



BUTTERS-FETTING CO., INC.

MECHANICAL CONTRACTOR

1669 SOUTH 1ST ST., MILWAUKEE, WISCONSIN 53204-2999

TEL. (414) 645-1535. Fax (414) 645-7622

*Design - Build
Engineering
Turn Key Installations
Fabrication
Contract Maintenance
24-Hour Service
M.P. #232325*

**West Allis Department of Public Works
6300 West McGeoch Avenue
West Allis, Wisconsin 53219
Attention: Mr. Jeff Dubey
414-588-8035
jdubey@westalliswi.gov**

EQUIPMENT INVOLVED:

YORK AIR COOLED SCROLL CHILLER

MODEL: YLAA0170SE17XCA
SERIAL: SEXM-954-280

Jeff,

The existing air cooled chiller has experience a single phase power condition. One of the compressors has electrically failed. The compressor motor electrical terminals have failed and allowed burning refrigerant and oil to be released to the atmosphere. This compressor is 1 of 3 compressors that work in tandem on circuit number 1. A visual inspection indicates that the common connected oil level equalization line sight glass has black colored burn oil present. The oil residue remaining in and around the compressor terminals has a heavy acid content.

Corrective measures need to take place quickly to reduce the amount of damage to the refrigeration system components from the byproducts of the failed compressor. The acid that is formed is highly destructive to the system. The clean-up efforts are extensive including multiple oil changes, multiple liquid line filter changes, oil samples and the installation of an suction line filter canister to allow filtering of the refrigerant and oil before it enters the new compressor(s).

Previous experience on units with similar failures indicates the other 2 compressors on this circuit which have been exposed to the same conditions are likely to mechanically and or electrically fail very soon. It is recommended to replace all 3 compressors associated with this circuit. The following work is recommended:

**PROVIDE AND INSTALL 3 NEW OEM COMPRESSORS WITH 2 OIL CHANGES
AND 2 LIQUID LINE FILTER CHANGES**



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- Disconnect and remove the defective compressors.
- Provide and install (3) new OEM replacement compressor contactors. The existing units have melted and splattered contact surfaces.
- Install the replacement compressors into position.
- Connect all pressure sensing capillaries.
- Provide and install new suction line filter canister to allow clean up of the system with special "HH" high acid removal cores.
- Pressure test the system.
- Evacuate to at least 300 microns.
- Provide and install a "new" charge of 90 pounds of R410a refrigerant.
- Start up system and monitor filter pressure drop status and acid content of the refrigeration oil.
- Replace the compressor lubricating oil of all 3 compressors 3 times.
- Replace the suction line and liquid line filter dryer cores 3 times.
- Upon the 3rd replacement install paper type felt elements in the suction line dryer shell.
- Start, test and check out of the system.

Total cost plus tax..... \$46,500.00