

OVERHEAD / PADMOUNT TRANSFORMER BID AWARD JUSTIFICATION

Loveland Utilities Commission
November 18, 2015

| Bid Tabulation | (TOC) Purchase Price including Losses | Purchase Price |
|--------------------------------------|---------------------------------------|----------------|
| • Western United / Howard Industries | \$1,748,304.16 | \$924,146.00 |
| • Border States / Howard Industries | \$1,752,812.71 | \$918,171.92 |
| • Western United / ERMCO | \$1,758,456.98 | \$960,707.00 |
| • Stuart Irby / Cooper | \$1,893,308.44 | \$1,097,031.36 |
| • WESCO / ABB | \$1,908,932.21 | \$1,126,304.00 |
| • Gray Bar / Central Moloney | \$2,058,284.62 | \$1,289,180.00 |
| • Western United / Central Moloney | \$2,059,009.42 | \$1,273,256.00 |
| • Western United / CG Powers | \$1,283,346.08 * | \$732,341.00 * |

Difference

\$10,152.82

(TOC) Total Ownership Costs

The City of Loveland Calculates "TOC" using the purchase price plus:

No-Load Loss; (LOSSES THAT ARE PRESENT ALWAYS,
NO MATTER WHAT THE LOAD
IS ON THE TRANSFORMER)

Load-Loss; (LOSSES THAT ARE PRESENT ABOVE AND
BEYOND THE NO-LOAD WHEN THE
TRANSFORMER IS LOADED)

JUSTIFICATIONS

LINE CREW SAFETY

All it takes is something as simple as the slip of a wrench to make contact between energized conductors or between a conductor and a grounded equipment and the electric power system can act like a bomb. Known as an arc flash, the result can be devastating. Depending on the magnitude of available short circuit current, as well as how long it takes the upstream protective device to operate, the arc flash can be anything from minor arcs and sparks to a massive explosion.

Design of the ERMCO three phase pad mount transformer has a distinct advantage over all other manufacturers cabinets. By allowing the cabinet to completely open on top and both sides, reduces the chance of an arc flash by accidental ground contact. In addition to reducing the chance of an arc flash with the open design, the energy from an arc flash could radiate away from the enclosure in multiple directions leading to a reduction in overall incident energy exposure by 55% compared to the box configuration.



EXAMPLE OF ARC FLASH INCIDENT



Howard Three Phase Design

ERMCO Three Phase Design



Other Evaluating Factors:

History, the COL has had a long and exceptional relationship with ERMCO.

Customer Service, all transformers requiring repairs are returned to ERMCO's factory, repaired by factory technicians and returned to the customer usually within 15 working days. ERMCO has worked to expedite transformer orders for the City of Loveland when asked.

Ease of Use, ability to terminate / connect cables and connection blocks through the open cabinet design

Conclusion

Price

TOC

Safety

History

Customer Service