ShopTalk
Plant Operations Support Consortium
Volume 20, Number 1 Double Issue: Spring/Summer 2016

Then and Now – Celebrating 20 Years of the Consortium

By Phil Partington, Consortium Staff

Fall 2015 marked the 20-year anniversary of the WSU Energy Program's Plant Operations Support Consortium. While the program's central mission hasn't changed much over the years (to "serve as a support mechanism for public agency plant managers and facilities maintenance professionals…"), our menu of services is far more robust and diverse, and those served under the facilities umbrella has expanded to include custodial and grounds managers, superintendents, business managers, and many more. This is as it should be; the Consortium is designed to adapt to the times, packaging new services that meet the current needs of facilities professionals and providing that support in a timely, efficient, and cost-effective manner.

How does the Consortium stay relevant over the years?
Simple: by *listening.*

That's right – when school districts first asked for more construction management support in the early years of the program, the Consortium responded by assembling a topflight crew to support that need. When more and more facilities directors asked for help in areas that were beyond their expertise, such as custodial, security, and emergency preparedness, the Consortium came through by boosting our technical resources in those areas, and packaging assessment services and training opportunities to better support the

*See **20 Years** on page 10*

Summer 1996
First issue of Shop Talk is published.

January 1997
POS launches a Listserv to share updates and announcements of various opportunities.

ShopTalk

WSU Energy Program
Plant Operations Support Consortium

Volume 20, Number 1
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In This Issue

Shop Talk is an 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*.

Archived issues of ***Shop Talk*** are available at:
www.energy.wsu.edu/PublicFacilities Support/PlantOperations/ShopTalk.aspx

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Congratulations to the 2016 EFC Innovations Award Winners

Jonathan Stine, Renton School District, Washington – instrumental in implementing LED-based Human Centric Lighting (HCL) in two Renton high schools

Many students can have behavior issues, which may be influenced by artificial (fluorescent) lighting. One approach to address these issues was finding a different way to illuminate Renton high school classrooms.

Before artificial lighting, people followed a natural rhythm determined by daylight. They woke with the sun, were alert and active throughout the day, and then slowed down to rest as the sun set. Human Centric Lighting (HCL) mimics that natural rhythm. It includes lighting levels that start out "calm" (2700 kelvin), then ramp up to a "create" level (3700 kelvin), a "think" level (4500 kelvin), and an "alert" level (6700 kelvin).

Energy-efficient, LED-based HCL was installed in all the classrooms at two Renton high schools. In Special Education classrooms, dimmable HCL lighting enables teachers to vary the lighting level and adjust the color temperature to help manage student behavior. The teachers said that the impact was nearly immediate, creating more positive student moods and behavior. In other classrooms where tunable HCL lighting was installed, teachers set the lighting in the morning to the "alert' level and adjust it during last period to the "create" or "calm" levels.

This summer, the district plans to evaluate how the new HCL has impacted student achievement. The school district has already decided to convert the lighting in all Special Education classrooms to HCL.

The Consortium applauds Mr. Stine for finding a solution that already seems to be making a big difference in the lives of students and teachers in the Renton School District.

Scott Weide, Auburn School District – assisted in developing a new procedure to report and fix temperature-related issues

The Auburn School District Maintenance Department found that it was responding to a large number of work orders for room temperature concerns, even though the actual temperatures were within the District Standard temperature range. Further, many of these work orders contained no actionable information; some just said "brr" or "please turn up the temperature."

*See **Award Winners** on page 13*

Happy 20-Year Anniversary, Consortium Pros! – A Shout-out from Bob

By Bob MacKenzie, former Consortium Manager

I was tickled beyond belief when Ed and Phil asked me to contribute to this special 20-year *Shop Talk* edition. Hard to believe I cranked up the Consortium some 20 years ago!

Whatsup out there in Consortium country! I am humbled by the invitation, and I pray that I'll impart sage wisdom and poetry of imagination to you, the Consortium's distinguished and accomplished facilities and engineering professionals. You see, I AM RETIRED! The only way I could be better is if I were twins! The water's fine out here, so when it comes to your punch-out time, jump-in with both feet and swim like there's no tomorrow, baby!

Many folks have asked me, "So Bob, what are doing now that you've retired?" I respond, "Whatever I want, when I want." That's only partially true, because Anita and I are a team – as is the Consortium – so we kibitz about our desires, do our research, make a plan, and arrive at win-win solutions.

