WELCOME

Monthly Building Coordinator Meeting

Via ZOOM

January 17, 2024

Agenda

FM Cold Weather Protocol:

Julie Sychra - Facilities Management Director, Building Operations & Maintenance

Building Coordinator Meeting Feedback Survey Results:

Stephanie Rourke – Facilities Management Manager, FM@YourService and Building Coordinator Program

ENGIE North America at UI :

John Weyer, ENGIE North America Distribution Plant Manager

FM Cold Weather Protocol

Updated January 5, 2023

IOWA

Facilities Management

Cold Weather Protocol

Cold Weather Protocol Steering Group Members:

- FM @ Your Service Manager
- Senior Manager of Operations and Maintenance
- Director of Operations and Maintenance
- Manager of Controls Engineering
- Manager, Maintenance Planning

Annual Preparation Cadence:

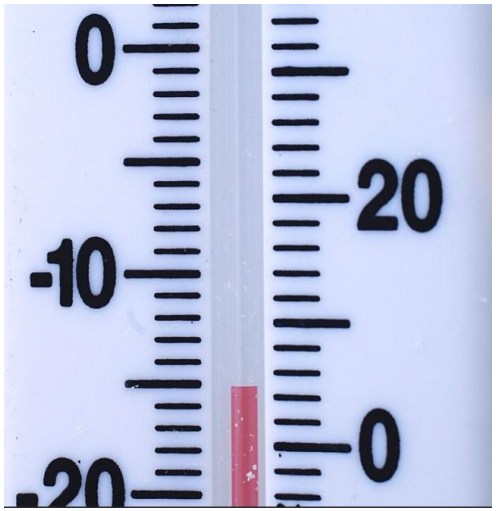
- By Late November/early December:
  - Steering Team reviews Cold Weather Protocol
  - Building Operations & Maintenance and FM@YS team review of Cold Weather Protocol
  - Update the template of the planned work order project
    - Review of prior year's Cold Weather Event projects to inform creation of the planned work orders for the current year (review/updates to approved project)
    - Intentional focus on any areas currently impacted by construction or maintenance projects, vulnerable areas, etc.
- December:
  - Cold Weather Protocol presented at Building Coordinator Meeting*
  - Refresher communication for on-call team on Cold Weather Protocol

Preparatory Actions when Trigger Event is forecasted:

- When outside air temperature is forecasted below 0F for longer than 24 hours (Accuweather), a steering group meeting will be scheduled (Director responsibility) to discuss which of the following risk mitigation activities are relevant for the given cold weather situation:
  - Resourcing Considerations:
    - Assign designee(s), as necessary
    - Addition of a secondary on-call team member into standby status (FM@YS Manager)
    - Hotel rooms secured for primary and secondary on-call members (FM@YS Manager)
    - Managers secure volunteer lists of team members who will be available to take calls as needed. FM@YS manager compiles this information for the on-call

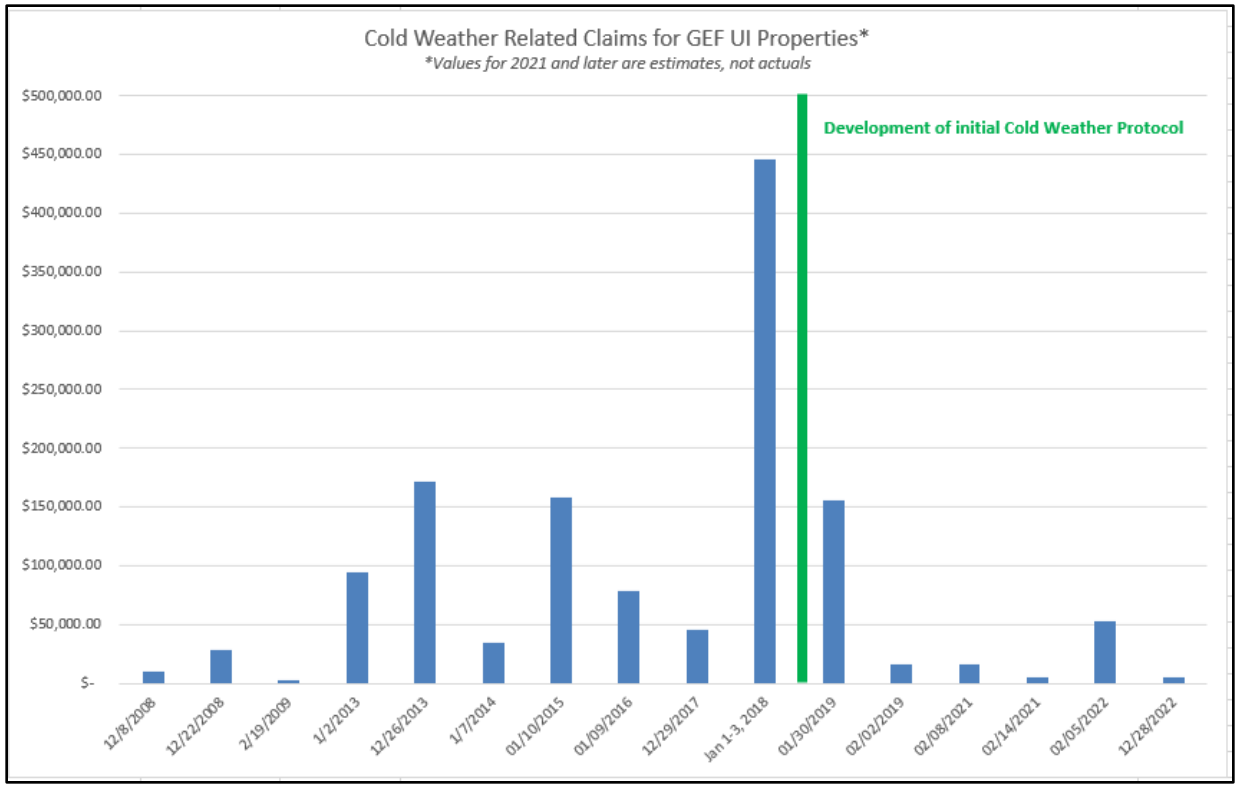
A Data-Driven Approach:

