

# ShopTalk

Plant Operations Support Consortium

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## Community College Member Gets Down and Dirty with Asset Tracking

By Phil Partington and Larry Covey, Consortium Staff

Innovation and out-of-the-box thinking have always been the Plant Operations Support Consortium's approach to getting things done. In many cases, the new idea or methodology comes from a member of the program. Recently, the Highline Community College partnered with the Consortium to assist with a different kind of challenge: identifying and barcoding every piece of mechanical equipment within campus buildings. This is no easy task, but Consortium staff was able to develop a plan to tackle each building in an efficient way while minimizing disruption of building occupants.

Highline Community College has four primary goals for this project:

1. Enter equipment information into their CMMS system.
2. Use the sortable and searchable data to create a preventive maintenance program.
3. Define life cycle of equipment replacement.

4. Track equipment repair/replacement needs via the new barcoding system.

Aside from the primary tasks of identifying and barcoding the equipment, the Consortium is assisting the college in developing the preventive maintenance schedules for their building systems.



Barry Holldorf

"This is a huge step for us in getting where we want to go in terms of tracking what we do," said Barry Holldorf, facilities director at the College. "We know from experience that the Consortium will make the extra effort in getting this done right the first time and will ensure communication with our staff is consistent and up-to-date so we're all on the same page."

The project is expected to be complete in early 2013, and will be a critical component of how the

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WSU Energy Program  
Plant Operations Support Consortium

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*Shop Talk* is a quarterly electronic newsletter of the Plant Operations Support Consortium, providing information focused on facility operations. We welcome feedback from readers. To provide feedback or to subscribe to the Consortium electronic Listserv, email us at [PlantOps@energy.wsu.edu](mailto:PlantOps@energy.wsu.edu).

Archived issues of *Shop Talk* are available at:

[www.energy.wsu.edu/PublicFacilitiesSupport/PlantOperations/ShopTalk.aspx](http://www.energy.wsu.edu/PublicFacilitiesSupport/PlantOperations/ShopTalk.aspx)

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## Shop Notes

By Edwin Valbert,  
Consortium Manager

Hello folks. First of all, I want to thank all the members that continue to make the Consortium strong by renewing their memberships. The Consortium's home within the WSU Energy Program deepens the resources we offer our members, but what really makes the Consortium an effective tool in your toolbox is the willingness of members to share their insights and expertise with each other.

I want share some recent improvements and enhancements to the Consortium:

- We are working to make our website more informative and user friendly. If you have not visited us online lately, please do so and tell us what you think.
- You may have noticed that we recently adjusted our Listserv messages to show them as coming from plant-operations@listserv.energy.wsu.edu. We know your inboxes are busy places and we hope this change will allow you to more easily identify Consortium messages so you do not have to hunt for them.

Also, I hope all of you will read the new custodial services flyer (<http://www.energy.wsu.edu/PublicFacilitiesSupport/PlantOperations/MenuofServices.aspx>). Maintaining clean and



Edwin Valbert

healthy facilities in these times of shrinking budgets can be a challenge, but your Consortium is ready to help you make the most of the resources you do have.

Mark your calendars for the 9th Annual Energy/Facilities Connections Conference in Leavenworth, Washington. The dates are May 7 – 9, 2013. This year's conference will be on Tuesday, Wednesday and Thursday (formerly it was held from Wednesday through Friday). We hope this change will make the event a bit easier to attend, with a day at the beginning and end of the week to cover your regular workload.

Thanks for all you do for both your organization and your Consortium. And remember, if you are facing an issue, solving a problem, dealing with an unusual situation or need help finding a solution, call your Consortium first. Someone somewhere might already have the answer. ✖

*Edwin*

# Managing Motor-Driven Systems

By Tony Simon, Energy Systems Engineer, WSU Energy Program

For those who are interested in saving energy but do not know where to start, you may want to consider motor-driven systems. Facilities professionals who strive to save resources tend to focus first on lighting upgrades, but motor-driven systems, including pumps, fans, air compressors and rooftop units, can also offer significant savings without much investment of capital or labor.

When addressing motor-driven systems, it is common to jump in without having a plan or understanding key points to consider. A recent video sponsored by the Plant Operations Support Consortium addresses these details in full (access it here: <http://www.energy.wsu.edu/PublicFacilitiesSupport/PlantOperations/OnlineTrainings.aspx>).

Here are the top three points to consider:

**1. Motor inventory:** It is imperative to have an inventory of your motors because you cannot improve efficiencies if you do not know what you are starting with. You may already have a motor inventory if you are currently using Computerized Maintenance Management Software (CMMS) or another equipment inventory system. Your inventory should include

in-service and spare motors and pertinent nameplate information.