Anita and I are now in our second year of a quest to visit America's national parks. What a joy to "work" on this project. In 2015, we were elated to explore Joshua Tree, Hawai'i Volcanoes, Yosemite, Sequoia, Kings Canyon, Fort Clatsop, Crater Lake, Mt. Rainier, Yellowstone, and Grand Teton National Parks… as well as a number of monuments, refuges, preserves, and state parks, too. What a way to "discover" the true jewels of America. We'll continue to complete a 55-strong list of target parks until our "youthful" bodies grow tired…like, on the 12th of Never!

At home in Tumwater we enjoy spending time with Athena, Anita's "bodycat," tending our mature garden and plants, doing chores around the house, volunteering, exploring our Pacific Northwest on day trips, enjoying photography, shooting, singing and playing guitar, and helping our neighbors. Our days are kind of filled, you know what I mean?

I am gratified the Consortium is healthy and firmly ingrained in member solutions. Here are a few components I've singled out for mention.

Bob MacKenzie, back in the day...

- **ENERGY STAR® Portfolio Manager Energy Reports:** Consortium staff members collect a member's energy bills and information, enter it into the ENERGY STAR Portfolio Manager tool, and provide reports on how they are doing with respect to energy consumption and operational tempo. Several large state agencies and a few school districts have asked for enhanced services along these lines (see page 6 for the full

*See **Shout-out** on page 14*

March 1997
POS hosts first videoconference.

April 1997
POS signed into Washington state law by Governor Gary Locke.

To Compost or Digest? – Considerations for Onsite Management of Organic Materials

By Jim Jensen, Senior Bioenergy and Alternative Fuel Specialist, WSU Energy Program

"Reduce – Reuse – Recycle" remains the motto for organics management. Recycling organic waste materials, such as food scraps from kitchens and dining halls, or landscaping debris, leaves, and wood chips from grounds maintenance, can substantially reduce a facility's costs for solid waste management. But we only want to recycle those organics that cannot be put to other uses.

To reduce the amount of food scraps generated, we can change some of our purchasing practices and support food recovery programs that divert usable food to food for hungry people or animals. In landscaping, designing for waste reduction can mean choosing plants that are well suited to specific areas. Reusing fallen leaves or wood chips as mulches can improve soils, save moisture, and reduce your collection bill at the same time.

Some cities and commercial recycling haulers have established programs to collect "green wastes" for composting at centralized facilities. These collection programs pick up yard and garden materials and sometimes pre-consumer and/or post-consumer food scraps for less money than it costs to treat such materials as garbage.

Recycling organic waste materials on site may offer significant cost savings and other benefits. Schools, prisons, office complexes, campgrounds, and resorts are among the many successful on-site organics management projects happening right now in Washington.

Facility managers have two methods for managing the decomposition and conversion of organic materials into valuable products:

- Composting is the aerobic choice. As the name suggests, composting is accomplished with air – lots of air – and moisture. The air (oxygen) is typically provided by mixing or turning the materials, or with blowers that push or pull air through static piles of decomposing materials. Composting works best with a mix of high-nitrogen and high-carbon materials and a sizable portion of coarse materials (wood chips, straw, landscaping debris, shredded cardboard, etc.) that lets air move through.

The Washington Department of Corrections has invested in composting systems at some facilities, including this drum-style rotating Envirotech composter located in Littlerock, WA. Photo: Dept. of Corrections.

*See **Compost or Digest** on page 9*

May 1998
First Canadian member joins the Consortium (Ministry of Attorney General).

Spring 1998
POS launches custodial assessment program.

Exploring the Concept of "Clean"

Custodial workers are in the business of health, not appearance

By Sue Brown, Consortium Staff

It sounds simple. "Clean" is defined as "an environmental condition free of unwanted matter," which goes back to the early Egyptians, Greeks, and Romans. The early Egyptians practiced sanitation by collecting rain water and engineering systems for the disposal of sewage. Egyptian laws regulated the cleanliness of dwellings, cities, and individuals. The end of the Roman Empire threw the world into the Dark Ages, followed by a decline in health, cleanliness, sanitation, and the infrastructure of civilizations to prevent illness. Disease was prevalent, and bad sanitation was the contributing factor in the spread of disease. The Black Death, caused by a bacterium carried by fleas, killed one-fourth of the earth's population.

Sue Brown checks out a new no-touch cleaning system.

