Portland and Walla Walla districts partner on maintenance and repairs to eight navigation locks
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Cover photo: Crews at The Dalles Lock and Dam use scaffolding to traverse the massive downstream gate as they make critical repairs and perform inspections on the dewatered lock. Composite Photo by Karim Delgado, Public Affairs Office.
Teammates, families, retirees and friends of NWP:

Our District birthday is upon us! We hope to see you at the Ball on April 20. As I review our history in preparation for this momentous event, I am reminded of the differences and similarities between our beginnings and now.

When Maj. Henry M. Robert stepped off a ship and onto the banks of the Willamette River 146 years ago, he was given the mission to improve navigation for the region. He came here under direct authority from Congress via the Chief of Engineers. His staff consisted of one clerk, whom he hired upon arrival. The District infrastructure was non-existent, unless we count a rented office about one quarter the size of my office. With alacrity, acumen and assiduousness, Robert quickly went about his charge conducting reconnaissance and recommending projects to Congress. Two years later, he reported improvements to the Lower Willamette River and the Willamette River above Oregon City. The team of two also conducted improvements to the upper Columbia River, which according to Robert’s report, included, “removal of rock in the John Day, Devil’s Bend and Umatilla Rapids of this river.” Robert’s report concluded with a “Survey of Saint Helen’s Bar.”

I enjoyed reading and admire how Robert submitted his report to Congress through the Chief of Engineers: “Herewith I have the honor to submit the reports on the several works of survey and river improvement under my direction during the fiscal year ending June 30th, 1873.”

Our authorities have morphed but we are still executing a mission given to us by Congress through our administration. We are now more than 1,300 strong with almost a quarter of the Corps of Engineers’ infrastructure and several other business lines beyond navigation. We recently completed construction repairs to Jetty A, the smallest of the three jetties at the Mouth of the Columbia River jetty system. We also finished scheduled maintenance to all three navigation locks on the Columbia River ahead of schedule, despite severe weather challenges. Our Operations Division continues to conduct routine operations while investing in our infrastructure. Engineering and Construction is the backbone of our technical expertise, supports all efforts across the District and assists friends across the Corps enterprise as well as several of our federal partners. The Hydroelectric Design Center also supports not only our hydropower endeavors, but 15 other districts and the Bureau of Reclamation, as well. The Planning, Programs and Project Management Division continues to ensure we execute our program while planning for the future. Finally, Support Division is the enabling team ensuring every mission is properly supported. It is such an honor and amazing experience to be a part of an organization with such dedicated professionals working together to strengthen our security, promote economic growth and enhance environmental sustainability for the Pacific Northwest. And as an effort to keep you informed about uncertainty during the hiring freeze, let me give you an update. So far, we’ve put a lot of effort into submitting waivers so we can continue to hire quality professionals, such as yourselves. And we’ve been successful. We’ve been granted waivers for more than 190 positions out of around 200 submissions because we continue to tell our story and headquarters has listened.

I often share war stories with you. Allow me to share one more. In June of 2004, as I waited to speak with my future boss, the commander of the 1st Engineer Battalion, I quickly found myself asking, “Am I worthy to be part of such an awesome organization?” In front of me were leather bound books chronicling the Battalion’s storied history with photos from the Civil War, World War I, World War II, Vietnam and Desert Storm. It is the same feeling I had when I entered the Portland District after studying our rich history. This question motivates me every day to add to the District’s reputation.

There are many differences between 1871 and 2017. But what remains the same is the dedication of our people and the selfless service we provide to the region. Then and now, our collective actions provide a better standard of living to our fellow citizens. Let us not forget the contributions of our District forefathers who are the giants whose broad shoulders we stand on. This is not a job but a profession, a passion of love for our fellow man and dedication to our great nation. If we all commit ourselves to this noble endeavor, one day our children’s children will look back and thank us for our selfless service to our nation and our fellow Americans. But more importantly, the history we will have created together, will motivate future generations to add to the reputation of our storied District.

Competence follows Character.

Col. Jose Aguilar

61st Colonel of the District
Portland, Walla Walla districts conduct joint navigation lock outage for major repairs, inspections

By Karim Delgado, Public Affairs Office

Portland and Walla Walla districts recently completed their second coordinated extended outage of all Corps-managed navigation locks within the Columbia-Snake River System to perform major repairs, maintenance and improvements.

The 14-week extended outage took place from Dec. 12 to March 20 and finished early or on-schedule for seven of the eight impacted locks and dams despite an extraordinarily cold and snowy winter. The re-opening of the lock at Walla Walla District’s Little Goose Lock and Dam, located on the Snake River in Washington state, was delayed until April 10 due to weather and mechanical problems.

