

Commissioning - Hospitality Hope Lake Lodge Virgil, New York

Program

NYSERDA New Construction Program

Scope of Services

- Project Scoping
- Design Assistance
- DOE-2.1E Whole Building Modeling
- Cost Benefit Analysis
- Incentive Calculation & Reporting
- LEED Optimize Energy Performance
- LEED Fundamental Commissioning
- LEED Enhanced Commissioning

Level of Involvement

NCP Technical Assistance Provider
LEED Commissioning Authority

Facility Size

338,000 sq. ft.

Facility Type

Hotel, Restaurant and Spa

Project Goals

LEED-NC Certified

Hope Lake Lodge in Virgil, New York consists of a 169,000 square foot hotel, lodge and water park. The building includes 121,000 square feet of lodging/condominium space on 5 stories. The building will also have 15,000 square feet for a full service restaurant, retail spaces, spa and a 33,000 square foot indoor aquatic center. The exterior wall construction consists of metal framed construction with R-21 insulation between the studs and R-3 continuous insulation. The roof/ceiling will be metal framed with R-60 Batt or sprayed cellulose insulation between the studs.

Heating, ventilation and air-conditioning (HVAC) is provided by a variable refrigerant volume (VRV) system with heat recovery that consists of air source heat pumps with variable speed scroll compressors that turn down to 29% of their maximum capacity and evaporator coils with solenoid valves. Heat recovery is achieved by diverting exhaust heat from evaporator coils in cooling mode to evaporator coils in heating mode through a "branch selector" which separates the



Hope Lake Lodge Main Lobby

refrigerant used for cooling from the refrigerant used for heating (same refrigerant but in different phase, i.e. liquid or gas). The evaporators are packaged as fan coil units, blower coil units or ceiling mounted cassette. Each evaporator has dedicated controls for the zone it serves. The zone level controls pulse-width modulates the solenoid valves to closely match the set point by +/- 1°F.

The primary goal of commissioning is to deliver a fully functional, fine-tuned building with complete documentation and an adequately trained operating and maintenance staff. This commissioning process is a quality control based approach to document the installation of the equipment via the completion of construction checklists, verification of proper system operation by witnessing the testing of the system operation, and verification of staff training and record documentation.

Commissioning is a systematic process to ensure that building systems are designed, installed and perform interactively according to the owner's programmatic and operational needs and the design intent. Commissioning is thus the owner's means of verifying that the planning, design, construction, and operational processes are achieving their goals and ensuring the delivery of a high quality building with maximum asset value. Commissioning is recognized by organizations such as ASHRAE, USDOE, and the USGBC to promote consistently successful construction projects.