Scope Of Services

Resch Expo & Resch Center Chiller Cross-Connection Study

Brown County, WI, is requesting an engineering study to evaluate the feasibility of cross connecting the chiller systems of the Resch Center and Resch Expo, located at the Resch Complex, 840 Armed Forces Drive, Green Bay, WI 54304.

Overview

The Resch Center chiller plant, commissioned in 2001, is nearing the end of its expected operational life cycle. At present, the plant provides auxiliary cooling to the adjacent Resch Expo via a plate-and-frame heat exchanger. Brown County is seeking proposals for a chiller system study to evaluate the feasibility of modifying the cross-connection between facilities with the goal of utilizing the Resch Expo's chiller plant, commissioned in 2021, to serve both facilities. The new cross-connection will also enable the Resch Center chillers to supply cooling to the complex during the shoulder months.

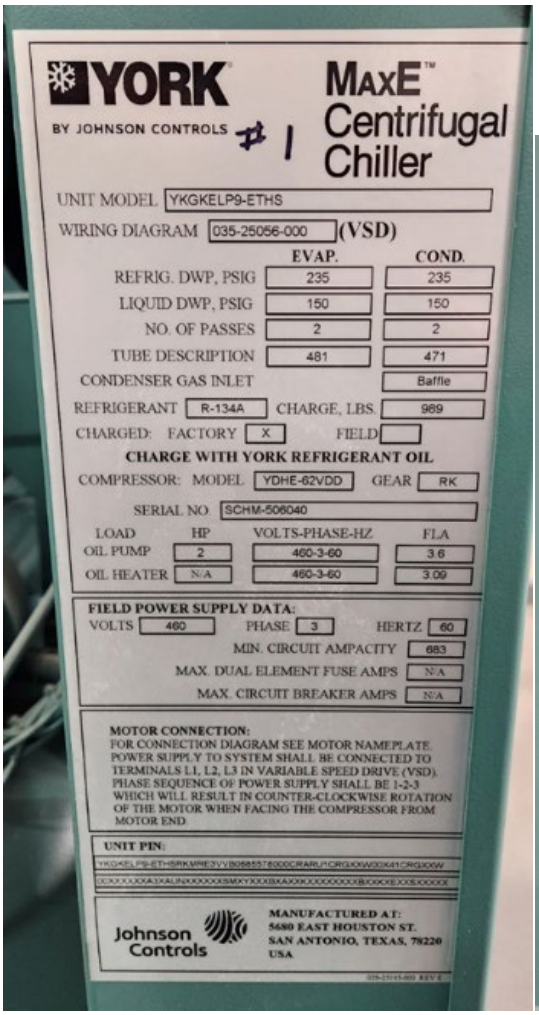
The existing Resch Center chiller system utilizes three chiller skids with a total cooling capacity of approximately 1,200 tons. The Resch Expo chiller plant includes two chillers with a combined capacity of 1,200 tons. Historical peak cooling loads are estimated at 600

