

MECHANICAL DESIGN NARRATIVE
CENTRAL ACADEMY
FLUID COOLER REPLACEMENT
DES MOINES, IA
December 14, 2020

Summary of DMPS Central Academy Fluid Cooler Replacement:

The project will replace in kind two existing outdoor fluid coolers that are no longer operational and provide a heat exchanger decouple loop to separate the building hydronic loop from the fluid cooler loop. Decoupling the fluid coolers will allow year round operation and overall improved maintenance. The new system will consist of two fluid coolers, three heat exchangers, six pumps and a glycol feed system. The removal of the interior fluid cooler, associated ductwork, fan and piping and sealing up existing louvers is called out as add alternate.

The existing pumps and fluid coolers are powered via an existing 600A 480V motor control center. This MCC will be leveraged to power the new equipment with a new circuit breaker bucket to feed a new 480V panel that will provide power to the new equipment. External combination VFD/Disconnects will be provided for the motors.

Summary of DMPS Central Academy Electrical Service Upgrade:

Working with Mid America Energy, the transformer serving Central Academy will be replaced as well as the switchgear serving the building.

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