

CASE STUDY

NOAA Weather Forecasting Office HVAC Assessment/Retro-Commissioning Honolulu, Hawaii

Making buildings work. **Better.**



EMC has been recommissioning/retro-commissioning many of the National Oceanic Atmospheric Administration (NOAA) weather forecasting offices throughout the United States. The WFO in Honolulu is a one-story, 10,000 SF computer data center facility on the campus of the University of Hawaii. The installation consists of redundant 20-ton rooftop DX VAV units, and a single 10-ton DX constant volume unit.

Owner:

National Oceanic
Atmospheric
Administration
(NOAA)

Contact:

Mr. John Porter
Project Manager

Phone:

(301) 713-0025



E M C Engineers, Inc.
143 Union Blvd., Suite 350
Lakewood, CO 80228
Phone (303) 974-1200
Fax (303) 974-1239
www.emcengineers.com

RCx at NOAA Honolulu included the following tasks:

- * Performed an evaluation of system performance, T&B and controls;
- * Evaluated current controls system;
- * Tested airflow quantities to individual rooms;
- * Tested temperature calibration of space temperature sensors and humidity;
- * Reviewed AHU control sequences;
- * Reviewed control component location and function;
- * Recommended modifications to mechanical systems;
- * Implemented new control sequence;
- * Evaluated trend data of space and RTU temperatures;
- * Designed renovation of equipment.

During RCx, the following mechanical problems were identified and corrected:

- * VAV inlet vanes on both AHUs were nonfunctional;
- * Undersized ducts and outdoor air dampers locked closed;
- * Humidity sensors out of calibration;
- * Economizer nonfunctional and corroded;
- * Return air backdraft dampers corroded in partially open position;
- * Badly deteriorated coils on all units and plugged FTU bypass construction filters;
- * Airflow at half required rating.

EMC provided corrections and recommendations during RCx that included: System rebalanced to reduce reheat use; Dampers were made operational; Implementation of new controls sequence based on space load; New HVAC units to replace corroded and undersized units; Operator workstations; and Construction support.

Engineering Excellence Since 1976!

Company Overview

Making buildings work. **Better.**



EMC is dedicated to creating sustainable facilities by optimizing performance through energy modeling and analysis, building automation systems application, advanced mechanical and electrical design, construction management, and building commissioning to achieve lower energy costs, improved comfort, and increased productivity.

Experience

Since 1976, EMC has been a leader in delivering high performance building solutions. As a multidiscipline firm, we have strong credentials in mechanical, electrical, and control systems retrofit and modernization and energy engineering and commissioning.

Where do EMC's experts work?

You'll find us in schools, colleges, hospitals, government facilities, healthcare, and all types of private sector structures from supermarkets to office towers. In fact, EMC's engineers and technicians go wherever new facilities are under construction or existing structures or systems are operating at less than peak performance.



Whether you need a retrofit or a modernization or a new high performance building, you can rely on EMC to bring engineering excellence to your project.

Imagine reducing operating costs, improving comfort, increasing productivity, and getting your building's problems fixed quickly. EMC's services are the key!

Services

BUILDING COMMISSIONING/RETRO-COMMISSIONING

The commissioning process for new buildings and major renovations, provides facility owners with assurance the facility is functioning to meet their project requirements. Commissioning is the only process that assures a quality outcome. Whether you manage a new or existing facility, it's really difficult to know unless an independent commissioning expert has evaluated your systems. EMC's retro-commissioning services provide low cost, high return operating improvements that reduce operating costs. Think of it as a building "tune-up".

SUSTAINABLE DESIGN

More organizations are considering Green building systems and renovations. But to go Green--affordably--you need integrated sustainable design. EMC provides energy simulation modeling, daylighting, and high performance systems concepts to meet LEED requirements. We're ready to advise and coordinate and show you how to make the wise choices that deliver real environmental and economic benefit.

ENERGY ENGINEERING

Energy and how it's used affects quality-of-life and the global environment. Our core business is creating energy systems that optimize energy use. Our energy-engineering services ensure that you meet today's needs while planning for tomorrow's growth. This includes audits, assessments and implementation of energy improvement projects.

FACILITY DESIGN

Integrated systems design is crucial to facility renovation and modernization, particularly in high performance facilities. EMC understands how to take cutting edge mechanical, electrical, and building automation system technology and integrate it into real world solutions. And we can do it while your facilities stay in operation.

DESIGN/BUILD

Identifying your facility's energy issues is just half the battle. You then need a retrofit strategy that maintains the building environment and minimizes system downtime through every phases of construction. EMC is skilled at engineer-led, design/build projects, including efforts funded through Energy Savings Performance Contracting.

TRAINING

Today's building systems are complex. But EMC believes any operations and maintenance team is up to the challenge--if properly trained. We offer an extensive program of live and videotaped training classes and seminars--on-site and hands-on.

OFFICE LOCATIONS

Denver, CO * Atlanta, GA * Salt Lake City, UT * Irvine, CA * Raleigh, NC * West Palm Beach, FL

WWW.EMCENGINEERS.COM