While two-week closures for routine maintenance are conducted every year, additional extended outages are needed on occasion to maintain the long-term safety and viability of the locks, several of which have served the region for more than 60 years. Extended outages provide the opportunity to perform major non-routine repairs and improvements that cannot be completed within the shorter closures.

Because the region’s economy depends on the more than $20 billion of commerce passing through the river system each year, extended outages are comprehensively planned out in advance to limit their impact to commercial river users, according to Jeff Ament, Portland District’s project manager for this year’s extended outage. Portland and Walla Walla districts’ extended outages are unique in the Corps because they are planned and conducted together to reduce such impacts. While the partnership between the two districts greatly increases the complexity of the effort, Ament explained the benefit to river users is worth it.

The Columbia-Snake River System supports more than 49 million tons of international trade, as well as more than 40,000 local jobs connected to trade, according to the Pacific Northwest Waterways Association.

“If we worked on one lock every year, the river system would be shut down for 14 weeks every year. The economic impact that kind of shutdown would have on river users...
A new 110.5-ton upstream gate is lowered into its final position at the navigation lock at The Dalles Lock and Dam on Jan. 31. The gate replacement was the largest construction activity during the 2016-2017 Navigation Lock Extended Outage. Media and stakeholders were invited to see the gate as it was lowered into place.

would be terrible,” Ament said. “So we met up with them to come up with a better way.”

The result of those meetings was a comprehensive plan to conduct inter-district extended outages throughout the river system every five to seven years. The first such coordinated effort took place in the winter of 2010-2011.

For both the 2010-2011 and 2016-2017 extended outages, the districts co-hosted weekly public status meetings to update river users. Those affected were also invited to visit the locks to see the work being performed during the outage.

Ament credited the Pacific Northwest Waterways Association for its role in amplifying awareness of the extended outage to its members. PNWA's prominence as a non-profit trade association of regional ports and river users made it an indispensable partner during both planning and execution of the closures, according to Ament. Kristin Meira, PNWA's executive director, said the Corps’ open lines of communication greatly contributed to the success of both extended outages.

“We’re very grateful to the Corps for keeping their foot on the gas through all the snow and ice,” Meira said of this year’s outage efforts. “The coordinated approach of these two districts means our export gateway is maintained in the most efficient manner possible, with the least impact to the thousands of American jobs connected to shipping on the river.”

The Columbia-Snake River System comprises almost 500 miles of deep draft channel and inland navigation from Portland, Oregon, to Lewiston, Idaho. It is the top wheat-export gateway in the nation and plays a major role in ensuring that farmers and manufacturers have the ability to economically export their goods into the competitive international marketplace by barge, according to PNWA.

Barging remains the most fuel-efficient and safest method of moving cargo, according to a 2009 study by the U.S. Maritime Administration. It takes 538 semitractor-trailers to transport the equivalent load of a four-barge tow. Additionally, barging is credited with fewer injuries and fatalities than both rail and truck transport. For one inland

barge transport injury there are 2,171 road transport and 125 rail transport injuries.

Minimizing downtime during the Columbia-Snake River System navigation lock outage and maintaining the locks’ operational abilities ensures the safe and reliable flow of river traffic continues for the people and economy of the Pacific Northwest.
Unrelenting, continuous rains and snow-melt brought western rivers to near-flood or flood stages, including the Columbia and Willamette rivers. The U.S. Army Corps of Engineers and its partners have been managing the incoming water to reduce flood risks and providing support to local and state flood-fight efforts when local resources are exhausted. Those efforts began, in earnest, March 24.

The dreary and wet weekend saw the Portland District and its partner, the Multnomah County Drainage District, conducting levee patrols due to the high water on the Columbia River. The teams were looking for areas of concern including levee slides, unusual seepage, boils on the landward side of the levee or ponding.

“County partners requested assistance through the state, which then requested our help,” said Paul Jewell, Portland District flood control and coastal emergency program manager. “Our flood team, a group of 21 dedicated and enthusiastic volunteers are providing support.” “Right now, we’re in a mode of watchful caution and hope to stay that way.”

One area of concern was a piece of a levee that was sloughing. Sloughing happens when soil becomes unstable and slides downward. This occurs because the weight of the soil exceeds its ability for cohesion.

Although sloughing is a concern, this piece of the levee was not in imminent danger of failing according to Jason McBain, Portland District levee safety manager.

“The current high water certainly demands extra attention to be paid to the levee – which is happening – but for now the levee is stable,” McBain continued. “There were no surprises during the monitoring inspections over the weekend.”

