

PHYSICAL PLANT February 2021 Operations Report

From the Director's Desk....

When extreme cold temperatures struck Madison (and much of the rest of the nation) last month, the training and preparedness of our heating plant staff ensured heat was maintained across our campus. The concern for a widespread shortage resulted in the interruption of our natural gas service during the period of February 13-20.

The UW-Madison campus relies on the heat generated at the Charter Street and Walnut Street plants. Our service is designated as *interruptible*, which means that our supply of natural gas can be curtailed to address market shortages or distribution system issues. This allows our utilities provider to make sure that there is enough natural gas to heat homes and other buildings that do not have an alternate fuel source.



ow-covered Charter Street Heating and Cooling Plant generates plenty of steam in the cold. Photo by: left Miller/UW-Madison

This does not happen often, but when it does, we are prepared. During the polar vortex of 2019, the heating plant staff seamlessly switched to the contingency supply of fuel oil and began operating backup boilers to maintain reliability of the campus heating. They then switched back to natural gas at the end of this period, with no interruptions in service. During the coldest period, steam production increased to 832,000 pounds per hour and the plants burned through 7,250 gallons per hour at the peak demand.

Our ability to operate campus reflects the continuous training and professionalism of the heating plant staff, the steamfitters that maintain the distribution system, and all the support staff that helps keep it operational. Each of these teams deserves a huge thank you for working to keep campus warm during these challenging conditions.

—Jay Bieszke

PREVENTIVE MAINTENANCE

In February, Physical Plant technicians completed more than 600 PM activities and generated 232 repairs.



Failure Analysis by PM Program



SUMMER RENOVATION PROJECTS SELECTION PROCESS

Summer is the most requested time frame for renovations and facilities-related work due to lower occupancy and the availablility of spaces. This year, there were more than 120 requests for renovation projects, with 69 possible for summer delivery. These ranged from classroom upgrades and office updates to laboratory renovations.

Following the prioritization process first used in 2020, a collaborative risk assessment process was used for selection by a committee that included representatives from key schools, colleges, and departments, based on the volume of requests. This ongoing effort focuses on collaboratively prioritizing projects having the greatest impact to the University's mission where reduced campus occupancy is a significant influencing factor.

FP&M engaged schools, colleges, and



divisions from across campus in a collaborative process designed to conduct a risk assessment and establish clear priorities among the submissions. Representatives from the Physical Plant and the Space Management Office held a series of meetings with stakeholders from the College of Engineering, College of Agricultural and Life Sciences, College of Letters & Science, School of Medicine and Public Health, Division of Information Technology, and the Office of the Vice Chancellor for Graduate Research and Education.



In 2021, Physical Plant reviewed more than 120 requests and eliminated projects that were not suitable for the upcoming summer because of current construction status, where the customer identified other-than summer construction, or where the scope/size/complexity precluded in-house construction. Of the 69 projects that remained as potential summer projects, 34 projects fell into the highest risk categories and were identified for Summer 2021 construction and delivery.

The project list on page 6 provides more information about these 34 projects.

BREAKDOWNS AND EMERGENCY CALLS

There was one major equipment failure in February and a large number of cold-related failures with air handler units (AHUs), all of which demanded significant unplanned efforts and increased the risk to UW-Madison's operations and programs.

School of Social Work Building. A rusted-out galvanized hot water line ruptured, flooding rooms down to the first floor. Additional areas of the same line showing similar age-related degradation were also replaced.

Multiple Air Handler Failures. Between February 6-14, Physical Plant received 44 emergency calls for malfunctioning air handler units (AHUs), caused by prolonged extreme temperatures.

The Physical Plant team comprised mainly of Steamfitters and Digital Controls Technicians quickly addressed all AHU issues and had the systems operating before these issues caused any major damage or impacts to building occupants. The unique conditions cause temperature stratifications inside the units that require a deliberate, systematic, and coordinated effort to restart and return them to normal operations. The team has developed procedures for these restarts as well as implemented modifications to the systems and software to prevent this from occurring as frequently. However, prolonged extreme temperatures and the aging infrastructure increase the risk of these AHUs failing despite these mitigation efforts.



PROJECTS SUBSTANTIALLY COMPLETED AND CLOSED OUT-FEBRUARY 2021

Eight projects (worth \$272K) reached substantial completion during the past month.