The side bar, “*Develop a Motor Inventory*,” lists nameplate specifications you should collect and include in your inventory listing. Of these, the full-load efficiency (nominal) is the most important, yet most neglected, rating. This is the key information you need to determine the efficiency of your motor. It is also important to pay attention to your spares inventory and replacement equipment; you do not want to inadvertently replace broken equipment with less efficient equipment.

## 2. Management of

**records:** Be sure to identify bad actors, such as a pump that has been repaired repeatedly in a short period of time. You can do this by keeping records of maintenance, work orders and purchase orders for repairs/replacement.

## 3. Advanced Motor Management –

Matching Output to Load: Once you have established a motor inventory, you can



Tony Simon

### Develop a Motor Inventory

- ✓ Frame type/size
- ✓ Voltage
- ✓ Rated horsepower
- ✓ Amps, rated load
- ✓ Time rating (duty)
- ✓ Maximum ambient temperature
- ✓ RPM at rated load
- ✓ Insulation class
- ✓ Design letter
- ✓ Service factor
- ✓ Frequency
- ✓ Number of phases
- ✓ Locked rotor code (e.g. MG1 Part 10.37 (kVA/hp))
- ✓ Full load efficiency (nominal)
- ✓ Other optional information
- ✓ Power factor

See **Systems** on page 8



# Never Too Busy to Tell the Maintenance Story

By Ed Valbert, Consortium Manager

For years, maintenance and facilities departments operated under the radar – virtually un-noticed – until something went wrong or did not work and maintenance was called in to get things back to normal. Now, with tight budgets and a workforce rapidly approaching retirement, maintenance departments have to justify replacement of retiring personnel or even defend the very existence of the department. The problem is made worse by the fact that a well-functioning maintenance department can go unnoticed for years, quietly performing preventive maintenance so breakdowns and trouble calls are few and far between. Because building occupants do not experience maintenance-related problems, budget writers may wonder what they are paying for.

It is against this backdrop that telling the maintenance story has become so important. Historically, maintenance departments have been hesitant to share all they do in support of an organization's mission because of a desire to stay in the background or for fear of being seen as bragging or complaining. But those times are over; telling the maintenance story has become an important tool in any well-functioning facilities operation. Highlighting maintenance departments and the necessary personnel to run them has become a critical part of a facilities manager's job. Budget writers cannot fund what they do not know about.

So where do you begin when telling the maintenance story?

- Develop a maintenance department mission statement.
- Track and record all the activities and work the department accomplishes.
- Increase personnel visibility with maintenance team uniforms.
- Generate regular reports on maintenance work efforts and share these with the rest of the organization.
- Celebrate difficult, unusual, dollar-saving or mission-critical tasks that the team completed.
- Get a seat at the budget-decision table.

## Develop a department mission statement

The department mission statement should be tied to the organization's mission statement. For example, a school district maintenance department mission statement could read: To maintain clean, safe, functioning facilities that support students, staff and parents as they proceed through the educational experience.

## The WSU Energy Program Can Help You Tell Your Story

If you want to increase your visibility with your tenants, community or constituents but do not have an internal marketing department to craft your message, please ask Consortium staff for guidance.

For a fee, communications staff with the WSU Energy Program can help you convey your team's highlights and challenges. These specialists will help you:

- Identify your audience,
- Clarify what you want your audience to know about your program, and
- Craft your message so it is appealing and effective.

Whether you want to tell your story in a press release, factsheet, grant application, website write-up or magazine article, our technical writing and graphic design staff can help. ✂

# L&I Helps Facilities Professionals Avoid Safety Fines

By Phil Partington, Consortium Staff

Overworked public facilities professionals have enough on their plate – they do not need the additional worry of facing fines for not meeting workplace safety and health standards. Yet, maintaining a safe and healthy workplace is a significant component of any working environment, and keeping up with safety codes is an unavoidable reality.

While the Washington State Department of Labor & Industries (L&I) often has to play the unpopular role of enforcing these standards by issuing fines, they also offer a variety of resources to help facility managers tackle potential issues to avoid fines. Upon request, L&I's Division of Occupational Safety & Health (DOSH) consultation program can provide a safety and health consultant to help at no charge to you. The consultant will travel to the requesting employer's facility to:

- Help identify workplace hazards and suggest corrective measures.
- Review required written injury/illness prevention programs, such as your Accident Prevention Program.
- Help you figure out how to manage and reduce your claims costs.

The consultants also offer suggestions that could help save the

organization money on industrial insurance costs and by avoiding fines.

