MESSAGE FROM ASSOCIATE VICE PRESIDENT CHARLES KENNEDY

The Facilities Services year works in reverse of many campus departments. By this I mean that FS becomes even busier during the long summer months when our students are headed back home with their families.

UW Recycling's two annual waste diversion events are right around the corner. Student Cleanup, Recycle and Moveout (SCRAM) takes place this week as the students move out of their on-campus residence halls. This popular service not only keeps our campus spaces and places beautiful plus all reusable items are donated to local charities. The following week is our Husky Neighborhood Clean Up where UW students living in the north campus area can also recycle, dispose or donate their unwanted items.

Building Services staff utilize the summer months to perform a deep cleaning in the classrooms, lecture halls and auditoriums. Sometimes people might not always realize how much effort was put into a thorough cleaning of our building interiors, but shining floors, polished wood and sparkling restrooms all contribute to the positive student experience that UW is so proud of.

Our Landscape Grounds crew, while always hard at work, is making extra efforts to show off the campus for our students and their families as graduation ceremonies approach and visitors come from all over the world to celebrate. Summers also mean outdoor reunions and even weddings, and the UW campus continues to be a popular venue because of the great care taken by our FS employees.

Facilities Maintenance & Construction continue to play an important role in the summer season as our trades people have a chance to make necessary repairs and remodeling, before the students return in the fall.

It takes a village, in this case an organization, to keep this huge campus machine in working order. Thank you to all our FS employees for your skills and efforts.

SUMMERTIME HEAT

Working conditions that increase susceptibility to heat related illness include: air temperature, relative humidity, radiant heat (sun, asphalt, etc.), conductive heat sources (ground), air movement, workload intensity and duration, and personal protective equipment.

Personal factors that affect susceptibility to heat related illness include: age, degree of acclimatization, medical conditions (previous heat-related illness, cardiovascular disease, diabetes), water consumption, alcohol consumption, caffeine consumption, nicotine use, prescription and non-prescription medications that affect water retention, and other factors (weight, fatigue).

On days when temperatures require preventative measures, employees who work outdoors should have an increased amount of water available to them and make sure that someone can respond to any employee with symptoms.
In preparation for this year’s Windermere Cup and the opening day of boating season, crews from Facilities Maintenance & Construction installed a bronze plaque commemorating the 1936 UW men’s crew team featured in The Boys in the Boat.

The bronze plaque was donated by Boys in the Boat author Daniel James Brown and installation coordinated by the UW Alumni Association.

Facilities Construction’s carpentry crews created the wooden mount from a piece of Deodar Cedar that came down on campus, painting crews stained and finished the wood, and carpenters installed the plaque on the side of the Canoe House.

“It was a fun project,” said carpenter Mike Graham. “People were walking by asking us about the plaque and the history of the building while we were installing it.”

The installation took place just in time for this year’s Windermere Cup. Last year, Facilities Maintenance & Construction’s masonry crews cleaned and treated the Canoe House’s shake siding. Campus carpenters, glaziers, painters and masons have also taken on the Canoe House’s windows — power washing, re-glazing, staining and installing windows to make them look new again.

Facilities Services crews have also refurbished a component on the sliding doors facing the Montlake Cut. Two years ago a piece of a nearby Poplar tree came off in a winter wind storm, taking out a few of the Canoe House’s windows with it.

“We’re excited to recreate parts of the sliding door, so it looks like the original,” said Lance Hendrix, a supervisor with Facilities Construction.
In a disastrous dream schemed up by UW Emergency Management, a substation just west of campus has exploded. The power is out across most of north Seattle, including the University. Smoke clouds are billowing toward campus and generators will only last so long.

It's a good thing it isn't real.

Dozens of University personnel were tasked with responding to this fictional scenario at Thursday night's yearly test of the University's emergency response capabilities.

"We've had a few power outages in the recent past, so we thought this would be a very relevant scenario for us to practice," said Emergency Management's plans and training manager Siri McLean.

**HOW DOES IT WORK?**

In this fictional scenario, electrical power, which is supplied to the University by Seattle City Light, is cut off and may not return for days or even a week. Emergency Management's staff spent months planning every detail of the event, from a chemical-containing smoke cloud and the campus HVAC systems it would impact, to tweets from students, staff and faculty creating confusion.

During the training exercise, a team of scenario controllers and simulators call in to representatives with new pieces of news and information. These representatives, divided into categories such as Operations, Finance, Communications and Logistics work with each other on coordinating a response. All the while, Associate Vice President for Facilities Services Charles Kennedy serves as a liaison to the Emergency Policy Council, which makes the final call on policy matters, such as

Emergency Management's Business Continuity Manager Scott Preston jots down notes during a break-out meeting of section chiefs. His notes will result in lessons learned, and better preparedness plans for when the emergency situation isn't a drill.
as whether or not to suspend University operations.

“I know I have eight, nine, even 10 pages of notes about things we learned during this exercise so that we’re better prepared for an emergency in the future,” said Kennedy.

In Thursday’s drill, University staff reacted to the initial explosion, the potentially hazardous smoke cloud, keeping a hospital up and running, traffic gridlock, saving priceless research, rescuing folks from elevators and making plans for the weeks ahead to get the University back up and running.

“It’s good to practice,” said Building Services director Gene Woodard, serving as a deputy chief overseeing all coordination of University operations during the emergency. “These scenarios force us to practice the challenges we would face if we were in a real emergency. That experience is invaluable.”