- Buildings are vulnerable to damage during extended periods of sub-zero temperatures
- FM leverages a data-based trigger to implement mitigation plans once the forecast shows more than 24 hours below 0 degrees Fahrenheit.



Continuous Improvement:

- Initial version of the Cold Weather Protocol was developed after 2018 and has been evolving ever since:



Annual Cadence Established:

Late November/early December:

- Steering Team reviews Cold Weather Protocol
- Building Operations & Maintenance and FM@YS team review
- Update planned work orders:
  - Review of last year's notes
  - Addition of any current building-specific vulnerabilities

December/January:

- Building Coordinator Meeting presentation
- Review with On-Call Team

Mitigation Planning:

Theme 1: Resource Considerations

- Addition of a secondary standby team member
- Secure hotel room(s)
- Compile area resource and controls team lists
- Addition of BAS reviews

Mitigation Planning:

Theme 2: Communication Considerations

- Cadence of daily meetings
- Notification to key partners that FM is entering Cold Weather Protocol Mode:
  - Facilities Management team
  - **Building Coordinator Group**
  - Risk Management
  - Engie
  - Campus Safety

Mitigation Planning:

Theme 3: Workload Organization Considerations

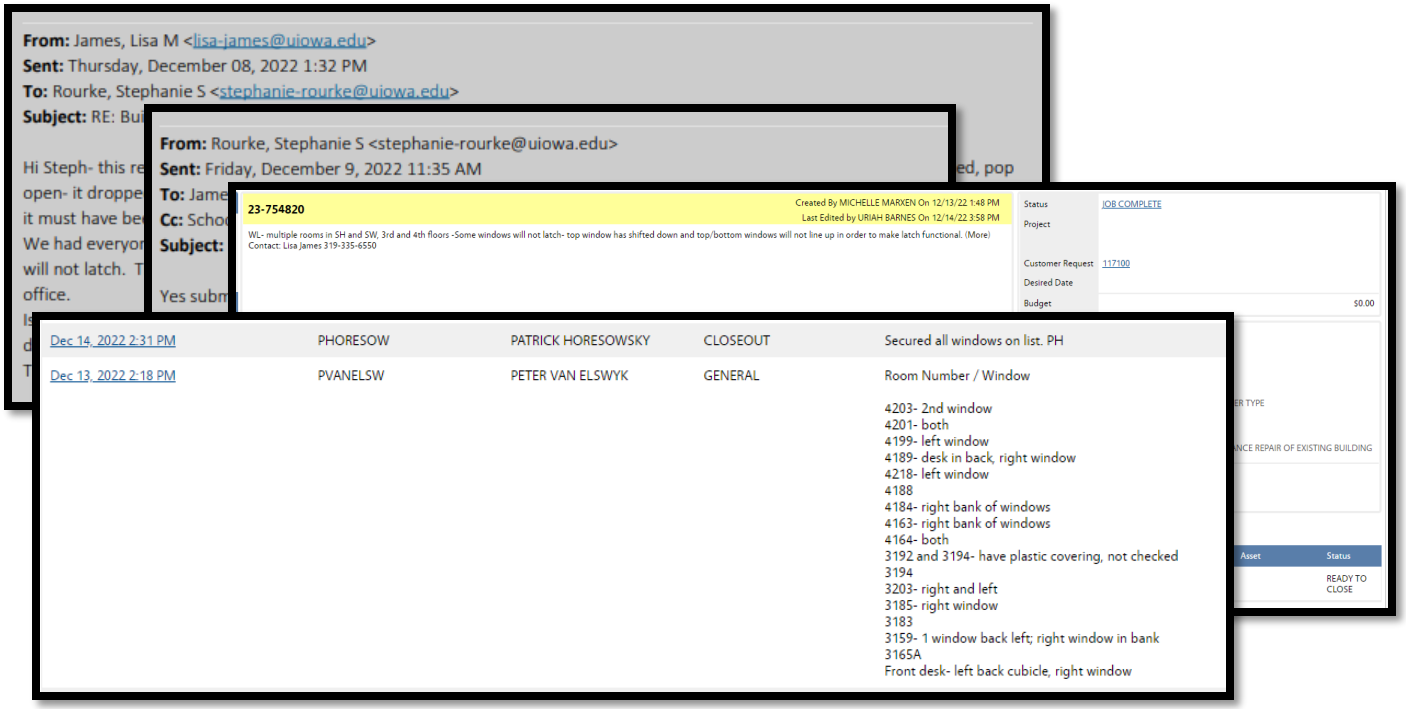
- Promote Cold Weather Project planned work orders
- Cold weather FDD (fault detection & diagnostic) reviews
- Removal of BAS schedules
- Override report reviews
- Outage/shutdown delays