Project Number	Building	Description	Value	
05261501	Primate Center	Fire Safety Improvements	\$50K	
14801801	Health Sciences Learning Center	Install Multiple Doors	\$54K	
PRJ-20-001124	Vilas Hall	Renovate Storage Space	\$29K	
PRJ-20-001217	1220 Capital Court	Removal/Installation of Cage Washer	\$45K	
PRJ-20-001478	Vilas Hall	Remodel Room	\$34K	
PRJ-20-001662	Veterinary Medicine	Door Replacement in Radiology	\$28K	
PRJ-20-002048	Bascom Hall	Room Modifications to Increase Capacity	\$27K	
PRJ-21-002356	21-002356 WARF Building Room Remodel		\$5K	
Total Value of Work (Final Amount TBD)				

SMALL PROJECTS UPDATE

Physical Plant is currently managing 128 projects for a total of \$20.7 million across the project lifecycle.



The chart below breaks this effort down by the intended benefit for campus facilities and infrastructure: \$7.5 million has been dedicated to improving the reliability and resiliency of facilities (roofs, exterior/site, and HVAC systems) and \$3.8 million to improve utilities infrastructure.

Emergent Requirements. In the current fiscal year, failing facility conditions resulted in projects for the Primate Center elevator repair and flooding in the Waisman Center.

Primate Center. One of the two elevators at the Primate Center is fully repaired and functional. The second elevator is under construction and about a month out from substantial completion. These elevator repairs are projected to be completed under budget.

Waisman Center. The design documents for the project to repair these flooding issues have gone through final review. Bid documents will be posted in March 2021, with construction being planned for this summer.

Projects Submitted for Approval. Nine projects have recently been submitted for State funding approval: four

roof/exterior, two design studies, two remodels, and one safety-related.

The State supplies funds for the Small Projects program for facilities repair each biennium. The end of a biennium and the commitment of all this cycle's funds is approaching. Projects during the beginning and middle of a biennium are simply approved if they qualify, but we now have an additional layer of approval where some jobs perceived as lower priority will be temporarily denied even if they qualify so that they may be pushed to the next biennium.

As of this writing, the remaining UW System allocation for the 20-21 biennium is \$3.4 million. UW-Madison is seeking to secure as much of this available funding as can be justified.



About the Small Projects Program

The <u>Small Projects</u> program allows state agencies such as UW-Madison to identify and implement repair and renovation projects to maintain services, increase efficiency, and support program requirements in these areas: building maintenance, utility systems, health and safety, environmental protection, energy conservation, disabled person accommodations, roads and walkways, and preventive maintenance.

IMPROVING THE APPEARANCE OF COMMON SPACES

The paint crew in the Finishing Trades shop is proactively addressing common space appearance throughout campus. The team identified high-use facilities where the entries, hallways, stairwells, and other common spaces were in poor paint condition. These facilities are being addressed with new color schemes to improve the experience of occupants and visitors. To date, more than 120,000 square feet have been completed. The School of Social Work, Noland Hall, Goodnight Hall, and Agricultural Hall are complete. The Psychology Building, Social Science, Veterinary Medicine, Engineering Research, and the Waisman Center are in progress. Water Science and Teachers Education will begin later this summer. Feedback from the campus community has been outstanding. This team of incredible professionals take great pride in making a big difference in support of the university.



PHYSICAL PLANT CUSTOMER SERVICE

Physical Plant uses a multilayered system for customer service that includes multiple communication channels and provides 24/7/365 access in order to meet the needs of our campus customers.

Online Self-Service

Customers can submit work requests, receive notifications, and access reports about work requests and billing information using the <u>AssetWorks AiM portal</u>. This is the preferred method for routine, non-emergency work requests.

Weekday Call Center (ppcustomerservice@fpm.wisc.edu | 608-263-3333)

During normal business hours, a team of Physical Plant staff are available via email and telephone to faciliate the creation and updating of work orders as well as communication with field technicians and supervisors.

After-Hours Call Center (608-263-3333)

Outside of normal business hours, our contracted after-hours call center is available to accept emergency calls, recording the caller location and issue, and calling out technicians for emergency response.

Facility Specialists

These <u>dedicated staff members</u> serve as second-tier customer service representatives. Each facilities specialist is an advocate for and participates in the facilities planning for their assigned zone.

34 projects have been selected in Summer 2021, representing \$2.2 million in 23 buildings.