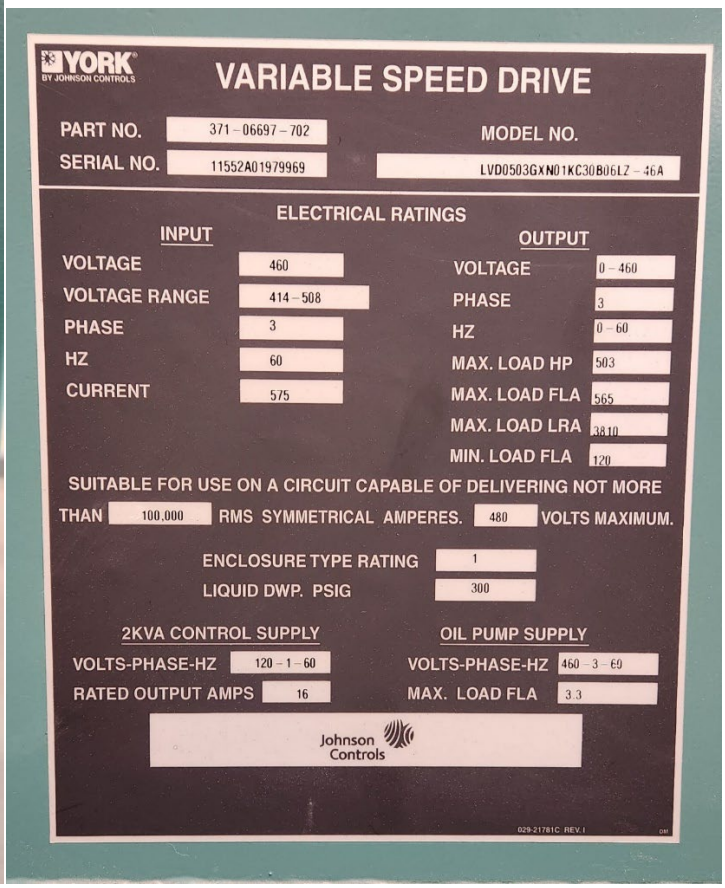
tons for the Resch Center and 250 tons for the Resch Expo, indicating potential capacity redundancy and opportunities for system modification.

Scope of Services

A. Conduct a site visit to become familiar with the chiller equipment and associated systems.
B. Review existing drawings and system documentation**,** including mechanical, electrical, and control schematics for both the Resch Center and the Resch Expo.
C. Evaluate control sequences to understand current system logic, chiller staging, pump control, and interconnection functionality relevant to potential system changes.
D. Compile and report findings from the evaluation**,** including the recommended modifications. The report will include a comprehensive list of recommended equipment, specifying required upgrades, replacements, or additions, such as valves, pumps, control devices, sensors, and any other necessary components to support the proposed cross-connection.
E. Develop a comprehensive energy and operating cost model to simulate the performance of the chilled water system under the proposed modifications. This model will incorporate variables such as cooling loads, system efficiency, electrical consumption, etc. The model will be used to calculate projected energy usage, operating costs, and potential energy savings resulting from the proposed system modifications as well as a system whether through metering or otherwise to separate the costs per the two buildings.
F. Develop and provide the owner with a schematic illustrating the proposed mechanical and piping modifications required to enable the Resch Expo and Resch Center chillers to provide cooling to both facilities.
G. Using equipment costs provided by others, compare the costs of connecting the chiller systems with replacing the current chiller equipment at the Resch Center.
H. Provide the owner with the results of the energy and life cycle analysis, including proposed solutions and an assessment of associated risks. Results are due within 90 calendar days from the completion of on-site assessment and work.
I. The owner will assist in performing the engineering study by providing building access, available documents, drawings, access to the BAS, and additional information as requested.

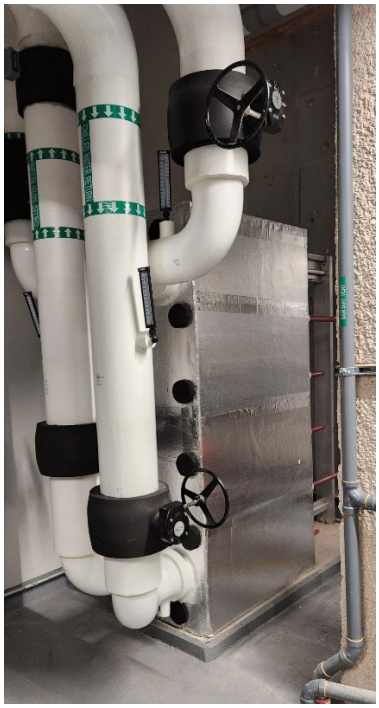
Resch Expo Centrifugal Water Cooled Chiller





Resch Expo Cooling Towers

Resch Expo Heat Exchanger for Redundant Cooling



Black Insulated Piping Provides Redundant Cooling from the Resch Center Chillers to the Resch Expo