001

0300, JB, JB: Cold Weather Building Walk (please note any observations/outages)

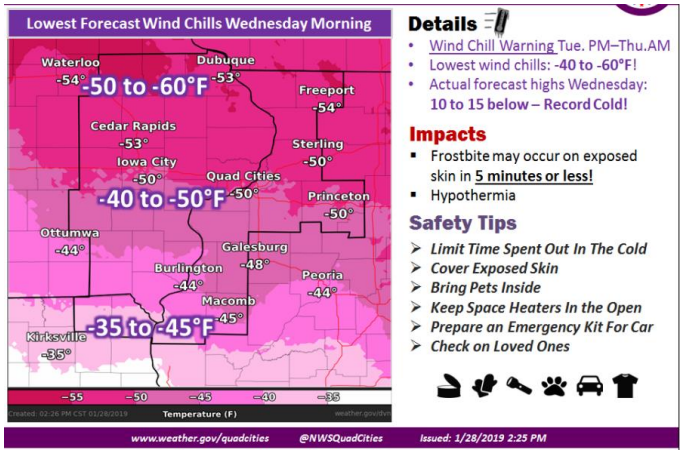
Checkpoint	Value	Description	Extra Description
1.	COMPLETE	Check outside of building for open windows.	
2.	COMPLETE	Check outside air intakes and vents for blockage or obstructions.	
3.	COMPLETE	Check building pressure with a simple paper test. If negative, review BAS for issues	
4.	COMPLETE	Check entryways and exterior stairwells for cold areas and ensure heaters are operational.	
5.	COMPLETE	Check mechanical spaces.	
6.	COMPLETE	Check problem areas throughout the building.	
7.	COMPLETE	Check drain to ensure it is not backing up (please note any observations/outages) supplies are in basement for clearing drain.	
DATE	12/21/22	Date Completed	
DATE (2)	12/22/22	Second date completed if applicable	
DATE (3)	12/23/22	Third date completed if applicable	12/28/2022

Your Partnership is Vital!

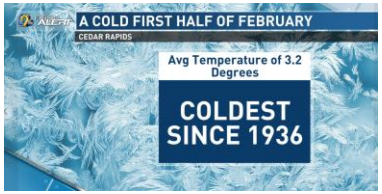


The Process Works!

2019 Polar Vortex:

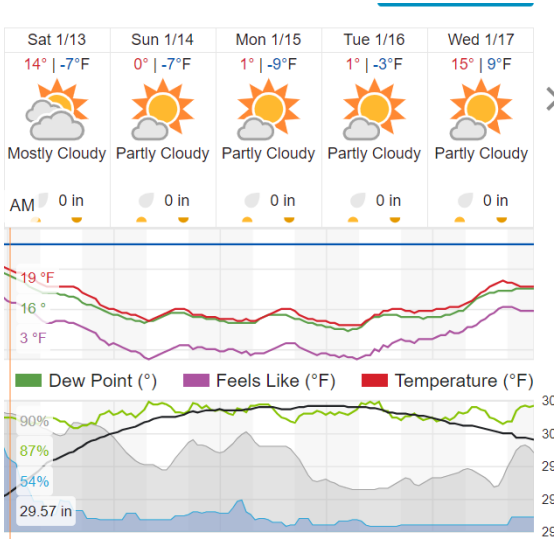


February 2021 Extreme Duration & New Records:



December 2022 "Once in a Generation" storm:

January 2024



- Noteworthy Items:
  - One fan coil freeze-up with impact to 4 rooms (VAN)
  - Two fire impairments, caught early enough to avoid building damage (MERF, BB)
  - Intermittent power issues, great team work with P&T to secure generator fuel (BB)
- Mitigation Plans Remain in Place All Week:
  - Cold weather inspection work orders
  - Building schedules removed
  - Planned air handling unit shut-downs rescheduled
- Looking Ahead to Next Week:
  - Thaw Protocol

Thank You!