During the Renaissance, the invention of the printing press made it possible to convey new ideas to those who could read. The invention of the microscope led to the discovery of pathogens. Scientific examination of what caused the spread of infection led to the development of public hygiene and sanitary engineering (such as the flush toilet). Regulations to control the sanitation of the indoor environment (such as separating the drinkable water supply from the disposal of human waste) also protected human health.

Today, we take disease control for granted in most parts of the world. We have not lived in a time when disease could sweep through a family, a city, or a country and leave millions dead in its wake. However, there are still six million people in Africa without sanitary waste disposal systems.

It is important that we understand the history of disease and the events that led to the quality of life we enjoy in the United States. It is also important to understand that we must be vigilant to prevent these diseases from returning. Cleaning, disinfecting, and removing unwanted matter from the indoor – or "built" – environment are critical in maintaining and improving our quality of health and life.

Custodial Services are Crucial to Maintain Healthy Conditions

A custodial services operation can be extremely challenging. It requires an understanding of facility furnishings and fixtures, and knowledge of cleaning chemicals and appropriate maintenance procedures and techniques.

Every custodial services program receives occasional customer complaints and requests for

*See **Concept** on page 15*

Fall 1998
POS opens doors to local colleges to provide opportunities for student internships.

Winter 1999
Members focus attention on Y2K issues.

Portfolio Manager Support: Telling Your Energy Story Just Got Easier

By Phil Partington, Consortium Staff

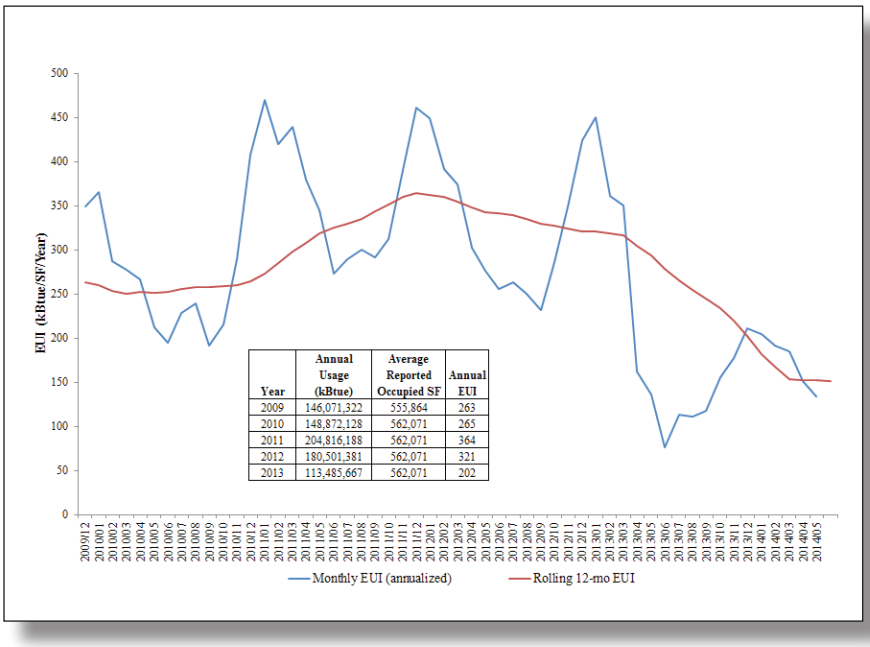
Is your facility using more or less energy than a year ago? How does your energy use compare to similar facilities? If you can't answer those questions quickly and accurately, you need to use the Environmental Protection Agency's (EPA) ENERGY STAR Portfolio Manager. Your Plant Operations Support Consortium can help.

Portfolio Manager is a free, web-based tool that allows you to store your energy consumption data in one place and generate basic reports. Consortium expertise now includes making this tool work for our members.

Consortium staff are ready and eager to assist in setting up your Portfolio Manager account, working with utilities to streamline data input (which means no manual inputting required), and even providing quality assurance down the road to ensure the data from the utilities remains accurate. In addition, the Consortium has taken Portfolio Manager's report-generating tools a step further and created more in-depth tools that will better tell the facility's energy story.

So, as energy bills keep climbing, it is time to measure and manage your energy consumption. Let the Consortium and Portfolio Manager help.

Depending on the level of assistance you need, Portfolio Manager support service might be covered under your current membership fees. If not, we can work with you to create a minimum fee-for-service agreement. Contact *plantops@energy.wsu.edu* or call 360-956-2055 to learn more.



