

CLIENT

**NEW JERSEY
INSTITUTE OF
TECHNOLOGY**

LOCATION:

Cypress Hall
Newark, NJ

CONSTRUCTION VALUE:
\$800,000

DESIGN START:
2011

DESIGN COMPLETE:
2011

**CONSTRUCTION
COMPLETE:**
2012



PROJECT DESCRIPTION

Design replacement of (2) 150-Ton Air Cooled Chillers, Pumps and Control System

PROJECT DESCRIPTION

The HVAC System for 8 story Cypress Hall dormitory building consisted of (2) 150-tons Air-cooled Chillers, a set of Hydrotherm Boilers, constant volume Pumps, and a dedicated Fan Coil Unit for each suite. The existing Air-cooled Chillers were old, unreliable and used R-22 refrigerant; the Pumps were inefficient, constant volume type; the Fan Coil Unit for each suite was inefficiently controlled via a on/off switch and the building control system was inefficient and outdated.

A&J Consulting was retained by NJIT to evaluate the HVAC and control system to identify areas for potential energy savings. Detailed analysis was performed and specific recommendations were made.

Based on the analysis, A&J Consulting designed the upgrade of the existing chilled water system that included replacement of existing Chillers with (2) new 150-Ton Air Cooled Chillers that uses ozone friendly refrigerant and were more energy efficient, Constant volume Pumps were replaced with VFD Pumps, individual thermostatic controls were added for Fan Coil Units serving each suite and a new controls system was provided for optimizing the chiller plant efficiency.