Flooding in some areas is a concern, but water levels are currently more than 10 feet below the Flood of 1996, which saw water overlapping the banks of the Willamette and Columbia rivers in multiple areas. During that flood, those overlapping areas typically didn’t have flood damage reduction structures like levees or berms.

The Corps uses the run-off forecasts produced by the National Weather Service Northwest River Forecast Center to help determine the amount of space needed in its flood storage reservoirs. Year-round monitoring of these forecasts helps the Corps make the timeliest decisions possible to reduce flood risks.
Masked-faced onlookers peeped through their blacked out protective viewers, as sparks flew across a table and the smell of burnt metal filled the room. The onlookers, part of a week-long welding course, were watching their instructor demonstrate proper welding techniques at the Far East District’s Welding Quality Verification course, March 13-17, 2017.

The course, available to engineers and welders, teaches the participants how to interpret the various methods and techniques employed in weldments and how to assure weld quality. Christopher Manley, a Portland District structural engineer and course instructor, describes the course as a key component to quality control.

“It provides the class a method of how to provide QAQC (Quality Assurance Quality Control), understand welding processes, the welding quality verification, how welding is done, and what they need to look for in vertical construction,” said Manley.

Although the course is focused on welding, Manley feels that the course is necessary for engineers to attend.

“It’s (welding) abstract to the engineers, said Manley. “It (the course) allows the engineers to come into the classroom setting, learn about how it’s done, how its fabricated, what to look for and a good understanding of what the contractors are going to be doing.”

Manley makes it a point that welders should attend the course, even though it’s their trade.

He said that a lot of the welders know their trade but don’t understand why there are so many rules. He added that the course gives them an understanding of why we have all of these strict rules, and why we must assume QAQC roles.

John Pariseau, a quality assurance team lead with the Welding and Metallurgy Technical Center of Expertise (TCX), has been a course instructor since 2012. He believes that this course sheds light on detailed issues that can be prevented if the QAQC is more knowledgeable and knows what faults can occur.

“Steel is unlike other welding materials, once it fractures it can cause catastrophic failures,” said Pariseau. “Welding is an individual effort. Each weld is created custom by an individual welder. That’s great for the welder but it causes a large range of defects that can occur because it’s so customized. So being well educated in the steel and welding world is important for the safety of our buildings.”

Pariseau feels that the sharing of knowledge goes beyond the actual course.

“We’re hoping to give them (the participants) enough knowledge, so if they happen to see something wrong, they have enough resources in the Welding and Metallurgy Technical Center of Expertise,” said Pariseau. “It’s very easy to take a photo of something and email us to ask our opinion. We’re here to serve the Corps as a whole, so it helps everybody else get the project done safely and securely.”

Class participants watch as an instructor performs a welding demonstration as part of the Far East District’s Welding Quality Verification course March 13-17, 2017.
As part of National Engineers Week, Portland District welcomed more than 60 local high school students for a day of real-world engineering experiences.

Lt. Col. Cullen Jones, Portland District deputy commander, kicked-off the day by speaking to the group about the importance of engineering work, and he encouraged the students to take full advantage of the day.

“It is my sincere hope that today will spark an opportunity for you to get that distinct pleasure that comes from mastering STEM (Science, Technology, Engineering, and Math) principles, putting them into practice and devising decisive solutions,” said Jones.

District engineers provided demonstrations in structural, mechanical and electrical engineering. In hands-on sessions, the students constructed cable suspension bridges, generated electricity in a model power grid and operated a spider crane. They were also provided select access to active construction sites. Pocket Patino, a junior at Cleveland High School and aspiring construction engineer, had a deep appreciation for seeing the engineers working on site.

Lt. Col. Jones emphasized the importance of STEM education to the students, “Science, technology, engineering and math careers are the most needed and most highly sought in the United States, and you are critical for us to maintain our economic and technological lead globally.”
Engineering Day provided students with real-world and hands-on experiences. Students operated a spider crane, often used for precision work such as installing windows in commercial buildings.
“Today, I watched a lot of people do their jobs,” said Patino. “I appreciate that, when I can see people that are masters of their craft.”

In addition to the experiential portions of the day, students were introduced to representatives from a variety of engineering firms at a mini job fair hosted by the Portland Post of the Society of American Military Engineers. Students seized the opportunity to ask questions about educational tracks, professional opportunities and the day-to-day of life of professional engineers.

The day highlighted the many career opportunities provided by a STEM education and the great potential STEM professionals have to shape the world they live in.