PARTNERSHIPS

Dozens of representatives from UW departments took part in the exercise, including Facilities Services, Student Life, UWPD, Capital Planning & Development, Athletics, UWMC and Health Sciences, Procurement, Housing & Food Services, UW-IT, News and Information, Finance & Accounting, Human Resources, the Office of the Attorney General, UW Marketing and more.

“You try and find that balance, you want to create a realistic scenario that stresses people out but doesn’t overwhelm them, but you also don’t want participants sitting around bored or thinking that practicing for an emergency is a waste of time,” said McLean.

Some units set up additional Unit Response Centers to support the central University EOC at UW Tower, including Transportation Services, UWMC, HFS and UW-IT.

“All of Transportation Services’ managers and directors are at the TS URC,” said transportation maintenance manager Joles Tahara. “They’re helping support us, and they’re also getting separate information directly from the event simulators. Part of our work is coordinating with them remotely.”

Seattle City Light and the City of Seattle also participated, alongside a handful of other emergency management professionals who served as observers who will provide feedback to the University’s response after the training exercise. These observers included emergency management professionals from King County, the Coast Guard, the City of Shoreline and Marysville School District.

“I’d like to thank Emergency Management’s Steve Charvat, Scott Preston, Siri McLean and the team for all of their hard work in preparing this event for us” said Interim Vice President for Finance & Facilities Elizabeth Cherry. “The University is better prepared for an emergency because of their efforts.”
The power plant electrician asks the group if they’re ready with their stopwatches, then counts down. Three—two—one—the lights go black for a beat. Five giant diesel engine backup generators, each larger than a pickup truck, begin to roar.

The lights are back on; surgeries continue without missing a beat, and priceless research continues to stay frozen in a lab on campus. It’s a monthly test of the University’s backup power generation capabilities down at the Power Plant.

“There are two different kinds of tests we do on a monthly basis,” said mechanic Ray Massie. “Then, once a year, we have a ‘no-kidding, let’s see what this thing can really do’ test where we open up the generators and run them at capacity for four hours to ensure they can handle maximum loads.”

The Power Plant may be a bit of a misnomer. While it's capable of providing up to 10 megawatts of power for campus to use during emergencies, powering the medical center, mission-critical lab facilities, and emergency lighting and door systems for campus, the power plant doesn't produce enough electricity to power the entire University every day. In fact, the University of Washington obtains most of its daily electricity from Seattle City Light, while the Power Plant provides central heating, cooling and air for most buildings on campus, as well as backup/emergency power using diesel generators.

Testing the University’s backup power capabilities isn’t just for peace-of-mind, it’s a regulatory requirement nationally from the National Fire Protection Association that came into place after Hurricane Katrina. While the NFPA has required testing for many years, it’s an extended duration test that came out of the Katrina disaster.

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“After Katrina quite a few hospitals in New Orleans ran into power problems,” said Mark Kirschenbaum, assistant director of campus utilities and manager of the Power Plant. “Hospitals in that region were able to start up their backup generators, but then they quickly failed. They hadn’t tested their backup systems long enough or with a large enough load to discover any problems.”

The requirement for the four hour load test is every three years. The University runs short-duration full load tests every month, and the four hour test every January, exceeding the NFPA’s requirements.

“It’s not just about crossing Ts and dotting Is,” said Massie. “The University, the medical center—they depend on us to keep running. We need to make sure our systems really work.”

Testing the backup systems isn’t just a matter of flipping a switch or turning a key and revving a few engines.

“This isn’t just a test of whether the engines start,” said Kirschenbaum. “It’s testing the ability of the system to recognize a loss of power and then perform an automatic startup – and can handle the loads we place on it.”

Power plant staff work together with campus’ high voltage electrical shop and utility workers at the medical center to meticulously check every switch, breaker box, pump, battery, oil levels and more to ensure everything is ship-shape. These checks take place at the beginning and end of every test and an additional weekly check is conducted to ensure the system is ready to respond to an emergency.

“Our work is very thorough and highly detailed,” said Kirschenbaum. “We look at every switch position and note it down.”

The tests begin with what the power plant engineers refer to as a “dead bus” test, measuring the amount of time it takes for the system to recognize it isn’t receiving power and start up generators. In the case of Wednesday morning’s test, it took just 6.7 seconds, the maximum time allowed is 10 seconds.

Next up is the load test. Power plant staff follow similar protocols to the dead bus test, but in this instance they’re testing how long the generators can run and at what load. The generators begin at just 750 kilowatts and work their way up to 2000 kilowatts per generator, or two megawatts each for different intervals of time.

While the engines are working hard, with their turbochargers’ steel casing glowing from the heat, power plant staff are monitoring valves and switches, and keeping in close contact with utility workers at the medical center and high voltage electricians.

After a few hours the generators are slowly powered down and the plant staff make the rounds on every valve and switch once more. While the monthly test takes only a few hours for a handful of employees to complete, testing the system has the potential to save lives and research next time the power goes out.

Campus Power Plant generator tests take place on the second Wednesday of every month, although you’d never know the difference unless you’re with the crew! If you’re interested in learning more about the Power Plant you can watch their in-depth video, or contact Mark Kirschenbaum to arrange a Power Plant tour.

Read more about the Power Plant in our post about the plant’s night-shift employees, and how Facilities Services helps prepare the University for emergencies. And finally, learn more about the University’s daily electricity use on its energy dashboard.