Year	Annual Usage (kBtue)	Average Reported Occupied SF	Annual EUI
2009	146,071,322	555,864	263
2010	148,872,128	562,071	265
2011	204,816,188	562,071	364
2012	180,501,381	562,071	321
2013	113,485,667	562,071	202

The RED line shows that annual energy use intensity (EUI) was down in 2010, trended up in 2011, and has been trending down again since 2012. The BLUE line illustrates monthly EUI and the seasonal effect that climate has on energy consumption. This is one example of how the Consortium can help make your data work for you.

Fall 2000
POS premiers project management process for member school district.

September 2001
September 11th terrorist attacks change every members' approach to security.

A Reflection of 20 Years and a Peek into the FM Crystal Ball

By Cynthia Putnam, Northwest Energy Efficiency Council

Congratulations to the Consortium on its 20th Anniversary. I've been very pleased to be part of such an active and engaging community of facility and energy efficiency professionals through our work at the Northwest Energy Efficiency Council and the Building Operator Certification (BOC) program.

Anniversaries typically prompt reflection on changes and growth over time, which led to a recent discussion with Consortium staff about how much has changed for the facilities manager (FM) over the past 20 years, as well as how they might be impacted in the next 20 years.

What have been the biggest changes over the past 20 years?

This question makes me feel like an old timer, but I guess that's the case if I've been working in the profession long enough to give a reasonable answer. Of course, 20 years is a long time during which I've seen many changes, but three big ones stand out for me:

1. The increasing professionalization of FM
2. The demand for new skills for today's FM
3. The increased importance of energy efficient and sustainable building operations

The FM occupation requires an increasingly broader set of skills and experience beyond basic building maintenance, repair, and operation. In 2010, the Obama Administration enacted the Federal Buildings Personnel Training Act (FBPTA) (PL 111-308), which established competency requirements for personnel managing the federal government's sizable facilities infrastructure. The Act is administered by General Services Administration (GSA) with support from the U.S. Department of Energy, and federal personnel are required to demonstrate competency in their performance areas.

GSA is the single largest owner and manager of building properties in the country and has been in the forefront of best practices in FM. I think the competencies under the FBPTA reflect this broader set of knowledge, skills, and abilities necessary to effectively manage and operate commercial and institutional buildings. These competencies include:

- Strategic planning
- Technology
- Energy efficiency and sustainability
- Human factors
- Innovation

Specific examples come to mind: Can you develop a coherent business case for a facilities upgrade project? Can your department show how its work supports the mission of the organization (such as improving the classroom learning environment for school children or creating a productive office environment for the desk worker)? Are you tracking energy performance of the building to manage utility costs – electricity, water, and waste?

While FBPTA currently applies to federal personnel only, I think many other organizations will look to these competencies as a standard for ensuring their own personnel are meeting the competencies of the profession.

*See **Crystal Ball** on page 11*

October 2003
POS receivers Council of State Governments Innovation Award for Tri-Phase Initiative.

Fall 2004
Peninsula School District becomes the first to use JOC program through POS.

WSU Energy Program Also Celebrates 20 Years

By Melinda Spencer, WSU Energy Program

In addition to celebrating 20 years of the Plant Operations Support Consortium, this summer marks the 20th year of the Washington State University Energy Program. That's right; while the two programs operated separately until 2007, their beginnings occurred simultaneously in the mid 1990s.

The WSU Energy Program, the parent organization of the Consortium, is located in Olympia, Washington, with satellite offices in other parts of the state. With energy engineers, technical experts, software developers, and energy research librarians, Energy Program staff partner with a wide range of organizations to identify energy challenges and develop solutions based on world-class research.

WSU Energy Program History

The 1970s energy crisis was the impetus for the formation of the interim Washington State Energy Office, a precursor to the WSU Energy Program. Then-Governor Daniel J. Evans established the WSEO by executive order in 1975.

The state established the new agency to coordinate energy-related policies and programs, gather energy supply data, and forecast energy use. The WSEO was also tasked with coordinating with federal energy agencies, helping to establish a citizen-based advisory committee on state energy policy, and developing contingency plans for dealing with energy shortages. The executive order transferred to the new office energy-related functions of the state departments of Emergency Services and General Administration.

In 1976, the WSEO was codified and its duties expanded to include "energy education, applied research, technology transfer, and energy efficiency in public buildings."

In 1981, the state legislature broadened and clarified the agency's scope again to include the Energy Policy Group.

Over the next few years, the legislature would add to the WSEO's responsibilities staff support for the Energy Facility Site Evaluation Council, the Washington Energy Strategy project, the Energy Partnerships program, and the Commuter Trip Reduction program.

