



PSF Mechanical, Inc.

"Trusted to be the Better Choice"

QUARTERLY

Published by PSF

Is My Building an Energy Hog?

By Marty Novini, PE

Energy Conservation Engineer, LEED® AP

Energy Conservation is a specialty that has been around for 30 years and has re-emerged once again due to the high cost of energy and environmental concerns. These days everyone wants to save energy and reduce their carbon foot print. We at PSF Mechanical are noticing a new trend among our customers, which includes building owners seeking LEED® certification, Green Globes™ certification, and ENERGY STAR® certification, all of which are services that our Gang Green™ team offers through PSF's Sustainable Services™ division.

As a building owner or operator you may ask yourself; how do I know if my building is an "energy hog" or not? Often the building operators and managers are not aware of the areas where they can save energy. Luckily, there are simple low-cost tools available to evaluate the energy use of buildings and find areas where they can shave energy use and save money.

Energy Use Benchmarking coupled with a *Level 1 Energy Audit* is a simple and quick way of finding areas where energy is being wasted in buildings. *Energy Use Benchmarking* compares the energy use of your building with other buildings with similar use in your area. A *Level 1 Energy Audit* is a method of taking a quick snap shot of your building's operation. These two tools coupled together provide a quick, simple and inexpensive way of determining whether your building's energy use is in line, or if something should be done to correct it. In this process the building's control system is used to create a trend log of the Heating Ventilating and Air-Conditioning system. The Energy Analyst will then evaluate the data and identify areas where energy saving is possible. If the building's control system is not capable of data-trending, portable data loggers can be installed, which will accomplish

the same results. The improvements in building performance can be categorized as follows:

1. Low-cost Energy Improvements - These are the low hanging fruit that can be implemented quickly with minimal cost to the owner. Examples of these improvements include operating schedule adjustments, or simple control schemes that improve the operation of the HVAC system to save energy.

2. Medium-cost Energy Improvements - These are the costlier energy improvements that require system modifications to make them more energy efficient. Examples of these improvements include the installation of Turbocor™ compressors, or the installation of more efficient heating and cooling systems.

3. Higher-cost Energy Improvements - These improvements typically involve the complete overhaul of HVAC systems.

The return on investment will vary based on the condition of the existing equipment, and the extent of improvements. Fortunately, the local utility companies provide energy grants that will help offset the cost of these improvements. The energy conservation experts of PSF Mechanical's Gang Green can assess the existing energy use of your building and provide suggestions that will lower energy use and assist you with receiving utility grants.

CURRENT PROJECTS

- Puget Sound Blood Center 
Renton, WA
Laboratory HVAC
- 199 Blaine
Seattle, WA
Shell & Core Laboratory HVAC
- Quadrant I-5 Corporate Park 
Everett, WA
Energy Benchmarking
Systems Analysis
- Nordstrom Cherry Hill
Cherry Hill, NJ
Full-line Store & Energy Management
System
- Nordstrom Northshore
Peabody, MA
Full-line Store & Energy Management
System
- Nordstrom Orland Park Rack
Orland Park, IL
New Store

 Refers to a Sustainable Services™ Project

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The "Next Generation" of HVAC Compressors.

A refrigeration compressor that ...



- Saves 50% on energy costs
- Contains no bearings
- Has its own brain
- Never needs oil
- Stays quiet
- Has no locked rotor amp rating
- Is environmentally friendly



Yarrow Bay Marina Suites

- 54,500 ft², 3-story Office Building
- 63,000 ft², Underground Parking Garage
- 5,700 ft², Service Building
- Kirkland, WA

Team Members:

- GC - GLY Construction
- Architect - Collins Woerman
- HVAC - PSF Mechanical, Inc.

HVAC Systems:

- Floor-by-floor vertical self-contained VAV units
- Closed circuit condenser water system
- FANWALL TECHNOLOGY® building relief system

Energy Saving Strategies:

- High efficiency HVAC units with VFDs and water cooled condensers
- DDC energy management control system
- Variable frequency drives for fans and pumps

Unique Design Challenges:

- No equipment allowed on roof



Nordstrom Cedar Rapids Fulfillment Center

- 268,800 ft² Warehouse and Offices
- Cedar Rapids, IA

Team Members:

- GC - Rinderknecht Associates
- Architect - Durrant Group, Inc.
- HVAC - PSF Mechanical, Inc.

HVAC Systems:


- Warehouse facility served by packaged rooftop units distributing conditioned air via fabric ducts
- Office spaces conditioned via central VAV system with fan terminal units for zone control
- 41 packaged rooftop units and 11 smoke exhaust fans placed on roof by helicopter due to size of structure

Unique Design Challenges:

- Air distribution ductwork throughout Fulfillment Center is coordinated with rack storage and retrieval systems (note photo)



Columbia Sportswear Company

- 20,700 ft², Retail Building
- Awarded LEED® Silver for LEED Commercial Interiors 
- Seattle, WA

Team Members:

- GC - Swinerton Builders
- Architect - Bergmeyer Architectural
- HVAC - PSF Mechanical, Inc.
- Plumbing - PSF Mechanical, Inc.

