CENTRIFUGAL CHILLER OVERHAUL

PART 1 – GENERAL

1.1 DESCRIPTION OF WORK

A. Furnish all necessary labor, equipment, tools, materials, rigging, and supplies required to completely overhaul two 750 ton York low pressure centrifugal chillers. The chillers were installed in 1993 and have 40 to 42,000 hours run time per chiller, and need to be overhauled according to the manufacturer’s specifications. All work needs to start in November 2014 when the chiller plant is shut down for the winter, and must be completed by the end of February 2015.

B. Both centrifugal chiller motors to be removed and sent out to a motor shop to be completely overhauled and tested. Both motors need to be overhauled and tested according to the manufacturer’s specifications.

PART 2 – GUIDELINES

2.1 COMPRESSOR OVERHAUL, INSPECTION, AND REPAIR

- Lockout / tag out main energy source to chillers
- Recover and contain the refrigerant charge in EPA approved recovery cylinders
- Assemble gantry for disassembly and to help with rigging of equipment
- Disassemble and inspect the shaft coupling
- Rig motor down from chiller to be sent out for service
- Disassemble compressor and record readings
- Clean assembly, gasket surfaces and parts
- Install new bearing kit
- Install new mechanical shaft seal
• Provide a new gasket kit for the compressor
• Replace oil drain line Victaulic gaskets
• Remove oil sump cover plate and remove oil pump
• Clean oil sump and oil heater
• Reinstall oil pump with new gasket
• Inspect compressor high and low speed gears
• Balance compressor high speed shaft and impeller
• Replace suction elbow gasket
• Replace discharge flange gasket
• Charge in new York “C” oil (mineral oil) 15 gallons
• Document and record any additional services or repairs
• Provide final assembly
• Provide pressure and vacuum testing
• Charge system with recovered R-123 refrigerant according to design factory charge specifications
• Provide EPA refrigerant tracking / reporting paperwork
• Start system and check for proper operation
• All oil that was removed from the sumps must be removed off campus
• Remove all debris from machine room pertaining to the overhaul job

2.2 YORK CHILLER MOTOR OVERHAUL

Motor Shop Services

• Transport motor to test shop
• Disassemble and clean motor
• Install new bearings
• Balance Rotor
• Varnish treat windings
• Inspect journals and stator

Motor Shop Test Services

• Hi Pot test
• Megger test
• PI test
• Surge test
• Resistance balance test
• Growler test