Building Coordinator Survey Results Summary

And the survey said..

Stephanie Rourke - Manager - Facilities Management FM@YourService and Building Coordinator Program

January 17, 2024

Overview

- BC Experience Survey (one time) October/November 2023

- How can we support Building Coordinators better?

- We wanted feedback on:
    1. Covered content
    2. Communication format
    3. Resources that add value to the BC role
    4. New ideas for presentation content

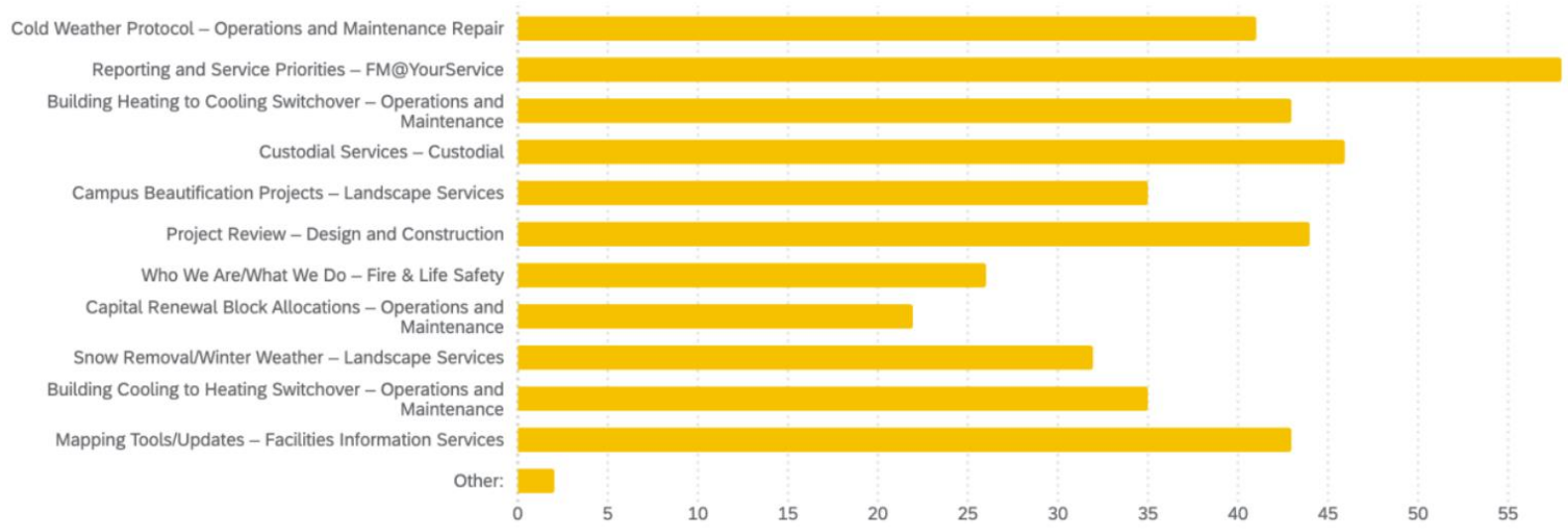
- Thank you for your participation! **43.8%** (79/180) response rate

Summary of Feedback

- **Seven** total questions
- All questions received a **75%+** positive or satisfactory response rate

- **89%** found Building Coordinator meeting presentations are helpful
- **97%** indicated that the virtual format is effective
- **87%** indicated that the time, duration, and frequency works
- **78%** find the BC webpage to be a resource to their roles

Topics Building Coordinators find helpful



- 1. Reporting and Service Priorities – FM@YourService (58 votes)
- 2. Custodial Services – Custodial (46 votes)
- 3. Project Review – Design and Construction (44 votes)

Topics Building Coordinators indicated wanting to see more of

Text size indicates the the popularity of the topic being suggested based on number of submissions

- Campus project updates and event notices
- Campus planning
- Custodial

Final Survey Comments

- Most respondents indicated contentment with the program as-is
- There was an overall desire for the following in the end-of-survey comments:
  - More learning opportunities to increase building knowledge
  - Support with questions to help BC's thrive in their roles

Questions?
THANK YOU!

Feedback welcome by emailing stephanie-rourke@uiowa.edu

ENGIE North America at UI

Building Coordinator's Meeting, January 17, 2024

John Weyer, BSEE, MBA
Distribution Plant Manager
ENGIE North America at The University of Iowa
john.weyer@engie.com
M: 319 560 4133

Who is ENGIE at UI?

- Former UI Utilities department of UI Facilities Management,
  - Operating UI's utility production and distribution systems on the main campus and Oakdale:
    - Steam
    - Chilled Water
    - Electricity
    - Water
    - High Quality Water

UNIVERSITY OF IOWA
ENERGY COLLABORATIVE

- ENGIE North America is the Utilities Operator for the University of Iowa Energy Collaborative (UIEC). UIEC is the Concessionaire selected by UI for the P3 (UI Utilities "Public-Private-Partnership") in December 2019. Operations transitioned March 2020.

