

Plant Operations Support ShopTalk

Plant Operations Support Consortium

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It's official! The Consortium joins the WSU Extension Energy Program

By Phil Partington, POS staff

The Plant Operations Support Consortium — a proven and enduring resource and practical tool for public organizations in the Northwest — officially became part of the Washington State University (WSU) Extension Energy Program — an award-winning resource for energy information and services. The result is a customer-focused organization, that is not only able to assist members with their maintenance, custodial, procurement and surplus, leadership training, and technical needs; but their energy needs, as well.

WSU Extension Energy Partnership

Two years ago the Consortium staff co-located their administrative operations with the WSU Extension Energy Program in Olympia. The idea was to combine the versatility and customer response prowess of Consortium staff with the energy savvy of the WSU Extension Energy Program. The results are impressive. Since the partnership, the "GA-WSU Team" (as it has come to be known) was able to respond to member inquiries pertaining to energy engineering, energy saving opportunities, stimulus grants and loans pertaining to energy — among many other subjects in a timely manner. The partnership has also enabled the program to expand upon its services, now offering members Energy Advisory Services, which has already been showcased by the City of Tumwater and Orcas School District through energy conservation assessments and grant writing assistance.

The partnership's success was realized and merging seemed natural. General Administration and the WSU Extension Energy Program worked together to enable a transfer of the program. This will lead to a better-equipped program to support your diversity of needs, as the WSU Extension Energy Program allows for flexibility and a whole new selection of educational resources. The possibilities are endless in assisting members in the challenging arenas of facilities and energy management.

(Please see "WSU Energy", continued on page 8)



POS - Energy Team hits the ground running

A recent WSU Extension Energy Team assessment included Kelly Barton (left), Bob MacKenzie, Rob Penney and Linda Witham. POS members can expect enhanced program offerings in the very near future.

POS Notes

By Bob MacKenzie, POS manager



Bob MacKenzie

Thank you, Consortium. I thank you with all my heart. Your stewardship, management, technical skills and collaborative advocacy are without parallel. For the past 13 ½ years we have worked together to avoid re-inventing the wheel, inculcate best practices, share lessons-learned, even cross-level materials and equipment; avoided doing dumb things and managed our programs with an eye toward lean business practices and always doing what is best for our respective stakeholders. You have stayed with the Consortium in astoundingly high numbers; even in the midst of what's now being called, "The Great Recession." In fact, more than 95 percent of POS members have renewed since June 2009! That is wonderful and we are genuinely appreciative. It means the power of the Consortium can continue to serve your organizations' needs.

Do you want to read some interesting statistics? As you know from page one and previous list-server posts, the POS Consortium staff transitioned from General Administration to WSU Extension Energy on September 1, 2009. We looked back over the years and did a stubby pencil drill. Here's what we came up with....

During its 13 ½ year tenure in GA, the fiscally self-sustaining POS Consortium captured one international, nine national and five state-level awards for innovative government, cost savings and customer service excellence. Yours truly received the Governor's Distinguished Manager Award in 2002 (again, I have you to thank). The program has employed more than 21 temporary and permanent staff personnel since start-up in January 1996. The Consortium saved its members more than \$52.5 million, while costing less than \$5.5 million to operate...numbers reflecting members more than 1:9 ratio of cost-to-benefit. POS staff resolved more than 15,345 requests for assistance from more than 195 members in state and provincial agencies, municipalities, utilities, school districts, colleges, universities and non-profits. No members have ever reported receiving negative audit findings as a result of POS technical consultation and/or advice rendered for Consortium-sponsored transactions.

Likewise, POS senior staff managed more than 124 construction projects, with none resulting in litigation or dispute. POS staff administered six major conferences, 17 workshops and 21 videoconferences, with combined attendance of 2,455.

Whew! We hope you realize it was **you** who garnered the awards and many of your staff assisted in resolving the 15,345 requests for assistance. Likewise, it was because of your selflessness and attention to detail that thousands of tons of waste never hit the landfill, that materials were reused by public agencies and that we learned to do things right the first time.

