

Converge. Converse. Capitalize.

Chilled Water Plant Controls Optimization: The National Archives and Records Admin II Building

The Scenario

The Declaration of Independence, the Constitution, the Bill of Rights, textual records, maps, charts, architectural and engineering drawings, still photographs and graphics, aerial photographs, reels of motion picture film, video and sound recordings, and electronic data are all examples of the priceless and historical documents that are held within the National Archives and Records Admin II Building. These documents are climate sensitive and perishable. In order to protect and preserve our nation's records, it's extremely important that the National Archives and Records Buildings maintain strict indoor temperature and quality.

Convergantz installed a new "Open Protocol" Chiller Plant Optimization system in the National Archives II Central Plant, while keeping the existing plant on-line during normal business hours. Convergantz integrated seven existing Trane chillers, one new high efficiency Trane chiller, existing Cooling Towers, existing Pumps and Variable Speed Drives, existing ancillary control devices (including six new ultrasonic Flow Meters), and integrated to the existing building automation system via OPC, allowing for a seamless data exchange between the existing plant and building.

The Solution

Convergantz, a subsidiary of the Hunton Group, is an advanced control system and integration expert located in Houston, TX. After one site visit, Convergantz was able to extract all existing Trane Tracer points, archive existing databases, and design an "optimization" solution per the client's design criteria.

Convergantz was able to capture all existing point values and overall system functionality before commencing the retrofit, thereby mitigating potential system failures during the retrofit process. Upon approval of its design concept, Convergantz mobilized a team of system engineers to the site to commence

start-up and commissioning of the new chiller plant control system. Convergantz utilized an open protocol and integration framework to host Convergantz' Chiller Plant Optimization program CVZ- OPS. This optimization program enhances the efficiency of the chilled water plant by running the most efficient combination of chillers for each load condition. Convergantz continuously trends system points for advanced energy auditing and remote analysis.

"Convergantz is efficient, knowledgeable, and able to integrate all systems on an open platform. We strive ourselves on being both a platform independent and solutions-based company. We're honored to be selected for such a prominent project."

**- Klint Nunn
VP and General Manager of Convergantz**

Highlights

The existing plant controls system within the National Archives and Records Admin II building were well over 15 years old. With the update of new equipment, this historical building required a control system to match. The National Archives and Records Admin II building has strict temperature and humidity regulations and it was imperative that the systems do not go off-line. With these elements in mind, Convergentz acquired this project through a valued partnership with IX Resource, LLC. Convergentz designed, installed, and commissioned the CVZ-OPS system within a 3-month timespan.

Convergentz designed and built the system in Houston and then their technicians were sent to Washington, D.C. to implement the program. Convergentz is honored to play such an important role in the preservation of the nation's most treasured documents.

Prime Contractor & Engineer: Ameresco, Inc.

Intermediary Contractor: Ix Resource, LLC

Building Automation Contractor: Convergentz

For more about Convergentz, visit www.convergentz.com