At its peak in 1993, 179 full-time employees worked for the WSEO. Most of the Energy Office's funding came from sources other than the state's General Fund, including the Bonneville Power Administration and the U.S. Department of Energy. For the fiscal year beginning July 1, 1995, state funds accounted for just three percent of the WSEO's $17 million budget.

In 1994, faced with a recession, instability in federal funding, and a state

*See **Energy Program** on page 16*

Fall 2004
Mount Saint Michael's becomes the first nonprofit member of the Consortium.

Spring 2005
POS partners with GA Energy Team to host first Energy/Facilities Connections Conference.

Compost or Digest

Continued from page 4

- Anaerobic digestion systems can be scaled for on-site waste management. Anaerobic digesters process organic materials without oxygen. Different types of bacteria break down the materials and product methane-rich biogas, which can be used as a low- to medium-BTU form of natural gas. Anaerobic digesters are more commonly used at wastewater treatment plants and livestock farms.
- Anaerobic digester systems are available that can process high-solids materials that could include yard and garden materials, or more liquid wastes, such as food scraps and manures.
- Besides biogas, the end products of anaerobic digesters still contain valuable plant nutrients and may be used as fertilizers. Composting after digestion is sometimes used to make the digester products more usable.

This trailered anaerobic digester is sized for a small facility with food waste. It has been named HORSE for "High-solids Organic waste Recycling System with Electrical output." Photo: Impact Bioenergy

Facilities that are better suited to exploring these options have:

- Large volumes of a variety of organic waste materials, including food scraps, wood chips or leaves, and possibly manures.
- Available space outdoors for on-site processing.
- Potential on-site uses for the products generated by the digester or composting system.
- Champions in the organization at operations and management levels.

For additional information, contact Jim Jensen, Senior Bioenergy and Alternative Fuel Specialist, WSU Energy Program, at 360-956-2083, or email jensenj@energy.wsu.edu

Winter 2006
POS celebrates 10 years of service.

Summer 2007
Consortium moves to WSU Energy Program to start the GA-WSUEP Partnership.

20 Years

Continued from page 1

members' efforts. When focus turned to facility energy conservation, the program partnered with the WSU Energy Program to enhance the depth of expertise for both clienteles.

But that's only about half the story of how the Consortium has continued to thrive for 20

years. The other half is because of you, the Consortium's wonderful members. The innovation and appetite for excellence of Consortium members are the backbone of the program, and for that we can't thank you enough. There's a reason we call this a facilities "family." To quote former, long-time member Jim McCain, currently the owner and operator of South Salem General Repair Automotive, "We're all in this together."

The POS logos over the years: Page 1: Original 1996, then the wrench in the late 1990s; got colorful during 2000-2005. This page: 2005-2010; after joining WSU Energy Program in 2010. The wrench lives on!

How has the facilities world changed in the last 20 years?

It really wasn't all that long ago when the technological revolution changed everything: when Al Gore first claimed to have invented the Internet, when cell phones finally became small enough to fit into a standard purse, when home computers still had less tech in them than some modern-day wrist watches, and when Facebook might have been mistaken for a book of mug shots.

Looking back at the earliest issues of ***Shop Talk*** provides a glimpse into that world and time. For instance:

- A 1996 issue featured a guide on how to use an Internet search engine properly and listed the more popular search engines. There was also an introduction on how URLs (website addresses) worked. This was a big deal at the time, but has now become second nature to most folks.

> **"We're all in this together."**
>
> **Jim McCain**
> Owner and Operator
> South Salem General Repair
> Automotive
> Salem, Oregon

- An issue from 2000 introduces the brilliance of digital cameras and how facility workers can "harness the power of this great new technology without spending a fortune on computer equipment and advanced networks to support it." These days, digital cameras that are far more powerful are so commonplace they come with most standard smart phones.

Perhaps the biggest difference for facilities professionals

*See **20 years** on page 12*

December 2007
Storms cause mass flooding in western Washington that triggers immediate need for support of member emergency operations.

March 2010
POS officially joins WSU Energy Program. The new RCW was signed into law by Governor Christine Gregoire.

Crystal Ball

Continued from page 7

More information on this can be found at *https://www.fmi.gov/*. The good news for Consortium members who hold the BOC® certification is that the BOC curriculum is aligned with many of the FBPTA competencies.

What are your predictions for the profession?

I'll answer this question in two ways: first, what I predict, and second, what I wish for.