Your Consortium enters a new era now, one filled with new resources and unlimited potential from the award-winning WSU Extension Energy Program. We are optimistic that the POS tradition of excellence will endure in a new form at WSU Extension Energy Program and that GA will remain close partners in the future. Personally, I have been blessed with a top-of-the-line, dedicated staff and have come to know many of you as close friends. I would like to thank Larry Covey, Phil Partington and Sue Brown for having your welfare always foremost. This is a humbling, yet entirely gratifying experience and I eagerly look forward to continuing our quest - **together**.

Bob



Shop Talk is a quarterly publication of the Plant Operations Support Consortium, a component of the Washington State University Extension Energy Program. The newsletter is intended to be an informative and operationally-oriented medium for public facilities managers. Contents are also available in hard copy. We welcome feedback and input on the newsletter's contents from readers. We reserve the right to edit correspondence to conform to space limitations.

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Target: Bridges and debris in Chehalis River

Permits approved, bridges and debris to be pulled out of river before rains hit

By Bob MacKenzie, POS manager

There used to be two historic railroad truss bridges, west and east of Rainbow Falls State Park, near Pe Ell, Washington. They remained stately and safe since the early 1920s, about forty or so feet above the Chehalis river — until the December surge. The rails-to-trails program had extended the lives of both of the bridges, called the Dryad and Spooner Railroad bridges. The bridges had been transported from Montana and Wyoming back in the 1920s to be reconstructed and used to join sections of the old Pacific Railroad line west of Chehalis.

Now, the gnarled metal remains of both bridges are sunk into more than 12 feet of river muck, about 500 yards downstream from their original locations, posing true obstacles to man and fish. One has to wonder how high and powerful the river flood surge was to take down the 300-ton bridges and move them downriver like play toys.

The flood of December 2007 was devastating. Thousands of homes and businesses were completely destroyed or damaged, people and pets displaced, and farm animals drowned by the score. The Chehalis surged to a 500-year high, taking down bridges, carving new channels through hay fields and other acreage and inundating downstream towns with floodwater and debris.

Enter Lynn Nordloh and his crew from the Washington State Park and Recreation Commission's Southwest Region. Washington State Parks is a 13-year Consortium member. Lynn's mission as Assistant Region Manager, Maintenance and Preservation is to manage some 41 parks and lots of associated infrastructure in the Commission's southwest area. They are headquartered near Millersylvania Park, south of Olympia.

Lynn already had a full plate dealing with 52 parks in his region. He called the Consortium staff for help managing the projects to remove the Dryad and Spooner Bridges, as well as the debris of a road and footbridge off of State Route 6 into Rainbow Falls State Park.

"It's been an ongoing battle to get through this process—a real uphill struggle. Yet, with the perseverance of our staff members, the contractors, the Plant Operations Support Consortium, and several others, we're finally starting to see the light at the end of the tunnel," said Lynn Nordloh, construction and maintenance superintendent for Washington State Parks.

The resultant data provided by Consortium staff and contracted engineers was coordinated with FEMA to get the bridges and associated materials out of the river.

"This process was a challenge, as you might imagine," said Nordloh, "but, through collaborative efforts, FEMA providing 75 percent and a lot of heart, we hope to have bridges, roads and footpaths back in operation as soon as possible."

Lewis County — another long-time Consortium member — was also deeply involved in flood relief and repair efforts; removing and replacing the downed concrete Chandler Bridge just upstream from Rainbow Falls.

Larry Covey is assisting Parks with the projects. All three bridge sites are expected to be completely cleared by mid-October.



Jessica Logan (left), State Parks environmental specialist 2, Southwest Region, Lynn Nordloh and POS Project Manager Larry Covey evaluate the challenges ahead for removal of the destroyed bridges.



'Data provided by Consortium staff and contracted engineers will be coordinated with FEMA to get the bridges and associated materials out of the river.'

(Please see "Bridges", continued on page 6)

Are your school's vacuums capturing particles?

Re-published with permission from "IAQ News: Indoor Air Quality in Northwest Schools"

Article by Rich Prill, Washington State University Extension Energy Program



Rich Prill

As I visit northwest schools to assist with indoor air quality assessments and program implementations, I always bring along my particle counter. Airborne particles can obviously have a significant impact on our school occupants, so

the goal should be "prudent avoidance" to the extent practical. The trouble is the small particles of primary concern are

too small to be visible to the naked eye. That is where the particle counter is useful – it "sees" the particles we cannot. Plus, the instrument provides numbers that help you understand your HVAC filter effectiveness (indoor vs outdoor particle counts), as well as comparing various rooms and zones to one another. When indoor concentrations are higher than outdoors, it's clear the source is indoors. Identifying zones with higher particle counts allows you to focus your control strategies and cleaning efforts and compare before and after

particle counts to ensure your efforts are effective.