Division	Unit	Building	Project Number	Description
CALS	Biological Systems Engineering	Agricultural Engineering Laboratory	PRJ-21-002280	Convert Instructional Lab 118 for Research
CALS	Biochemistry	Biochemistry Building	PRJ-21-002300	Create Additional Entry/Egress, Rm 319C
CALS	Agroecology	Moore Hall	PRJ-21-002406	Renovate Research Lab & Offices 5th Floor
CALS	Animal and Dairy Science	Animal Science Building	TBD	Renovate Research Lab 634 to Add Equipment
COE	College of Engineering	Engineering Hall	PRJ-21-002491	Renovate Lab B355 to Improve Utilization
COE	College of Engineering	Mechanical Engineering	PRJ-21-002461	Renovate Room 2109 to Create Wet Lab
L&S	Integrative Biology	Noland Hall	WO 21-071487	Upgrade Classroom 321
L&S	Art History	Elvehjem Building	TBD	Replace Flooring
L&S	Integrative Biology	Birge Hall	PRJ-21-002195	Renovate Sample Containment Lab B244
L&S	Integrative Biology	Integrative Biology Research Building	PRJ-21-002204	Create Research Lab 124-128 for Incoming PI
L&S	Integrative Biology	Integrative Biology Research Building	PRJ-21-002223	Renovate Research Lab Rm 28 for Incoming PI
L&S	Integrative Biology	Integrative Biology Research Building	PRJ-21-002243	Renovate Research Lab 116-120 for Incoming PI
L&S	Integrative Biology	Birge Hall	PRJ-21-002264	Renovate Research Lab 347-351 for Incoming PI
L&S	Anthropology	Social Sciences	PRJ-21-002443	Update Class Lab 5310 - ILM
L&S	Astronomy	Sterling Hall	PRJ-21-002442	Update Class Lab 3517 - ILM
L&S	Botany	Birge Hall	PRJ-21-002364	Update Class Lab - ILM
L&S	Computer Science	Computer Science	PRJ-21-002146	Renovate Research Lab 1351 or 1355
L&S	Computer Science	Computer Science	PRJ-21-002174	Renovate Conference Rooms 3310, 3410
L&S	Geoscience	Weeks Hall	PRJ-21-002344	Renovate Lab Support Room 270 - ILM
L&S	Music	Humanities Building	PRJ-21-002446	Upgrade Classroom 1561 - ILM
L&S	Music	Humanities Building	PRJ-21-002445	Upgrade Classroom 1351 - ILM
L&S	Physics	Chamberlin Hall	PRJ-21-002488	Renovate Research Lab 4258 to Add Equipment
L&S	Journalism/Mass Communication	Vilas Hall	PRJ-21-002486	Improve classrooms, labs
Sch Ed	School of Education	Teacher Education	PRJ-21-002354	Combine Rooms 564, 566 to Create Larger Classroom
SMPH	School of Medicine and Public Health	Wisconsin Institutes for Medical Research	PRJ-20-002111	Renovate Research Lab B1073
SMPH	School of Medicine and Public Health	Medical Foundation Centennial Building	PRJ-21-002270	Renovate Office 5177 to Increase Occupancy
SMPH	School of Medicine and Public Health	Wisconsin Institutes for Medical Research	PRJ-21-002474	Relocate Research Lab 7120/A to 7162/3
SMPH	Medical Physics	Wisconsin Institutes for Medical Research	PRJ-21-002304	Renovate Research Lab 7168 to Add Fume Hoods
SMPH	School of Medicine and Public Health	Medical Foundation Centennial Building	PRJ-21-002355	Install Services 4th & 5th Floors for Occupancy Increase
WSLH	Wisconsin State Laboratory of Hygiene	Stovall Hall	PRJ-21-002412	Install CO2 Sensors
FP&M	GA Classrooms	Van Hise Hall	PRJ-21-002361	Upgrade Classroom 215 AV - ILM
FP&M	GA Classrooms	Van Vleck Hall	PRJ-21-002415	Upgrade Classroom B115 AV - ILM
FP&M	GA Classrooms	Van Vleck Hall	PRJ-21-002416	Upgrade Classroom B139 AV - ILM
FP&M	GA Classrooms	Humanities Hall	PRJ-21-002454	Upgrade Classrooms 1217, 1221 Lighting Systems