HVAC & Plumbing Systems:

- Built with PSF's Clean Build Philosophy
- 6 AAON 410 A split AC system coupled with Reznor high-efficiency gas furnances
- DDC Controls with CO₂ demand control ventilation, water, electrical and gas metering
- PSF self-performed all the plumbing inclusive of storm drain relocation to accomodate the elevator and mezzanine installation

Simplicity

by Jim Reynolds, President

Throughout history many philosophically-minded people have extolled the virtues of simplicity. The general concept being that “the best solutions are elegant in their simplicity”. I personally try to subscribe to this philosophy, and encourage our engineers, project managers and sales staff to always consider their recommendations in this light.

In the last twenty years our world has experienced many changes. Try to explain to your teenage daughter or son why they don’t “need” the latest multi-functional cell phone and you will quickly realize how quickly things have changed. I am old enough to remember when we advanced from drawing on paper with lead to drawing on Mylar with plastic (at least I’m not so old that I ever drew on linen with ink!). Electronic drafting and detailing has virtually eliminated hand drawing, and the ability to generate our

designs in 3-D is now a given.

Our earliest cellular phones were the size of a brick and cost \$800 to \$1,000. Now our “phones” are designed to accommodate e-mail, digital images, web access and no end of other applications. They make the day of pagers and stopping at phone booths to make calls almost comical. How’d you like to be in the phone booth business nowadays?

In the construction industry we are continually faced with technology challenges. We must remain ever vigilant to insure our capabilities keep pace with technology, yet not lose sight of the simple, elegant solutions that too often evade. The temptation to create very sophisticated, complicated systems to solve our indoor environmental needs (or were those really wants?) must be checked against the knowledge that these environments will be occupied

by, and operated by, human beings whose design predates our technology significantly!

We must be careful not to overdo our designs to the point that they are not relevant or appropriate for people who do not specialize in our field of expertise. The most sophisticated solution does no good if it is not intuitive to operate, if it is too expensive to operate or if it requires an MIT propeller-head to understand.

At PSF Mechanical, Inc. our goal is to deliver value, and to me value means providing services that are competitive, practical, meet the customer’s needs and that can be used and understood by normal human beings.

PSF EMPLOYEE SPOTLIGHT

Robert Willis

Project Executive & Director of Sustainable Engineering, LEED® AP

Robert has been with PSF Mechanical for a year now, and it’s clear things will never be the same here. If you’ve had the opportunity to meet him, you know he has a unique sense of humor that keeps us all on our toes. You would also know that he possesses tremendous industry knowledge and that he brings boundless enthusiasm and energy to his projects.

Robert is a 34-year veteran of the mechanical design build industry and in those 34 years, you might say he’s done it all. Starting as a mechanical designer, he went through a progression that includes experience as a detailer, chief estimator, project manager, and project executive. This

unique perspective results in creative solutions benefitting his projects in a holistic fashion.

Currently Robert leads our Sustainable Services™ Division taking Gang Green™ to the next level. Gang Green coordinates our sustainable design work in a broad range of services for our clients from new construction to building modernization and building certifications. Robert has managed 2,500,000 ft² of certified projects through LEED® and Green Globes™ and works with multiple organizations to promote real, verifiable and common sense approaches to sustainable design in the industry.



Outside the office, Robert has many interests including wine, cigars, music (he has approximately 1,000 LPs) and he is currently building a hovercraft.

Meet the People That Make Things Happen



Chris Lawson was recently named **Operations Manager** overseeing project management, production, purchasing, safety and balancing. Chris joined PSF in 1997 working as a foreman, then field superintendent and most recently, Production Operations Manager. He has extensive experience on a wide range of projects including labs, medical, industrial, retail and high-rise buildings, working in a variety of locations including remote areas of Alaska and Russia.

Chris comes from a construction family. His father is a PSF retiree and his brother, Wayne, is PSF's Production Manager.



Marty Novini, Energy Conservation Engineer, joined PSF in 2008. Marty is a Professional Engineer licensed in multiple states, and is a LEED® AP. He has over 20 years of experience in system commissioning, identification, design, and construction management of energy conservation projects. Marty has worked on systems in higher education buildings, K-12 public schools, municipal and government facilities, airports, and light as well as heavy industrial buildings. He has performed energy audits and analysis for facilities nationwide, and is experienced with writing measurement and verification protocols to confirm the energy saved. In his free time Marty enjoys hiking biking and skiing.



Wayne Lawson has been promoted to **Production Manager**. Wayne has been in the industry for more than 25 years and brings considerable experience in all areas of design/build and plan & spec work, specializing in plumbing and piping in Washington, Alaska and Oregon. He previously held the position of Piping Superintendent at PSF. In his spare time he enjoys riding his motorcycle and sporting clays.

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newsletter@psfmech.com

Or, simply write to:
PSF Mechanical, Inc.
9322 14th Avenue South
Seattle, WA 98108

For more information or key contacts list, visit our web site at:
www.psfmechanical.com



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9322 14th Avenue South
Seattle, WA 98108-5102