Another use of the particle counter is to check vacuum filtering effectiveness. I have measured particles being sprayed out of shiny new and expensive vacuums, old worn units, and equipment with "high efficiency HEPA filtration."

(Please see "Vacuum," page 7)

Bellingham School District Survey of Vacuum Equipment

Particles measured with Fluke 983 1 liter samples differential mode
Particle size range (micrometers)

Equipment	0.3	0.5	1.0	2.0	5.0	10.0
Back-pack 62-076757 (very clean filters)	47,748	5153	510	186	15	3
Back-pack 12579 (Dirty filters)	103,501	23539	5736	3230	506	109
Back-pack 12579 (Clean filters including hepa)	85,948	13948	2528	1493	401	120
Back-pack vacuum ID: 0116891 FXR "with dirty filter"	99,886	15819	1746	932	30	14
Back-pack vacuum ID: 0116891 FXR "with a clean hepa filter"	77,284	20902	3649	3278	651	196
Back-pack vacuum ID: 0117640 FXR "with dirty filter"	117,061	22666	1900	1026	71	16
Back-pack vacuum ID: 0117640 FXR "with a clean hepa filter"	93,133	13755	868	417	41	6
Back-pack vacuum cleaner #0116890 FXR dirty filter	281,750	67464	12918	6472	1707	995
Back-pack vacuum cleaner #0116890 FXR new filter	248,656	54535	13063	7259	1205	182
Back-pack 0116789 FXR (Dirty filters)	54,124	10971	1538	632	39	6
Back-pack 0116789 FXR (Clean filters)	40,701	8009	1247	571	73	16
Back-pack 0116788 FXR (Dirty filters)	24,482	3768	651	337	53	8
Back-pack 130822 (Dirty filters)	50,725	17418	4888	2491	316	69
Back-pack 130822 (Clean filters)	35,820	9391	2590	1290	171	29
Old Royal Vacuum Cleaner (rarely used)	19,518	4085	2580	2141	889	261
Back-pack 62-074935 (Dirty filters)	48,963	12401	3386	1996	662	223
Back-pack 62-074935 (Clean filters)	57,299	13846	3816	2317	661	167
Back-pack 62-034055 (Dirty filters)	53,213	14326	4016	2435	596	111
Back-pack 62-034055 (Clean filters)	58,022	15043	4281	2619	611	133
Back-pack #184163 (dirty filters)	149,427	23263	4385	2053	330	65
Back-pack #184163 (new filters)	88,125	15372	3655	1985	257	37
Up-right Windsor #131146 (very clean filter)	90,437	11513	1329	682	176	72

State Park saves \$50,000 in member-to-member effort

Consortium assists with the transfer of a 12-cylinder engine



Dean Crawford

It took several months of coordination, but the Consortium was able to assist with the transfer of

a 12-cylinder diesel engine from the Hood Canal Bridge to Fort Worden State Park (FWSP). The generator became available as part of a \$500 million project to replace the bridge's east half. The 500-kilowatt, 12,000-pound generator was considered construction waste by Hood Canal Bridge project coordinator Kiewit General, and through persistence, communication, careful planning and coordination FWSP now has a much needed

generator. This is a prime example of Consortium members doing more with less in tight economic times.

FWSP is a designated refuge center in the event of a disaster or emergency, and before this transfer, it had no means of supporting the necessary numbers.

According to Dean Crawford, Washington state Department of Transportation bridge maintenance and operations supervisor, and an essential player in this success — the intent of this transfer “is to serve the public in the event of any kind of disaster.”

“We can shelter a lot of people with this generator,” added Russ Hendricks, facilities manager at FWSP.

The generator was used as

a backup power generator to open and close the bridge's draw span. However, FWSP will be using it as an emergency generator for the area.

“It opened the west side of the bridge for the last 20 years or so,” said Crawford.

“As taxpayers and public stewards, we are excited to see it go to good use rather than go to waste.”