On the prediction side, there are three biggies – technology, data-driven decisions, and occupant engagement. We'll always have a mix of old and new buildings in our portfolios, but technology improvements will actively drive change in both. Our buildings have already become heavily automated. Many companies control operations remotely using building automation screens to assess real-time operation and respond to complaints. Building operators are using mobile devices to document maintenance and the status of work orders.

With this technology comes the ability to collect and analyze data for decision making – be it planning and scheduling maintenance, trend analysis, and using building diagnostic tools such loggers to verify controls and operation (*http://www.smartbuildingscenter.org/tool-library/*).

We're even seeing technology extend to occupants and tenants through the use of virtual dashboards that report the status of building performance, such as energy and water use; communicate building policies and schedules; and deliver news and updates on work orders. We've known intuitively that building occupants can have a big impact on how our buildings perform, whether it is occupancy schedules, waste sorting, safety and security, or energy and resource efficiency. However, now we're seeing studies that give us the actual data – and it can be significant.

The New Buildings Institute (*www.newbuildings.org*) found that occupant behavior has potentially large impacts on plug load and HVAC energy consumption. As we learn more about occupant impacts, I predict we'll see more attention given to engaging them in meeting our building performance goals.

With that said, here is my wish list for the FM profession in the next 20 years:

- The FM department gets to be in charge of reinvesting the dollars they save on utility costs.
- FM personnel use building diagnostic tools, such as data loggers, to verify schedules and equipment operation, and to make decisions based on real-time data.
- FM is better understood by people entering the job market, and looked upon as the noble profession it is: important work that requires a diverse set of technology and people skills while offering great opportunities for career growth.

Now is the time to prepare for the future of facilities and leverage the tools out there that are available to assist.

Cynthia Putnam is the Principal and co-founder of the Putnam Price Group. She also serves as the project director of the national Building Operator Certification (BOC®) program for the Northwest Energy Efficiency Council. Contact Cynthia at 206-292-3977 or email cynthia@putnamprice.com.

June 2011
Consortium leads 11 Washington wastewater and water treatment plants in a year-long energy and sustainbility training cohort.

July 2011
Consortium supports public agencies with energy benchmarking efforts.

20 Years

Continued from page 10

between today and the 1990s is the result of this rapid advancement in technology – especially the ability to work and control systems remotely. Workers no longer need to be in the office most of the time if they have a smart phone in their pocket. While this means less paper is being wasted, it also poses a lot of new challenges.

For instance, facilities managers must involve more individuals and groups in their processes than ever before. They must be able to justify more of what they do to a wider audience more often and more consistently. This means they must have good communication skills and more technical skills, and have processes in place that address how those affected by changes to the process ought to be engaged. It can be exhausting to think about all the ways our actions on the job affect others.

A member recently asked us what "thing" he should focus on that government will want to see more of in the coming years. Our answer was data. Record as much as you can when it makes sense and learn how to use that data to tell your story. Right now, energy consumption data is in the spotlight, but the emphasis on collecting other types of building and budget data is growing. This is all driven by the continuing advancement of technology, and that growth is not going away anytime soon.

Facilities professionals chime in: how have facilities changed in the last 20 years?

- **Gus Nyquist, Highline College:** "One challenge we face is that new tech comes at us so quickly that it can be hard knowing which of it is worth investing in. Sometimes new is not better, and we have to assess cost vs. practical gains."

- **Jack Connell, Renton School District:** "As much as things have changed, many things haven't. For example, 20 years ago, some of the biggest challenges school districts faced were projecting what our future needs might be past one or two years, and keeping all the players on the same page during design and construction phases. We all look good or bad together, in other words, so we might as well work together as a team, communicate with one another, and not allow disagreements to fester and become contentious. While technology has changed how we do some things, people remain the same in many ways and effective collaboration is still essential to a strong facilities team."

"... 20 years ago, some of the biggest challenges school districts faced were projecting what our future needs might be past one or two years..."

Jack Connell
Renton School District
Renton, Washington

*See **20 years** on page 13*

Summer 2011
Manager Bob MacKenzie retires; Consortium welcomes Edwin Valbert as new manager.

January 2012
POS negotiates the right for all Washington state agencies to use the FICAP (Facilities Integrated Assessment Program) tool.

20 Years

Continued from page 12

- **Terry Groh, Educational Service District 101:**
"It used to be that carbon paper and typewriters were essential clerical tools, and terrycloth towels and bleach were the clean standard. Work order requests were handwritten and T-12 fluorescent lights were everywhere. Vehicle backup alarms were an innovative thing. If you had a floppy disc, you were cool. And smoking was acceptable in many public buildings.

