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# buy quiet report

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a supplement to  
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National Institute of Governmental Purchasing 1735 Jefferson Davis Hwy., Arlington VA 22202 (703) 920-4020

## Salt Lake City Purchases Quiet, Efficient Compressors

By using a bid evaluation formula developed through the Buy Quiet Program, Salt Lake City, Utah, has obtained a projected savings of more than \$20,000 over the 5 year life cycle of two 160 CFM, 2 wheel, portable air compressors.

The simple formula used by Salt Lake City was developed at a Buy Quiet Government-Industry Conference conducted in Newark, New Jersey last June. It is:

$$EBP = P - VNR + CE$$

Where:

- EBP = the Evaluated Bid Price
- P = the Actual Bid (i.e., Purchase) Price
- VNR = the Value of Noise Reduction
- CE = the (projected) Cost of Energy (i.e., fuel) required to operate the air compressor during its established life cycle

The City calculated VNR using the recommended formula:

$$VNR = Y (P_{AV}) (N_N - N)$$

Where:

- Y = the percentage weight by which the purchasing agency would "reward" (or "compensate") a bidder for each decibel that his unit is quieter than the loudest unit offered responsively
- $P_{AV}$  = the average of the Actual Bid Prices for all units offered responsively
- $N_N$  = the Noise level of the Noisiest model offered
- N = the Noise level of the unit for which EBP is being calculated

The purchasing agency stated in the Invitation for Bids that Y would be equal to 2% (calculated as .02). As can be seen in the tabulations below,  $P_{AV}$  equaled \$10,579.80, and  $N_N$  equaled 76 dBA. N for Bidder A was 76 dBA; for Bidder B, 76 dBA; for Bidder C, 74.5 dBA; and for Bidder D, 76 dBA. The City had specified that the maximum acceptable noise level would be 76 dBA measured in accordance with the U.S. Environmental Protection Agency Air Compressor Noise Test Procedure.

The Purchasing Agency calculated CE using the formula:

$$CE = FC \times AOH \times PLY \times CEG$$

Where:

FC = the Fuel Consumption rate of the unit offered, expressed in "gallons per hour" (provided by the bidder)

AOH = the projected Annual Operating Hours for the unit (provided by the City)

PLY = the Projected Life of the unit, expressed in Years (provided by the City)

CEG = the Cost of Energy (i.e., fuel, provided by the City)

As can be seen in the tabulations below, FC for Bidder A was 2.2145; for Bidder B, 2.381375; for Bidder C, 2.8988; and for Bidder D, 2.6903. The specifications required bidders to submit fuel consumption rates for the models they offered and stipulated that those rates were to be determined in accordance with the Compressed Air and Gas Institute Recommended Fuel Consumption Test Procedure.

"Raw" Bid Tabulations

Bidder	Mfr.	N (dBA)	FC (gph)	P
A	Atlas-Copco	76.0	2.214500	\$10,598
B	Ingersoll-Rand	76.0	2.381375	\$10,627
C	LeRoi-Dresser	74.5	2.898800	\$10,189
D	Sullair	76.0	2.690300	\$10,905

Once the calculations for VNR and P<sub>AV</sub> were performed, the City then calculated an Evaluated Bid Price (EBP) for each bidder. VNRs, CEs, and EBPs obtained for the four bidders are shown in the table below.

"Revised" Bid Tabulations

Bidder	P	(-) VNR	(+) CE	EBP
A	\$10,598	\$ 0.00	\$34,546.20	\$45,144.20
B	\$10,627	\$ 0.00	\$37,149.48	\$47,776.48
C	\$10,189	\$158.70	\$45,221.28	\$55,251.58
D	\$10,905	\$ 0.00	\$41,968.68	\$52,873.87

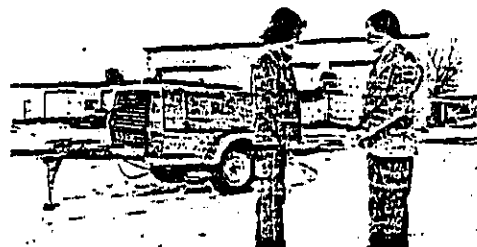
Had the contract been awarded to the lowest "actual" bidder, Bidder C would have been the successful bidder at a price of \$10,189 (an EBP of \$55,254.58). The contract was awarded to Bidder A, who had a P of \$10,598 (\$409 per unit higher than Bidder C) and an EBP of \$45,144.20 (\$10,107.38 per unit lower than Bidder C).

The total contract price was \$21,196 (2x \$10,598). Projected savings on energy alone per unit amounted to \$10,675.08 (\$45,221.28 - \$34,546.20) and 8,895.9 gallons of diesel fuel (2.8988 x 2600 x 5 minus 2.2145 x 2600 x 5, which is equal to 37,684.4 - 28,788.5).

Terry Anderson was the Buyer responsible for this purchase. Clair E. Moffit is the Purchasing Agent for Salt Lake City.

Additional information on this purchase is available from the Buy Quiet Program

Director at NIGP of from Clair Moffit, Purchasing Agent, Salt Lake City Corporation, 320 Circuit Courts Building, 450 S. 200 East, Salt Lake City, UT 84111, telephone (801) 535-7661.



Pictured above are Patti Fricks, Salt Lake City/County Health Dept., and Terry Anderson, Buyer, Salt Lake City Purchasing Dept. verifying sound levels on one of two quiet/efficient air compressors recently purchased.