Jay Ketchum, owner of Affordable Crane of Agnew, left, talks to Russ Hendricks, facilities manager at Fort Worden State Park, after Ketchum delivered a 12,000-pound backup generator engine to the park near Port Townsend. (Photo by Jeff Chew, Peninsula Daily News)

(Please see “Generator”, continued on page 6)

Consortium member roster

K-12 Schools

Abbotsford, BC
Aberdeen
Anacortes
Bremerton
Brewster
Bridgeport
Camas
Centralia
Chehalis
Chilliwack, BC
Coquitlam, BC
Delta, BC
East Valley, Spokane
Easton
Eatonville
Edmonds
Enumclaw
ESD 101
ESD 171
Federal Way
Goldendale
Highline
Hoquiam
Ketchikan, AK
LaCrosse
Liberty

Lopez Island

Lyle
Marysville
McCleary
Mission, BC
Moses Lake
Mount Vernon
Mukilteo
North Thurston
Oak Harbor
Ocosta
Okanagan Skaha, BC
Orcas Island
Olympia
Peninsula
Port Angeles
Port Townsend
Puget Sound ESD
Quilcene
Quillayute Valley
Saanich, BC
San Juan Island
Seattle
Selah
Shoreline
South Kitsap
Snohomish
Sumner
Sunrise Beach

Surrey, BC
Wenatchee
White River
Willapa Valley
Wishkah Valley
Yelm

Universities/Colleges

Cascadia CC
Clark College
Columbia Basin CC
CC of Spokane
Everett CC
Grays Harbor College
Highline CC
Olympic College
Renton TC
South Puget Sound CC
The Evergreen State College
Univ. of Washington
WSU Extension Energy

Ports

Port of Everett
Port of Kennewick
Port of Sunnyside

Municipalities

City of Bellevue
City of Centralia
City of Hoquiam
City of Kent
City of Longview
City of Oak Harbor
City of Olympia
City of Port Townsend
City of Seattle, Dept. of Transportation
City of Seattle, Fleet and Facilities Dept.
Seattle City Light
City of Seattle, Public Util.
City of Tumwater
City of Walla Walla
City of Vancouver
Clark County
Cowlitz County
Cowlitz County PUD #1
Grays Harbor Pub. Dev. Auth.
Jefferson County
King County Dept. of Exec. Services
Lakehaven Utility District
Lewis County
Pierce County
Pierce County Library System
Pierce Transit
Skamania County

Tacoma-Pierce Cty Health
Thurston County
Whatcom County
Yakima Fire District No. 5
States/Tribal
Alaska DOT
Hopelink
Oregon Youth Auth.
Squaxin Island Tribe
Vancouver Convention & Exhibition Center
Wash. St. Agencies
Corrections
Criminal Justice Training Comm.
Ecology
General Administration
Health
Information Services
Licensing
Liquor Control Board
Military
Natural Resources
Parks & Recreation
School for the Blind
School for the Deaf
Social & Health Services
Transportation
Veteran's Affairs
Washington State Patrol

Our warm welcome to new members in green type. We look forward to serving your facility and operations needs.

Electrical pro provides volunteer expertise to POS staff

Rolfe beefs up Consortium electrical assistance venues

James Rolfe is a top-flight electrician and works full time for the City for Olympia. On one of his days off per week he is also a staffer with the Plant Operations Support Consortium. Rolfe has worked in the POS offices and done field work on behalf of members since April 2009.

"It's a way for me to learn and to develop better research and multi-trade skills," said Rolfe. "POS staff assist members in varied ways and the issues can be quite complex. I can benefit from their customer focus and their determination to get the varied jobs done in timely ways. These are skills and a work ethic worthy of emulation, I believe."

Rolfe has already participated on a number of POS staff facilities assessments, providing expert electrical counsel from his rich store of experience and his license as a commercial electrician.

In his career as an electrician, Rolfe has seen both sides of the electrical components that run buildings. "As an installer I was concerned with all of the rules and codes and how it looked and installing it in a workmanship-like manner. As a maintenance electrician I've looked at it from the end-user point of view: How it functions, how it performs and how it lasts. Those three components over time are all dependent on how well they are maintained. With an automobile, if you don't maintain it, it will eventually leave you stranded somewhere alongside the road with some sort of very costly repairs. Every facility manager needs to know that electrical systems are something that need maintenance, as well. All too often they are neglected until something goes wrong. However, when an electrical system has a break-down it can not only be costly but it can also be dangerous. Unlike a car, you don't usually hear odd sounds coming from panels or switches indicating a problem."

