

Facility and Support Services

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June 14, 2017

To: Mahesh Sharma
Scott County Administrator

From: Chris Still, Maintenance Coordinator
Facility and Support Services

Subj: Proposal - Scott County Jail 10 year compressor overhaul - Centrifugal Chillers

Scott County Jail utilizes two large Centrifugal Chillers as a source of cooling for the entire Scott County Jail and Entrance Pavilion. These Chillers were purchased and installed as part of the Scott County Jail construction project to expand back in 2006. Facility & Support Services received notice from the manufacturer that these two Chillers were due for a factory recommended 10 year (40,000 hour) compressor overhaul as part of a complete planned maintenance program. Facility & Support Services did follow up and verify the need to overhaul Chiller compressors and do strongly recommend to proceed with this work by Factory Authorized Trane Technicians. These Chillers support a detention facility which has strict demands on temperature and cooling comfort for staff and housed inmates. The Chillers also support networking rooms, which house security electronic systems for Jail operations where cooling of the spaces is critical for their functionality. This planned maintenance renewal will aid in ensuring Chiller reliability, prolong Chiller life expectancy and will aid in preventing critical failures. Upon completion of this work a certificate providing parts and labor warranty of compressors, motor bearings, and lubrication system failures for up to five years will be issued to us. The scope of work is as follows...

- Remove and dispose of refrigerant and replace as per local laws and regulations
- Dismantle entire Centrifugal Compressor
- Analyze Refrigerant per Trane Laboratory
- Inspect and verify Inlet guide vane assembly, motor shaft, labyrinth seals and impellers
- Inspect motor to include rotar bar and provide resistance analysis of the motor
- Verify and adjust controls and measuring devices
- Inspect overload controls, contactors, wiring, and other starter components
- Clean, and inspect lubrication system
- Clean and inspect economizer and liquid line flanges
- Install new compressor motor bearings
- Speed balance rotor and impellers as one operating assembly prior to reassembly of the compressor
- Reassemble the centrifugal compressor, auxiliary vapor and liquid lines, and sight glasses with new gaskets

- Replace oil pump and motor
- Clean and verify purge
- Start a base line vibration analysis at startup
- Replace motor terminal board, and replace with approved gaskets, and terminal o – rings
- Replace relief valve carbon disk and gaskets
- Install IFM water flow sensors
- Chiller evacuation and leak test refrigerant lines
- Charge with new refrigerant
- Startup and perform operation check by certified Trane tech
- Verify operating parameters and adjust chiller to original specifications
- Install new Adaptive view chiller control panel and global connector kit.
- Provide warranty certificate on compressor, bearings, and lubrications systems via

This rebuild focuses on three major components of the Chillers that include the gaskets and seals, bearings, and compressor motors by way of a major inspection and internal overhaul.

I have reviewed the proposal and recommend that the Board approve the Chiller 10 year compressor overhaul for two Chillers at Scott County Jail, and award the proposal to Trane Company in the amount of \$190,000.00 (\$95,000.00 per chiller). This Chiller overhaul project is budgeted and will be funded from the Capital Improvements Budget. The overhaul project cost is less than our capital budgeted amount.

I will be available at the next Committee of the Whole meeting to answer any questions you or the Board may have.

CC: Tammy Speidel

THE COUNTY AUDITOR'S SIGNATURE CERTIFIES
THAT THIS RESOLUTION HAS BEEN FORMALLY
APPROVED BY THE BOARD OF SUPERVISORS ON

DATE

SCOTT COUNTY AUDITOR

R E S O L U T I O N

SCOTT COUNTY BOARD OF SUPERVISORS

June 29, 2017

A RESOLUTION APPROVING AND AWARDING A SERVICE PROPOSAL TO TRANE COMPANY FOR A TEN YEAR OVERHAUL TO THE SCOTT COUNTY JAIL CHILLERS IN THE TOTAL AMOUNT OF \$190,000.00.

BE IT RESOLVED BY the Scott County Board of Supervisors as follows:

- Section 1. That the service proposal for a ten year overhaul to the Scott County Jail Chillers is hereby approved and awarded to Trane Company in the total amount of \$190,000.00.
- Section 2. That the Director of Facility and Support Services is hereby authorized to sign contract documents for the award on behalf of the Board of Supervisors.
- Section 3. This resolution shall take effect immediately.