“When I look out here, I don’t just see a group of highly motivated high school students on a really cool field trip,” Jones said of the group of students. “I see our replacements,” he continued. “You are the future. And it’s you that are going to go out there and solve the world’s challenges by dreaming big, daring great things and devising the world’s boldest solutions.”
Every year, thousands of cavity-nesting birds become trapped in vertical ventilation pipes, chimneys and other dark, narrow spaces. Cavity-nesting bird species, which include woodpeckers, chickadees, owls, ducks and falcons typically make their homes in dead or rotting tree wood.

A recently dead tree will first be used as home to woodpeckers, known as primary excavators. Woodpeckers chip away at the tree to create a cavity as part of their annual courtship and nesting behavior. As the wood softens and decays, secondary cavity nesters, birds that cannot make their own cavities, move in. The American kestrel, and some species of ducks and owls, are examples of birds that rely on these existing cavities for their nesting and reproductive cycle.

Vault toilets, found on public lands including many Corps recreation locations, have vertical ventilation pipes that mimic the natural cavities preferred by some birds. Unfortunately, these man-made cavities often entrap the birds that nest inside them.

In 2009, an employee of the Audubon Kern River Preserve in California reported finding a fallen irrigation standpipe, 6 inches in diameter and 10 feet long that contained the remains of over 200 dead birds. The ventilation pipes on vault toilets are 12 inches in diameter.

Portland District has installed ventilation screens or caps on our vault toilets to protect the 27 species of cavity-nesting birds that are native to our region. The ventilation screens were purchased from the Teton Raptor Center, located in Jackson Hole, Wyo. The TRC is a nonprofit organization that raised nationwide awareness of this cavity-nesting bird issue with the launch of their Poo-Poo Project. The Corps cares for all of our visitors, including those that have wings and talons.
Deborah Chenoweth
Retired Chief, Operations Division

Debora Chenoweth, a 2009 inductee into the Distinguished Employees Gallery, retired from the Portland District in 2007 as the chief of operations. She began her career three decades earlier as one of the first few female park rangers, and worked her way up to the operations project manager at Bonneville Lock and Dam, becoming the first woman from a non-engineer background to lead a hydropower project.

What advice would you give to another woman in your field?
For anyone, male or female: work with your strengths. You will get out of your career what you put in to it.

What is your vision for women in your field?
I have seen women make great progress in the natural resources field. They further the effort to protect the environment by bringing the ability to collaborate, listen, and multi-task. In most entry and mid-level positions, women are accepted as equals. I hope to see women reach positions of real influence.

Laurie Lane
Paint Crew Supervisor, Bonneville Lock and Dam

During her 39 year career, Laurie Lane has worked in a variety of different fields, many of which were traditionally dominated by men: Resource, Supply Unit, Warehouse and Maintenance Department.

What is one of your proudest accomplishments?
One of my biggest accomplishments was becoming the paint supervisor. I was able to establish and lead a highly motivated paint crew and manage a maintenance schedule for a hydroelectric power plant. I feel my success will be measured after I am gone, when our crew doesn’t miss a beat and they continue to accomplish great things.

What advice would you give to another woman in your field?
Work harder. Prove to others that you can do the work. There is stigma that women can’t perform physical work. But we can, and do, when afforded the opportunity.
Salina Hart
Chief, Reservoir Regulation and Water Quality Section

Salina Hart is the chief of Reservoir Regulation and Water Quality, and her team is responsible for the complex system of dams and reservoirs that provide hydropower generation, fish and wildlife enhancement, navigation, recreation and flood risk management.

What do you find rewarding about your job? What do you find challenging?
What I find rewarding are the challenges. My position involves working with so many variables: people, weather, infrastructure, budgets, etc. I overcome challenges usually by talking them through with the people in my section or elsewhere. I never feel like I have to go at it alone.

What advice would you give to another woman in your field?
Don’t underestimate your abilities! Keep pushing boundaries. Do what makes you feel complete, and don’t let anything or anyone stop you.

Amy Lynn
Hydraulic Engineer, Hydraulics and Hydrology Branch

Amy Lynn is a hydraulic engineer who works on projects ranging from coastal engineering to hydraulics at Portland District’s dams.

What do you find rewarding about your job?
I learn something new every day. It can be challenging to maintain confidence when you are constantly learning, but I have been lucky to find great mentors. The people I work with are a huge part of why I love my job!

What advice would you give to another woman in your field?
Figure out your strengths and growth areas. Do not try and be like the guys. Take advice, try it out. But at the end of the day, figure out what works for you and make it your own.