Concession Agreement

$1.165B up-front payment

Coal-free by 2025

Deliver reliable electricity, water, heating, and cooling services to the UI campus community.
- Enforced thru Key Performance Indicators (KPIs)

Invest in the University's core missions of teaching, research, and scholarship

Prepare students to live and work in the 21st century through direct engagement and education in sustainable energy technologies and processes

Facilitate knowledge exchange among the campus community and the State of Iowa, Nation and World

ENGIE NA

- ENGIE North America
  - 4,500 employees
  - Headquartered Houston TX
  - Providing energy services to:
    - K-12 and Community College Education
    - Higher Education
    - State and Local Government
    - Federal Government
    - Hospitals and Medical Research
  - Renewable grid wind, solar and storage projects
  - Electric and gas energy supply retailer

ENGIE NA.

→ ENGIE North America

- **Energy Solutions** fleet operates district energy or combined heat & power (CHP) systems at:
  - **The University of Iowa**
  - The Ohio State University, Columbus
  - Harvard Medical School and five affiliated hospitals and research institutions, Boston
  - University of Maryland, College Park
  - Nassau District Energy, Nassau County, Long Island, NY
  - Coors, Golden CO
  - United Launch Alliance, Decatur AL
  - Georgetown University, Washington DC
  - Howard University, Washington DC

ENGIE Globally

- ENGIE Global
  - 96,000 employees
  - Headquartered Paris, France. Key player in European energy.
  - Operates in dozens of countries worldwide, on 5 of 7 continents.
  - Solar, wind, natural gas and electricity networks, district energy, thermal production.
  - Committed to accelerate the transition towards a carbon-neutral world.
    - Target of Net Zero Carbon by 2045, for us and for our clients

ENGIE at UI

- Demographics:
  - Approximately 130 employees total, including student interns. About 110 in Operations. Balance in administration, purchasing & accounting, IT, data management, environmental, safety, capital projects.
  - In March 2020, ~80% of UI Utilities employees transitioned to ENGIE. We continue to have a strong core of employees from UI.
  - ~10 full-time positions currently open.
  - ~15 part-time students currently employed.
  - Staff at Main Power Plant, Oakdale Power Plant, Water Plant, West Campus Chilled Water Plant, Madison Street Services Building and University Services Building.

Engie Operations Roles and Emergency Contact

ENGIE Operations Roles and Emergency Contact Numbers (December 18, 2023)

Working Hours Contact

After Hours/Backup Contact

Director Energy Delivery
Garry Patricio
864-534-4287

Power Plant Manager
John Bergerud
319-594-1713

Water Treatment Services Manager
Jim Zaruba
319-310-9819

Distribution Plant Manager
John Weyer
319-560-4133

Maintenance Manager
Landon Geronzin
224-381-0104

Oakdale Operations Manager
Brad Swearingen
319-530-7489

Operations Manager
Jeremiah Greiner
319-929-1188

Chilled Water Plant Manager
Tom Andreski
734-309-5142

Operations Supervisor, Water Plant
Jared Barthelman
319-330-9783

Operations Supervisor, High Quality Water
Vacant

Operations Supervisor, Maintenance
Ray Forman
319-330-9783

Electric Distribution Manager
Chris Roberts
319-631-1924

Mechanical Distribution Manager
Gary Hayslett
319-541-0503

Industrial Control Systems Manager (Meters & Controls)
Ray Osbon
319-573-6351

High Voltage Supervisor
Will Kober
319-331-0970

24/7 Contact Main Power Plant Control Room
Primary:319-335-5137
Secondary:319-335-5135

Chilled Water 24/7 Control Room
319-335-8580

High Quality Water Services On-Call
#1: 319-359-0537
#2: 319-359-0900

Water Plant 24/7 Water Lab
319-335-5165

Electrical Distribution On-Call
#1: 319-331-0512
#2: 319-331-0511

Mechanical Distribution On-Call
#1: 319-631-3710
#2: 319-631-3607

Meters & Controls On-Call
#1: 319-631-6384

Utilities Locator
Lee Pitlik
319-560-7157

Financial Analyst
Tyler Cherry
319-721-9430

Safety Coordinator
Chad Stonebraker
608-778-9385

IT-Business Network
Michael Lindholm
319-471-2115

Environmental Compliance
Mark Maxwell
319-631-1950
Melissa Gilmartin
641-485-6116

Manager, Energy Data Center
George Paterson
319-330-4578

Site Administrator
Sherry Roe
319 248 5449

Who to call?

No answer or not satisfied?

