

Retro-Commissioning Case Study

New Britain Judicial Court House

New Britain, CT



Because of rising energy costs, the Connecticut Judicial Branch Facilities Unit Administration Division decided to participate in Eversource’s incentivized retro-commissioning (RCx) program with the goal of reducing overall energy consumption. The Judicial Branch selected the New Britain Courthouse as one of the first facilities to participate in the program. As an approved commissioning provider by Eversource, SES was selected by the Judicial Branch as the firm to provide commissioning services for this project.

The RCx included performing a preliminary survey in which numerous performance and energy savings opportunities were identified and evaluated for further pursuit. Viable opportunities were further analyzed and evaluated during the full investigation phase of the project where SES developed bidding documents for final pricing and implementation. The project concluded with 7 fully implemented opportunities that ranged from simple rebalancing of HVAC systems and equipment schedule modifications to full conversion of constant flow hydronic pumping systems to variable flow and occupancy controlled HVAC zoning.

Energy Savings Measures Implemented:

- Conversion of central hot water pumping system from constant speed to variable primary pumping with differential pressure reset
- Optimize heating hot water system enable setpoint and hot water supply temperature reset strategy
- Add variable speed drives and duct static pressure controls to constant speed fan systems serving variable air flow terminal devices
- Implement optimal start/stop routines for all air handling system minimizing advanced startup scheduling
- Duct static pressure reset on all variable air volume air handling systems
- Optimize air handling system economization by adding comparative enthalpy and dry bulb controls
- Occupancy standby controls for numerous intermittently occupied variable air volume zones

RCx QUICK FACTS

Building Name:	New Britain JUD	RCx Cost/ft²:	\$0.60
Location:	New Britain, CT	Annual Energy Savings:	\$19,000 per year
Project:	Retro-commissioning	Simple Payback:	6.4
RCx Scope:	Energy savings measures related to the HVAC systems and controls	Payback After Applying Eversource Incentive:	4.6
		*Includes implementation costs	
Building Size:	192,000 ft ²		
*Total RCx Cost:	\$116,000		

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