What is your greatest hope for women in the future?
Within STEM (science, technology, engineering and math), I hope we will get to a point where we are not classified as “women engineers.” We are all engineers.
His visibility is fairly clear, upwards of 30 feet, in fresh, clean and fairly warm water – a stark difference from what he’s used to in the Columbia River. That water has less visibility, maybe 10 feet, and the water temperature is anything but comfortable, even with a dry suit. And although the underwater conditions in the Tigris River are more pleasant than the Columbia River, the conditions above the surface are much, much more ominous.

Richard Benoit, Portland District dive team proponent and program manager, has been deployed for more than a year, first to Afghanistan and now to Iraq. This is his seventh overseas deployment, but his first to the Middle East, where he is serving as the Corps’ dive safety officer and dive safety inspector for the Mosul Dam rehabilitation and repair project.

“In my opinion, there are greater risks associated with being deployed in Afghanistan,” said Benoit. “I would say the risk to us at Mosul Dam from ISIS is ever present, but minimal,” Benoit reiterated. “By comparison to the many dives I’ve done, this is easy.”
Benoit is working at the same Mosul Dam the U.S. Embassy in Baghdad issued warnings about in February 2016.

“Mosul Dam faces a serious and unprecedented risk of catastrophic failure with little warning,” read the embassy’s statement. “Recognizing the gravity of this challenge, the Iraqi government under Prime Minister Abadi’s leadership is preparing to take actions to mitigate the potential threat of the dam’s failure, particularly following the Da’esh (ISIS) attack on the facility in August 2014.”

Although ISIS is still a risk, the dam faces other challenges, which is why Benoit is there in the first place. One such challenge is brought up in an article by Dexter Filkins. According to The New Yorker writer, “Completed in 1984, the dam sits on a foundation of soluble rock. To keep it stable, hundreds of employees have to work around the clock, pumping a cement mixture into the earth below.”

But that isn’t the only problem at the dam.

Benoit is part of the bottom outlet team. The team inspects a pair of underwater tunnels, which regulates water depth in Lake Dahuk, the upstream reservoir, and the Tigris River, downstream. The team is evaluating the tunnels’ structural integrity as well as performing hydraulic steel structure inspections on bulkheads and checking the functionality of bulkhead slots.

This is the first inspection of these tunnels since the dam’s commissioning 30 years ago and has been memorable for Benoit.

“(It’s been) tough at times especially on my family - but overall exceptional,” said Benoit. “I would recommend this experience to anyone.” Benoit said he primarily volunteered for this particular deployment to fulfill a personal sense of duty and responsibility. Another reason is to honor two family friends, Army Staff Sgt. Brandon Silk who was killed in action June 21, 2010, in Afghanistan and Edward Maloney who was killed Sept. 11, 2001, during the World Trade Center attacks.

Benoit will have been deployed for a total of 16 months before he returns from stateside. His other deployments include emergency response missions to Haiti and Bangladesh, and diving missions to Japan and South Korea.
Portland District Commander Col. Jose L. Aguilar is pleased to announce Donald Chambers, former Engineering and Construction chief, as the 2017 Distinguished Civilian Employee.

Donald Chambers was Portland District’s first technical lead on fish studies at Bonneville Dam’s Second Powerhouse, shaping roles and responsibilities that are still prevalent today. He began his career with the District as a structural engineer in 1976 and, in 2008, became the Engineering and Construction chief.

Don branched out and took on other leadership roles within the district by accepting a variety of temporary assignments that included chief of the Concrete and Dam Safety Section and chief of the Cost Engineering Branch, where he broadened his skill-base and knowledge of cost engineering, concrete design and dam safety. In 1990, Don became the Structural and Architectural Design Section chief.

There, he led the section to undertake and complete many significant Corps projects, including Bonneville’s New Navigation Lock, the Cougar and Blue River Lake Selective Withdrawal Tower studies and designs, locks at the Marmet, McAlpine and Olmsted dams (all in Louisville District) and more.

He also served two deployments to Iraq to support contingency operations and was a member of the Portland District team providing support to USAID and the Government of the Philippines following the eruption of Mount Pinatubo in the mid 1990’s.

Mr. Chambers’ positive and lasting impact on everyone he has worked with during his tenure as well as his continued value to USACE and the Portland District make him an exceptional choice for the Gallery of Distinguished Civilians.

Don Chambers was honored as the 2017 Distinguished Civilian Employee at Portland District’s Annual Retiree Luncheon, May 12, 2017. Don’s professional portrait will be added to the Distinguished Civilian Employee exhibit located in Portland District’s headquarters. There his name will join the previous recipients, a Portland District tradition since 1961.