- Senior leadership, 24/7

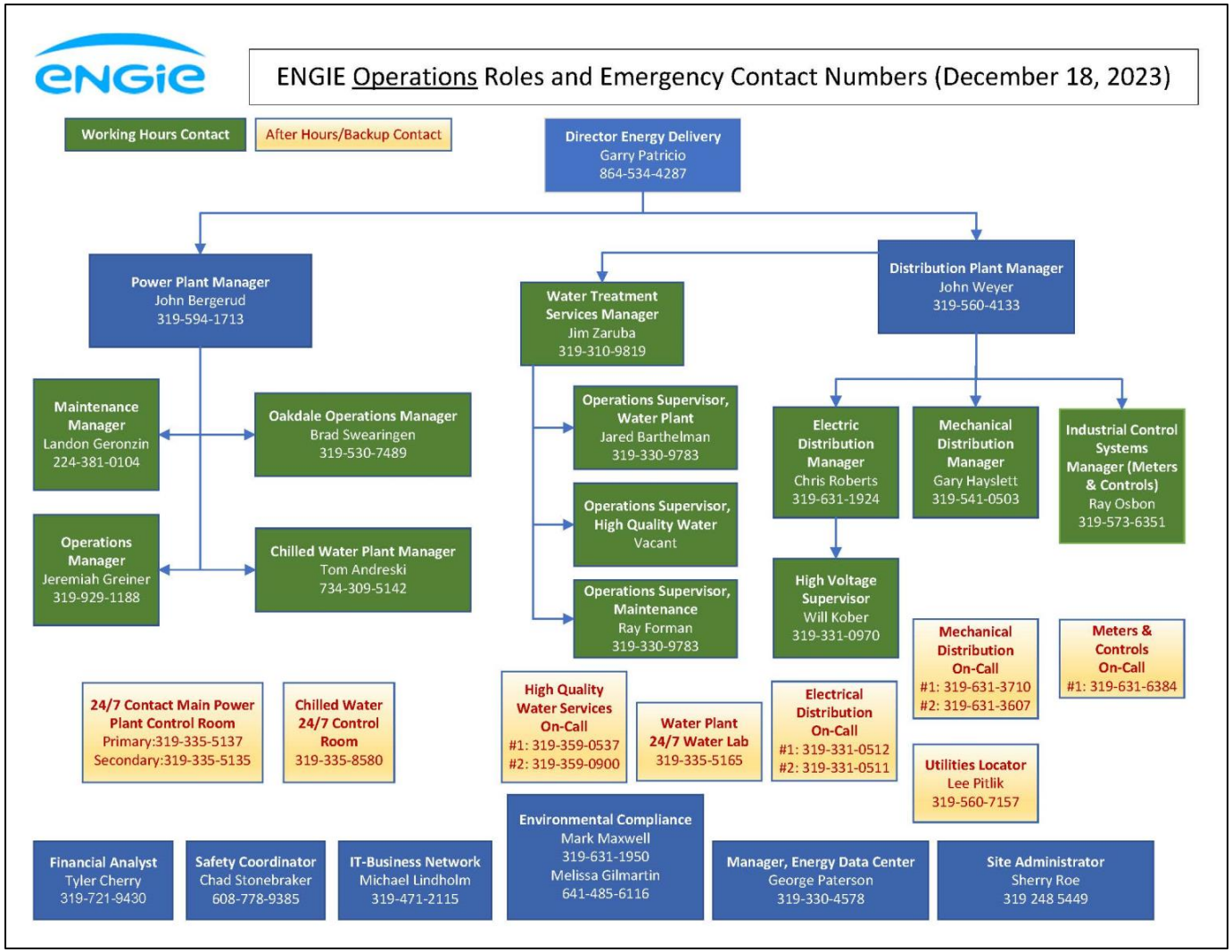
Business hours (0700-1530)