"Now, one of the biggest challenges we face is learning a facilities management software application before it goes obsolete. Everything is stored and sent electronically. High-efficiency LEDs are replacing T8s to help us drive down our energy consumption. Multiple new regulatory agencies are imposing compliance laws; generally, these are unfunded mandates that we must figure out how to comply with and incorporate into our buildings.

"One of the newest tools in our trade is our ability to network quickly. The Consortium is key to that. I have been a member of the Consortium for the past 15 years, perhaps longer. It's great knowing that one phone call or email to them results in a plan or idea that helps resolve the challenges we all face."

Award Winners

Continued from page 2

Maintenance staff were stretched as they tried to meet their commitment to respond to room temperature concerns within 48 hours; as a result, they had to delay plumbing work and preventive maintenance, which then caused other headaches. At one point, the number of open work orders in the Mechanical Shop exceeded 1,000.

To receive more actionable information and reduce the number of work orders about temperatures that already met the setpoint standard, staff created the Room Temperature Reporting Log, where they record the date, time, room number, person reporting the concern, and measured room temperature. Custodial teams throughout the District use the same log and follow the same procedures for reporting temperature issues. They invited all school administrators to an introduction to the new procedure, and provided training to front office staff at the Maintenance Department to ensure that the procedure was followed.

After following this procedure for 18 months, work orders for room temperature concerns that are within the setpoint standard dropped to nearly zero. The number of open work orders has dropped dramatically, as has errant dispatching of technicians, who are now freed up to fix actual problems.

The Consortium congratulates Mr. Weide for championing a long-term solution that ensures the comfort and productivity of all school staff.

May 2014
Consortium celebrates 10 years of hosting the Annual Energy/Facilities Connection Conference.

July 2015
POS supports OSPI and Legislature in massive data acquisition efforts for K-12 school buildings.

Shout-out

Continued from page 3

scoop). Too cool!

- **Facility Condition Assessments:** Consortium staff members have been doing more support and direct building assessments with members to get a handle on the current condition of their facilities. You can't move forward if you don't know where you are, right? This stellar work has led to the program's first legislatively funded work, which involves completing building condition assessments for school buildings around the state. Again, cool stuff.

- **Custodial Assessments:** Sue Brown, the Consortium's Custodial Coordinator, is busier than ever, completing custodial assessments at schools and community colleges. She's a winner, to be sure.

- **Equipment Exchanges:** These continue to be a visible part of the program. This component exemplifies the "cooperate and graduate" strategy and member willingness to help others. Plus, it's just good business and saves Mama Earth. Again, much coolness.

The EFC Conference was 12 years old this past May and y'all gathered in Leavenworth again. Anita and I would have loved to join you, but Colorado parks called for in-depth exploration that month!

Applying for and receiving grants has become a larger part of the funding stream, as the Consortium staff combine the Plant Operation's family talents and membership to leverage the development of new solutions and distribute those solutions to a broader audience. Nifty!

Finally, the integration of the Consortium into the larger WSU Energy Program continues. The ability of Consortium staff to contribute to other strong programs in the WSU Energy Program and assist other WSU Energy Program professionals adds value to the Consortium and creates what in the military we termed "combat multipliers," or in civilian terms… synergies.

Shop Talk's 10th anniversary issue

These are signs of a healthy, vibrant, and responsive Consortium. Well done, friends! We wish you blessings and joy in 2016. One last note, please pray for our nation's warriors serving on vigilant watch, even as we enjoy the bounties of their selfless service. Thanks for all you do for our respective taxpayers and your appreciative organizations! See you on the trail…!

— Bob

July 2016
Shop Talk celebrates 20 years of service.

August 2016 and Beyond...
POS looks forward to more years of service to the State of Washington.

Concept

Continued from page 5

more service. It is the nature of custodial work that tasks are sometimes missed and unanticipated problems arise. To minimize these issues, it is important to maximize employees' capabilities by carefully managing custodial activities to ensure that resources are directed to the areas that are most appropriate for the organization.

Cleaning for Health

We cannot see them without magnification, but pathogenic microorganisms in the built environment, if unchecked, can transmit dangerous and deadly disease from human to human. With so many people regularly using buildings, disease transmission could cause an epidemic.

