for your information. We are hereby prepared to offer the following recommendations.

**Bid No. 1 - 123 kV SF6 Circuit Breakers**

Bids were within 6% of each other. Alstom and Siemens were the low bidders. However, neither manufacturer met the required specifications regarding the interrupter and tank design. We believe that the interrupter design specified will provide Grand Island with the most efficient and economical design for operation and maintenance over the life of the breaker. To inspect or replace the contacts the bushings would need to be lifted and the interrupter module would need to be lifted out with a lifting device and taken to a workbench. In order to minimize down time on the breaker, a complete set of the interrupters would need to be stocked. New bushing gaskets would also need to be installed to seal the tank.

ABB complied with the Specifications, but was the high bidder.

We recommend you award this order to Mitsubishi Electric Power Products, Inc. We have favorable experience with Mitsubishi Breakers and are confident that you would be purchasing a quality breaker. The Mitsubishi breaker and bid do comply with the bid specifications for this project. Currently, Grand Island has 13 Mitsubishi breakers and has had excellent operating history with these units. In investigating the experience of other users, the Mitsubishi 123 kV circuit breaker was more highly recommended than those of competing manufacturers.

With the purchase of these new breakers, Grand Island would only need to stock one set of spare parts. On the Mitsubishi breaker contacts can be easily inspected or replaced by opening the end of the tank. No bushings would need to be removed. Only the end cap of the tank would need to be resealed reducing the number of chances for gas leaks.

Mitsubishi has also stated in their bid that they will inspect the existing 13 breakers that you have purchased from them and extend the warranty on these breakers for an additional year at no cost. The new breakers will be manufactured in their Warrendale, PA facility.

### **Bid No. 2 - 15 kV 1200A Vacuum Circuit Breaker**

There was considerable variation in the pricing of the 15 kV circuit breakers. Alstom T&D submitted the low bid by a wide margin. They recently moved their medium voltage breaker manufacturing facility to Georgia in the last few months.

We recommend you award this order to Alstom T& D. Alstom did meet the specifications. References were positive. This breaker is a single bottle 1200 A, 25 kA vacuum breaker with 15 inch phase spacing. This breaker will be manufactured at their facility in Warner Robins, GA.

### **Bid No. 3 - 15 KV 3000AMP Circuit Breakers**

We recommend you award this order to Alstom T & D. Alstom was again the low bidder. This breaker is a single bottle 3000A, 40 kA vacuum breaker with 15 inch bushing spacing similar to the recommended 1200A vacuum breaker. This breaker will also be manufactured in the same facility as the 1200 A breakers.

Please contact me if you have any questions on our recommendations.

Very truly yours,

DEWILD GRANT RECKERT  
& ASSOCIATES COMPANY

Dennis Haselhoff, P.E.

DJH:djh

RESOLUTION 2003-42

WHEREAS, the City of Grand Island invited sealed bids for Electrical Circuit Breakers, according to plans and specifications on file with the Purchasing Division of the Legal Department; and

WHEREAS, on January 14, 2003, bids were received, opened and reviewed; and

WHEREAS, Mitsubishi Electric Power Products, Inc. of Warrendale, Pennsylvania, 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 \$1,777,349.70 for the 123kV breakers; and

WHEREAS, Alstom T & D of Charleroi, Pennsylvania, 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 \$391,387.50 for the 15kV-1200 amp breakers; and

WHEREAS, Alstom T & D of Charleroi, Pennsylvania, 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 \$116,085.00 for the 15kV-3000 amp breakers; and

WHEREAS, the total of the low bids identified above is below the engineer's estimate for such circuit breakers.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE CITY OF GRAND ISLAND, NEBRASKA, that:

1. The bid of Mitsubishi Electric Power Products, Inc. of Warrendale, Pennsylvania, in the amount of \$1,777,349.70 for 123kV breakers is hereby approved as the lowest responsible bid for that item.
2. The bid of Alstom T & D of Charleroi, Pennsylvania, in the amount of \$391,387.50 for 15kV-1200 amp breakers is hereby approved as the lowest responsible bid for that item.
3. The bid of Alstom T & D of Charleroi, Pennsylvania, in the amount of \$116,085 for 15kV-3000 amp breakers is hereby approved as the lowest responsible bid for that item.

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Adopted by the City Council of the City of Grand Island, Nebraska, February 4, 2003.

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RaNae Edwards, City Clerk

Approved as to Form	☐ _____
January 30, 2003	☐ City Attorney