Rolfe is available through POS for members requiring electrical-related technical assistance. He spoke to POS staff about the challenges of many mainte-



James Rolfe (right) and Larry Covey confer on strategies and possible approaches in response to a member request for assistance.

nance organizations. He especially advocates that members develop a proactive preventive maintenance program, to avoid costly repairs and unsafe environments.

"Having an electrical firm come in on an emergency call to make large scale repairs can be much more than doing proper preventive maintenance," he said. "Also, having your equipment run efficiently is a money saver. Remember the phrase, 'The longer you wait, the more it's going to cost'? A good electrical P.M. program goes a long way, and it doesn't have to start out big. You can start out with the simple no-or-low-cost items and build capital-funded equipment upon it. Spread it out over time. As long as P.M. is being properly done you can have confidence that your electrical system will perform better for longer and that it is safe."

POS staff is honored to have such a professional volunteering to assist members. It's another sign of members helping members. We also appreciate that his City of Olympia boss, Tom Adams, is highly supportive of James' professional development and the health of the Consortium.

James Rolfe works for POS on Mondays. He can be reached at rolfej@energy.wsu.edu, 360-956-2059

("Bridges", continued from page 3)

"Parks staff support, FEMA, Emergency Management Division, KPFF — our top-notch consulting firm — and two responsible contractor firms will enable us to remove the truss bridges and Rainbow Falls debris in an organized, safe and fairly expedient fashion," said Larry Covey, POS project manager. "It's a pleasure supporting such a team of dedicated professionals."

We applaud Lynn Nordloh and his staff, Lewis County professionals, and regulatory agency personnel who have worked tirelessly and selflessly to remediate the effects of the 500-year December flood in the Chehalis River basin. You have our thanks and respect.

For further information of the removal and installation of bridges on the Chehalis, contact Larry Covey, 360.956.2056, or e-mail coveyl@energy.wsu.edu.

("Generator," continued from page 5)

Hendricks indicated that among the buildings that could potentially benefit from the generator in an emergency include several Fort Worden buildings, such as dormitories, as well as a temporary hospital building. He estimates that the generator would cost \$50,000 if bought new.

"We figured if we could get it for free, the cost saved would pay for the installation," he said. "This wouldn't be possible without our involvement in the Consortium. Times are tough and money is tight, but that is all the more reason we need these guys."

For more information on the amazing partnership of Consortium members, contact Russ Hendricks, 360-344-4421, or e-mail russell.hendricks@parks.wa.gov.

("Vacuum", continued from page 3)

Unfortunately, in my experience, I am unable to predict how well a particular vacuum is capturing particles by brand, type, filter or bag type, age, appearance, or by what's written on the unit (e.g., Binford Premium Super Deluxe Maxi-Stage Eco Filtration XL Magnum Pro). The only way to know for sure how this equipment is working is to measure the particulates in the exhaust stream.

The time it takes for the smallest particles to settle out of the air is on the order of days, not minutes or hours. So using a vacuum with poor capture ability for a couple of hours in the evening can mean increased exposures the next school day. Plus, your custodians are taking the brunt of the exposure on a daily basis.

Take a look back at the Fall 2008 issue of *IAQ News*, "Vacuum Cleaners and Suspended Particles in Homes and Schools" by Dave Blake: http://www.energy.wsu.edu/documents/building/iaq/nl/08_fall_iaq_nl.pdf.

The Bellingham School District (National Tools for Schools IAQ Award Winner) took the initiative to check a number of their vacuums. Chris Dean, BSD Custodial Supervisor conducted the testing (360-676-6544) and Dave Blake, Northwest Clean Air Agency, loaned the particle counter. I've summarized - with BSD's blessing - the results of these tests in the table on page 4.

Many factors can influence the performance of an individual piece of equipment. Note that we make no claims as to the scientific validity of these values nor should these results be interpreted as an endorsement or discredit of a particular type or brand of equipment. Your particular upright or backpack or "pig" vacuum performance may differ substantially. A thorough study would be useful in order to provide schools and others with clear and useful guidance.