DOSH has a Compliance/Enforcement program and a Consultation program, which are separate. It is important to note that a compliance inspector will not see a copy of a consultation report unless you volunteer it. This non-threatening approach is intended to assist and encourage your organization to be proactive in resolving safety challenges.

"There is no charge for a consultation, and the employer is in the driver's seat," states Lynda Stoneberg, DOSH Statewide Consultation Manager. "That means the consultation can be ended if the facility manager does not like what he or she is hearing, or is not satisfied with the assessment. The only obligation for the employer is to correct any serious hazard(s) noted by the consultant. The consultant is willing to assist with recommendations on how to correct noted hazards."

## **A consultation involves:**

- An opening conference with management to explain the employer's rights and obligations.
- A walk-through survey to evaluate the mechanical, physical and environmental hazards of the workplace and work practices, and to evaluate your

organization's accident prevention program.

- A closing conference with management to discuss any conditions noted during the survey and to make recommendations.
- A written report describing any conditions found and any recommendations or agreements made.
- A follow-up visit, if appropriate, to assure that any necessary corrections have been made.

## **Employer obligations**

Your organization must agree to the following conditions before an L&I consultant can begin the on-site consultation:

- Correct, in a timely manner, any serious job safety and health hazards or deficiencies found during the consultation visit.
- In unionized work areas, an employee representative must be provided an opportunity to participate in the opening and closing conferences and the walk-through survey.
- The consultant may increase the number of employee participants in the evaluation, if additional representatives will improve the quality of the visit.

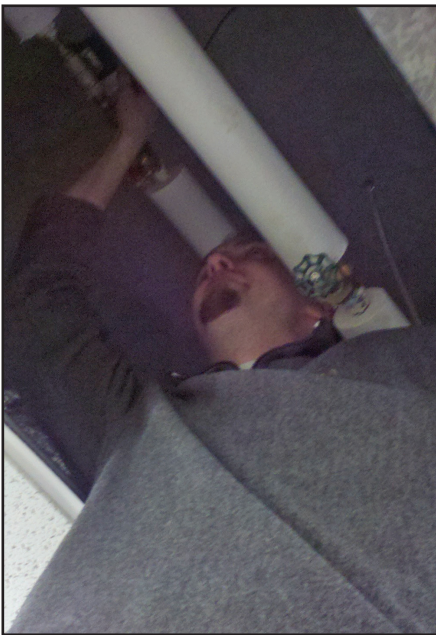
See **L&I** on page 7

## Tracking

Continued from page 1

facilities department conducts its day-to-day operations. Obvious benefits include:

- Allowing staff to accurately track maintenance activities from campus to building to system to equipment.
- Enabling staff to take a systematic approach to preventive maintenance.
- Providing users with easy access to data so they can generate reports on the types of skills needed to perform maintenance on Highline Community College campuses.



*Phil Partlington of the Consortium checks out a crawl space at the college.*



*Larry Covey of the Consortium applies bar coding labels.*

- Providing data and details that enhance staff members' ability to tell their story to decision makers.
- Allowing users to track the types of work that need to be done to different pieces of equipment.
- Allowing staff to forecast equipment failure so they can plan ahead to avoid schedule disruption.

But perhaps the most essential benefit is that this process will help current staff extract and capture much of their existing institutional knowledge to enhance the efficiency and effectiveness of future staff.

The Consortium has already had inquiries from other members about projects similar to this one.

“

***This is a huge step for us in getting where we want to go in terms of tracking what we do.***

**Barry Holldorf  
Facilities Director  
Highline College**

”

With the state-wide drive toward tracking assets and measuring operational efficiency by the numbers, this asset-tracking solution could not have come at a more appropriate time.

For more information on how the Consortium can assist with your asset-tracking needs, email [plantops@energy.wsu.edu](mailto:plantops@energy.wsu.edu), or call 360-956-2055. ✕



**Story***Continued from page 4***Track and record work accomplishments**

Tracking, recording and reporting the maintenance story is made easier with today's computerized work order systems. However, a common oversight when using a computerized work order system is not entering all the repetitive or mundane tasks, such as mowing lawns, preparing sports fields, or supporting other departments, such as food service. Make sure the work order system accurately reflects the total effort the maintenance team made to maintain the facilities.

**Increase personnel visibility with uniforms**

Uniforms and clearly identified maintenance vehicles help everyone in the organization see maintenance team members as they go about their jobs and serve as a reminder of how important maintenance is to the daily operation of the organization.

**Broadcast accomplishments and ask for what you need**

Keep maintenance efforts on the radar year-round, not just when something goes wrong or budget cuts are being discussed. Get a seat at budget discussions or a regular report on the decision-making board's agenda so you can ask for what you need to provide excellent service.