- ENGIE managers
- FM@YourService

Operations after-hours

- On-call staff

Business / administrative related



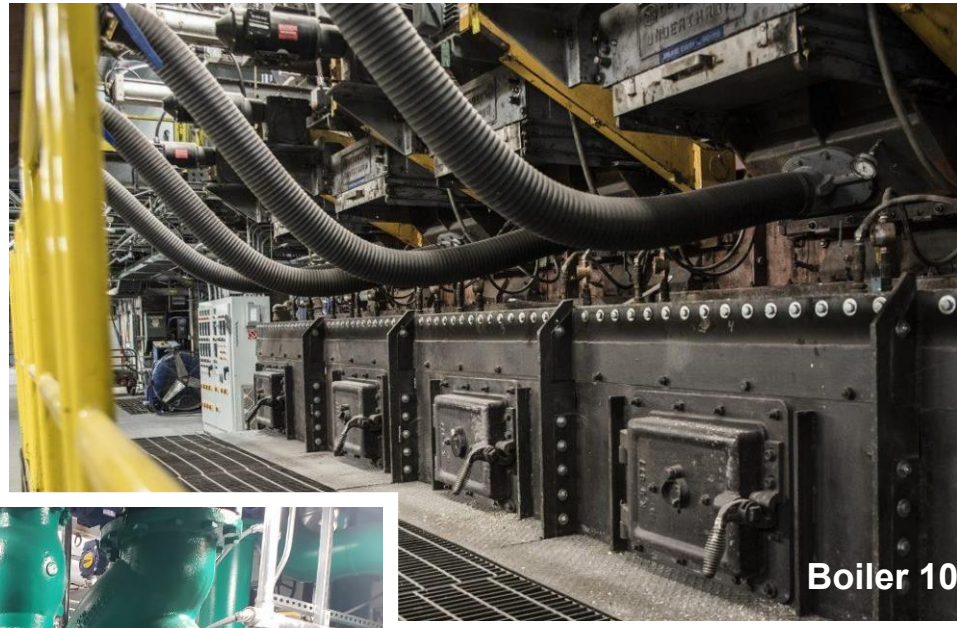
Campus Portfolio

- Main Power Plant
  - 7 boilers
  - 2 satellite boilers
  - 760 kpph capacity

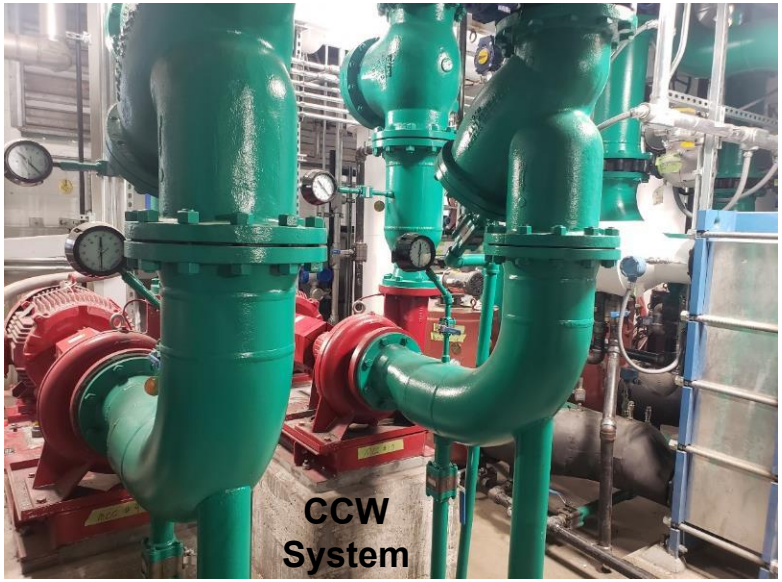
  - 3 steam turbine generators
  - 4 natural gas engines
  - 39.6 MW capacity

Main Power Plant

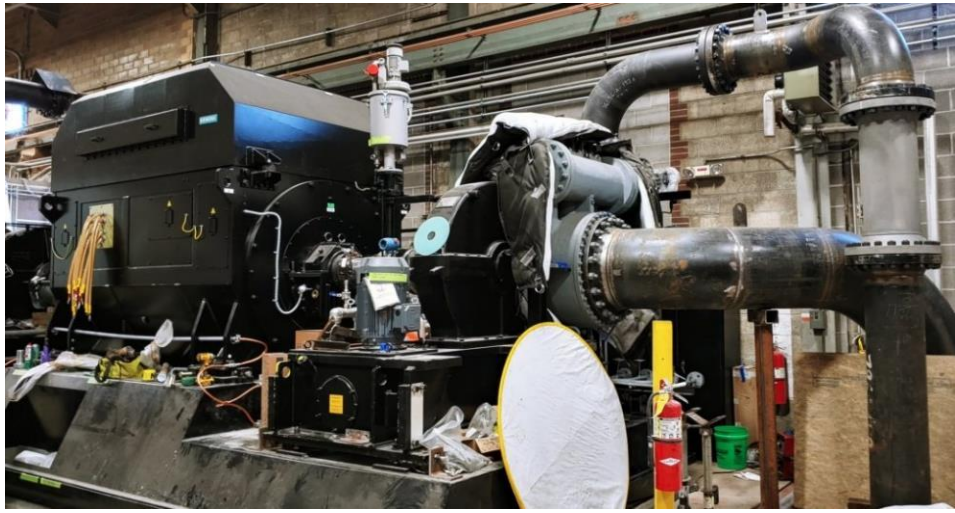
Natural Gas Engine Generators


Boiler 10


TG6


CCW System


RO Train



NEW TURBINE GENERATORS 7 and 8

Campus Portfolio

- Water Plant
  - Source of Potable Water for the Campus.
    - Research facility for advanced studies in Environmental Engineering
  - Production Capacity
    - Average Daily Production: 2.4 MG
    - Max Day Production: 5.2 MG