Member places emphasis on PM



Bryan McGeachy

POS staff completed a comprehensive systems and custodial assessment of the district in support of McGeachy's performance objectives. The assessment team reviewed district operations and maintenance manuals and as-builts to develop a preventive maintenance schedule. The schedule will not only assist McGeachy with management of his program, but also reinforce budgeting activities.



For more information on Camas School District's preventive maintenance approach, contact Bryan, (360) 833-5833, or e-mail bryan.mcgeachy@camas.wednet.edu.

Hold the dates!



IACC Conference, October 14-16, 2009 at the Wenatchee Convention Center. *Come see Bob MacKenzie present on emergency contracting!* Visit www.infracunding.wa.gov for more information.



WAMOA Conference, September 30-October 2, 2009 at the Yakima Convention Center. Visit www.wamoa.org for more information.



General Administration's Annual Training Conference & Trade Show, October 28-29, 2009 at the Greater Tacoma Convention & Trade Center. Visit www.ga.wa.gov/events/TSvendorhome.htm for more information.



PCAPPA 2009 Conference, October 7-9, 2009 in Hollywood, California. *Come hear Bob MacKenzie discuss the merging of POS and the WSU Extension Energy Program!* Visit www.pcappa.org/2009.htm for more information.

(“WSU Energy,” continued from page 1)

Energy Advisory Services

Aside from the other services of the Consortium — which include equipment procurement & brokering, needs consultation & no-fault facility assessments, training & leadership development conferences, and technical assistance — members can now leverage additional opportunities, such as energy conservation assessment support, energy training, efficiency monitoring, economic analysis, production demonstration, and more.

Consortium energy-related service examples:

- The City of Tumwater solicited a Consortium-created team that included Consortium staff, as well as WSU Extension Energy Program professionals to conduct a two-phase, comprehensive energy conservation assessment of specific city facilities.
- Orcas Island School District received extensive assistance on compiling information for and writing an energy grant.
- There were more than 40 requests in the last year for information and assistance pertaining to energy grants, energy saving opportunities, and other energy-related topics.

Introducing the WSU Extension Energy Program

The WSU Extension Energy Program covers a wide range of energy-related topics, including:

- Commercial and industrial engineering
- Technical assistance clearinghouses
- Renewable energy
- Climate and rural energy development
- Resource conservation management for public sector

- Applied building science
- Distributed generation
- Energy library

Here is a sprinkling of program highlights:

- Technical Assistance Clearinghouses: Provides energy clearinghouses for U.S. Department of Energy, Western Area Power Administration and Northwest Building Efficiency Center.
- Provides industrial plants in the Pacific Northwest with technical assistance, project support, energy-saving plant assessments and training. This program also assesses the energy saving potential of new and emerging products and technologies.
- Through U.S. Department of Energy’s Building America Program, designs and evaluates hundreds of energy efficient homes in the Pacific Northwest.
- Provides technical assistance to improve energy efficiency and indoor air quality (IAQ) in schools, and offer IAQ training and technical support to tribes in Idaho, Oregon and Washington.
- Runs one of the few libraries nationwide that is dedicated to energy-related research.
- Check out their weekly *Energy Newsbriefs*, an electronic newsletter profiling emerging trends in energy (www.energy.wsu.edu/library/newsbriefs.cfm).

Thank you, members!

One of the most impressive feats of the Consortium is its ability to adapt to the constantly changing needs and challenges of its members. The Consortium staff would like to thank its members for making the Consortium what it is today. It is public stewards like you that make great things happen.

All phones, faxes and e-mail addresses remain the same:

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“This transfer is in keeping with Governor Chris Gregoire’s direction to think innovatively and to reconfigure our organizations when economies of scale can be gained and customers satisfied,” said Linda Villegas Bremer, director of General Administration.

“We see this transfer as a win-win for all concerned,” said Jake Fey, director of the WSU Extension Energy Program. “The Consortium staff brings considerable operational savvy, proven effectiveness and well-established connections to the WSU Extension Energy Program, and we will remain closely partnered with GA.”

We’re still the same reliable, effective program you’ve come to know and love—only now, we’ve added a whole new set of abilities and expertise to our tool belt. Give your Plant Ops staff a call, 360-956-2055, or e-mail plantops@energy.wsu.edu, to learn more about how we can assist with your energy needs.