Resch Center Air-Cooled Rotary Screw Chiller with Glycol

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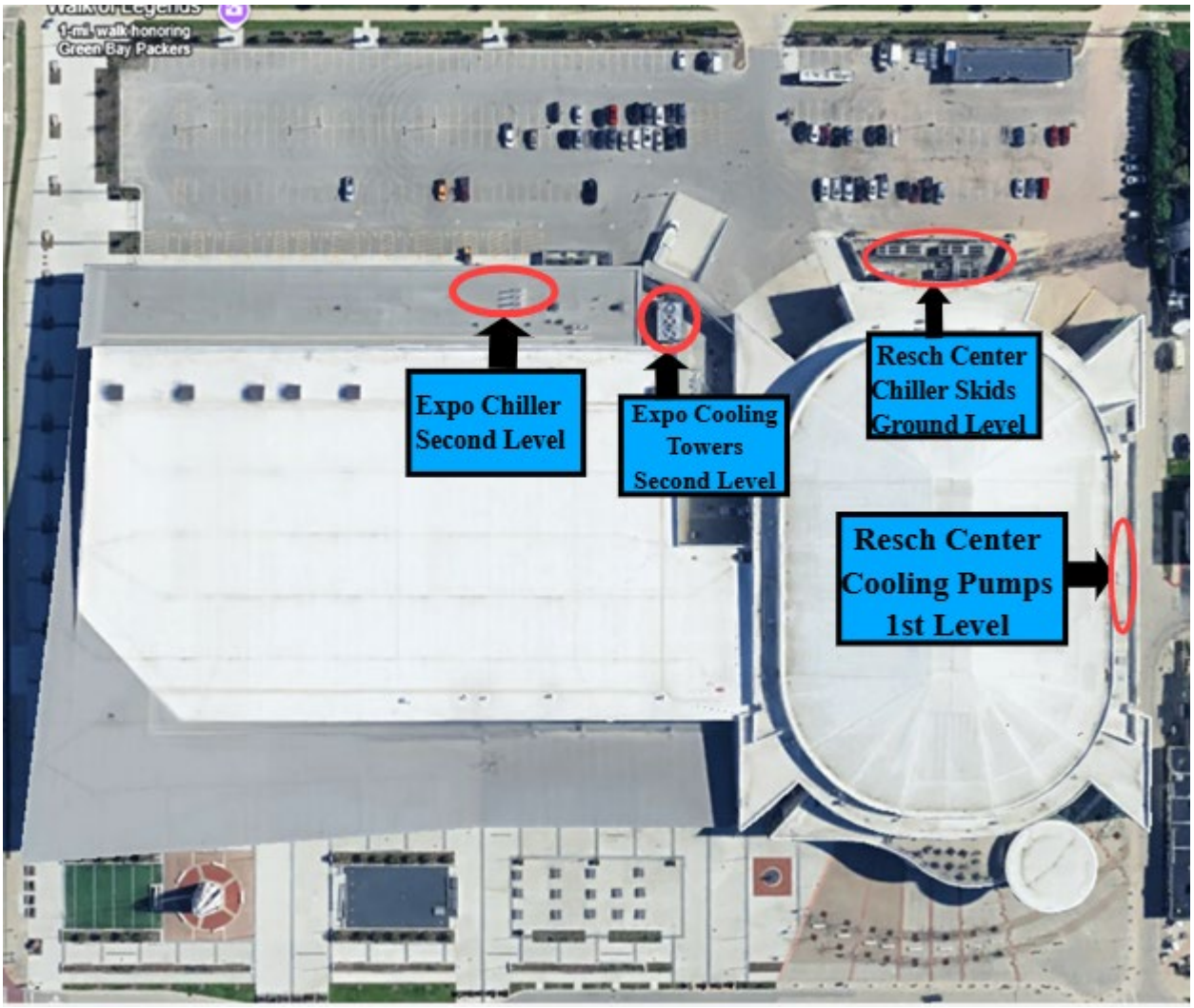
Chiller Equipment Locations



Piping Between the Resch Center and Resch Expo

1 PIPING LEVEL 1 - UNDERGROUND PIPING
1/8" = 1'-0"