Cleaning workers don't just maintain appearances; they are in the health business, responsible for preventing the spread of infectious diseases. Custodians are also an employee group at risk from exposure to blood-borne pathogens and hazardous chemicals. As such, they are vulnerable to physical harm. Their health and safety, as well as the health and safety of the building occupants, must remain the highest priorities in custodial operations. This requires closely monitoring custodial operations and training employees to ensure workplace safety and compliance with Washington state laws.

> **"We cannot see them without magnification, but pathogenic microorganisms in the built environment, if unchecked, can transmit dangerous and deadly disease from human to human."**
>
> **Sue Brown**

Most people spend more than 90% of their time indoors. Managing the indoor environment means we have to know about the health issues in the indoor environment. Our customers – the building users – obtain a very real benefit when those who manage the facilities emphasize health and protect it through cleaning. The value of the health benefit increases the value of the service.

Custodial Assessment/ Support Opportunities

WSU's Plant Operations Support Consortium offers expert guidance to help you build an effective custodial team, with specialized training and strategies designed to support your staffing and budget decisions.

Our custodial assessments help facilities managers determine if their custodial operations are effective. Do the custodians use the best processes in the industry so they can perform their work efficiently? Are they working in a manner that safely and thoroughly removes pathogens, allergens, and other substances that can damage human health from the facilities? Are these materials disposed of properly?

For more information on how the Consortium can help enhance your custodial operations, contact *plantops@energy.wsu.edu*, call Sue at 360-956-2058, or check out the custodial services fact sheet online, *www.energy.wsu.edu/Documents/POSC_Custodial%20Support_FINAL_Aug28_2012.pdf*.

The 2017 Energy/Facilities Connections Conference will be May 2-4, 2017.

See you there!

Consortium Members

K-12 Schools
Bridgeport
Camas
Central Kitsap
Centralia
Chilliwack, BC
Delta, BC
Enumclaw
ESD 101
ESD 121
Eton School
Federal Way
Forest Ridge School of the Sacred Heart
Highline
Inchelium
Mount Vernon
North Thurston
Odessa
Olympia
Orcas Island
Orondo
Pateros
Portland Public Schools, OR
Reardan-Edwall
Selkirk
Shoreline
Wenatchee
Wishkah Valley

Universities and Colleges
Bates Technical College
Big Bend Community College
Clark College
Clover Park Technical College
Columbia Basin College
Community Colleges of Spokane
Everett Community College
Highline Community College
Lake Washington Institute of Technology
Olympic College
Peninsula College
Pierce College
South Puget Sound Community College
Tacoma Community College
The Evergreen State College
Washington State University Energy Program
Wenatchee Valley College

Municipalities
City of Longview
City of Tumwater
Clark County
Jefferson County
Lakehaven Utility District
Pierce County Library System
Sound Transit
Thurston County
Whatcom County

Miscellaneous
Hopelink
Meydenbauer Center
Multicare System

Washington State Agencies
Corrections
Early Learning
Ecology
Employment Security
Enterprise Services
Fish & Wildlife
Health
Licensing
Military
Natural Resources
Parks & Recreation
School for the Blind
Social & Health Services
State Patrol
Transportation
Veterans Affairs

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

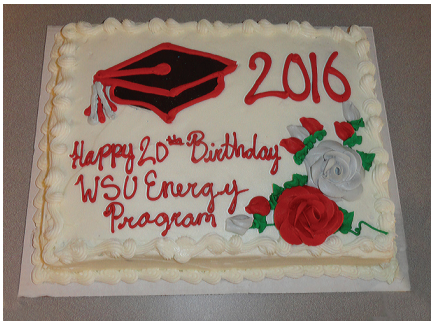
Energy Program

Continued from page 8

budget nearly $2 billion in the red, then-Governor Mike Lowry cut two-thirds of the WSEO's jobs. The following year, the state legislature passed a bill that redistributed WSEO functions to other state agencies.

In June 1996, the office closed, but that did not stop the energy movement in Washington. On July 1, 1996, the WSU Energy Program was born.

As part of the College of Agricultural, Human, and Natural Resource Sciences, the WSU Energy Program helps fulfill the WSU Extension land



grant mission of technology transfer.

Program areas include:

- Building, industrial, and agricultural efficiency
- Clean fuels and alternative energy
- Research and evaluation
- Computer services

To meet customer needs, energy experts in each of our program areas develop and deliver:

- Classroom and hands-on training
- Technical assistance based on site assessments
- Sophisticated analytical tools
- In-depth research to establish best practices and influence public policy

Check out the website – **www.energy.wsu.edu** – for more information about the Washington State University Energy Program.