While you may think you are too busy to document and tell the maintenance story, this story may, in fact, be the most important thing you do to preserve the facilities that your department is tasked with maintaining. ✕

**L&I***Continued from page 5*

- At all work sites, the consultant must be able to confer with the individual employees during the course of the visit. This helps the consultant identify and judge the extent of particular hazards within the scope of your request and evaluate your organization's safety and health program.

For more information, access <http://www.lni.wa.gov/Safety/Basics/Assistance/Consultation/about.asp>. You may request assistance from L&I by telephone, letter or in person. You may request a complete review of your organization's safety and health conditions or assistance with a specific problem. The consultant will contact you, usually by telephone, to hear your request and to schedule a time and date for an on-site consultation. Find an L&I consultant near you: <http://www.lni.wa.gov/Safety/Basics/Assistance/Consultation/consultants.asp> ✕



## From Coveralls to the Corner Office

**May 7 - 9, 2013**

Enzian Inn • Leavenworth, Washington

Check out the EFC 2013 page at [www.energy.wsu.edu/PublicFacilitiesSupport/efc](http://www.energy.wsu.edu/PublicFacilitiesSupport/efc), or call Consortium staff at (360) 956-2057 or e-mail [plantops@energy.wsu.edu](mailto:plantops@energy.wsu.edu) for additional information.

## Systems

Continued from page 3

focus on motors with the following characteristics:

- Larger motors (25 hp and above)
- Motors driving centrifugal loads
- Production-critical processes (reliability issue)
- “Bad Actor” systems
- Motors that are utilized over 2,000 hours per year (energy savings are

proportional to run time)

- Motors that have received predictive and preventive maintenance
- Non-special or definite purpose motors (i.e., vertical shaft, close-coupled pumps, etc.)

These characteristics are good indicators of motors that will likely deliver energy savings through improvements such as Premium

Efficiency replacement, resizing and control upgrades, such as a variable frequency drive.

For more information on managing your motor-driven systems, contact Tony Simon, 360-956-2141, or e-mail [simont@energy.wsu.edu](mailto:simont@energy.wsu.edu). And be sure to check out the free one-hour video online. ✕

## Consortium Members

### K-12 Schools

Bridgeport  
Camas  
Centralia  
Chilliwack, BC  
Coquitlam, BC  
Delta, BC  
Eatonville  
Enumclaw  
ESD 101  
ESD 114  
ESD 121  
Federal Way  
Forest Ridge School of the Sacred Heart  
Highline  
Hoquiam  
Inchelium  
LaCrosse  
Marysville  
Mission, BC  
Moses Lake  
Mukilteo  
Nine Mile Falls

Odessa  
Okanagan Skaha, BC  
Olympia  
Orcas Island  
Orondo  
**Orting**  
Pateros  
Peninsula  
Port Angeles  
Portland, OR  
Reardan-Edwall  
Renton  
San Juan Island  
Selah  
Selkirk  
Shoreline  
Snohomish  
Surrey, BC  
Wenatchee  
White River  
Wishkah Valley  
Yakima

### Universities/Colleges

Bates Technical College  
**Bellevue College**  
Clark College  
Community Colleges of Spokane  
Everett Community College  
Grays Harbor College  
Highline Community College  
North Seattle Community College  
Olympic College  
Pierce College  
Seattle Central Community College  
South Puget Sound Community College  
The Evergreen State College  
Washington State University Extension  
Energy Program  
Wenatchee Valley College

### Municipalities

City of Centralia  
City of Des Moines  
City of Hoquiam  
City of Kent  
City of Longview  
City of Olympia  
City of Tumwater  
City of Vancouver  
Clark County  
Cowlitz County  
Cowlitz County PUD #1  
Grays Harbor Public Development Authority  
Jefferson County  
King County Department of Executive Services  
Lakehaven Utility District  
Lewis County  
Pierce County Library System  
Skamania County  
Snohomish County  
Tacoma-Pierce County Health Department  
Thurston County  
Whatcom County

### States/Tribal/Misc.

State of Alaska  
Muckleshoot Tribe  
Squaxin Island Tribe  
Hopelink  
Tacoma Convention & Trade Center

### Washington State Agencies

Corrections  
Ecology  
Health  
Licensing  
Liquor Control Board  
Natural Resources  
Parks & Recreation  
School for the Blind  
Social & Health Services  
State Patrol  
Transportation  
Veteran's Affairs

*Our warm welcome to our new members highlighted in **blue** type. We look forward to serving your facility and operations needs. ✕*