Water Plant


Intake
Structure


RO Trains


High
Service
Pump


Flocculation Mixing Basins

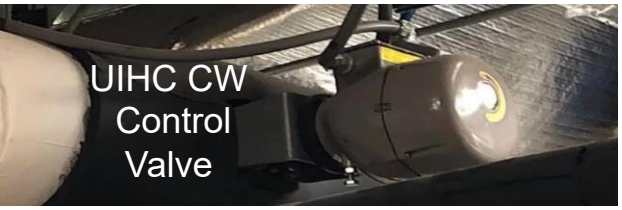

Sedimentation Basin


Water
Tower
South Hospital Drive

Campus Portfolio

- Chilled Water Plants
  - Chiller Plant 1 & Chiller Plant 2
  - Northwest Chiller Plant
  - North Campus Chiller Plant
  - 14 chillers total
    - ~60% electric
    - ~40% steam
    - 43,300 tons cooling capacity


1B Plant Cooling Towers


UIHC CW
Control
Valve


NW Plant Cooling Towers


CH-7
(4,000 Ton Steam
Unit)


Heat Exchanger
(UIHC for MRI
cooling)


CW Distribution Pump


CH-3A & CH-3B (2,400 Ton Electric
Units)

Campus Portfolio

- Electrical Distribution
  - Peak load of 68 MW
  - Over 45 miles of 13.8kV underground cable, via concrete-encased duct banks and approximately 300 vaults
  - Over 250 building substation transformers & associated switchgear
  - Connected to MidAmerican Energy grid at two substations shared with MidAmerican Energy, one at 161kV, one at 69kV. System contains an Across Campus Tie (ACT) to connect the two substations in the event of an emergency.
  - Maintains ~2,700 outdoor lights-- streetlights, parking lot, and walkway lights.

HV Electric Vault


HV SG at PBSB


HV Transformer

HV M Loop SG

Building
480v SG


SUB U

Campus Portfolio

→ Mechanical Distribution

- Tunnels, vaults, and direct-buried piping for steam and condensate, chilled water and domestic water piping and hydrants, compressed air, as well as storm and sanitary sewer collection systems.
- ~14,500 ft of steam distribution tunnels (roughly 2.75 miles). Most all new piping now direct buried.
- 89 steam distribution vaults.
- 4 hot water distribution vaults.

- Piping:
  - Steam, 78,000 feet of 1” to 30” pipe, 20 and 150 psig distribution systems
  - Chilled Water, 48,000 feet of up to 36” pipe
  - Domestic Water, 186,000 feet of up to 20” pipe.
  - Storm and Sanitary, 300,000 feet of up to 36” pipe.
  - Hot Water, 1,628 feet of pipe.
  - Compressed Air, 23,533 feet of pipe.

- Underground Locator as part of Iowa One Call system. 1,000 locate tickets annually


Steam Tunnel


UG Utility density example


CW Interface UIHC


Hydrant

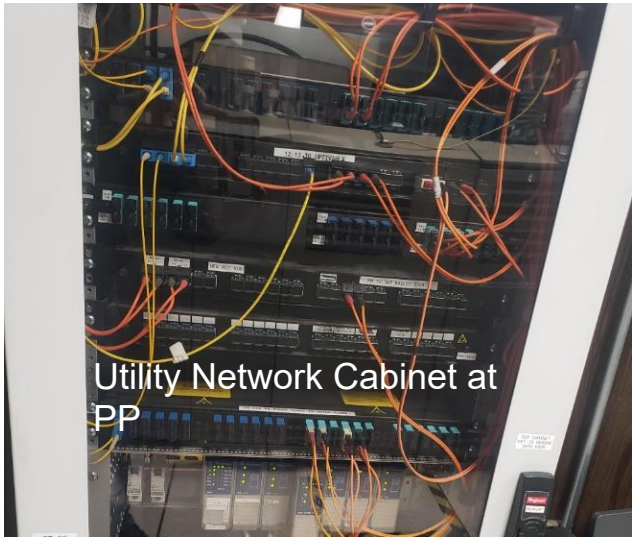

Steam Pressure Reducing Station UIHC

Campus Portfolio

- Meters & Controls
  - Maintains Utility Controls Network
    - Platform upon which Power Plant, Chilled Water, Water Plant, substation and Oakdale control systems reside.
    - Transmits meter data for revenue billing and utilities operations data for historical collection and analysis.
  - Maintains 65 miles of fiber optic cable (separate from ENGIE and UI IT systems) with numerous servers, workstations, network switches, routers. Compliant with industry cybersecurity standards.
  - ~425 electric meters, ~100 chilled water interfaces with 118 chilled water meters, 163 steam meters, 76 CW metering PLCs, and bringing ~100 water meters onto the network.


Steam Meter


Utility Network Switch
UTILITY
NETWORK SWITCH


Utility Network Cabinet at PP


480 VOLTS
INLINE FUSES IN TRANSFORMER
kV2c+
CALIBRATED
68 513 985
Electric Meter


CW PLC Cabinet

Campus Portfolio

- Oakdale Power Plant
  - 4 gas boilers, 57 kpph capacity
  - 2 gas generators, 2.85 MW capacity
  - 5 chillers, 2,240 tons capacity

CH-01 (600 Ton Electric Unit)

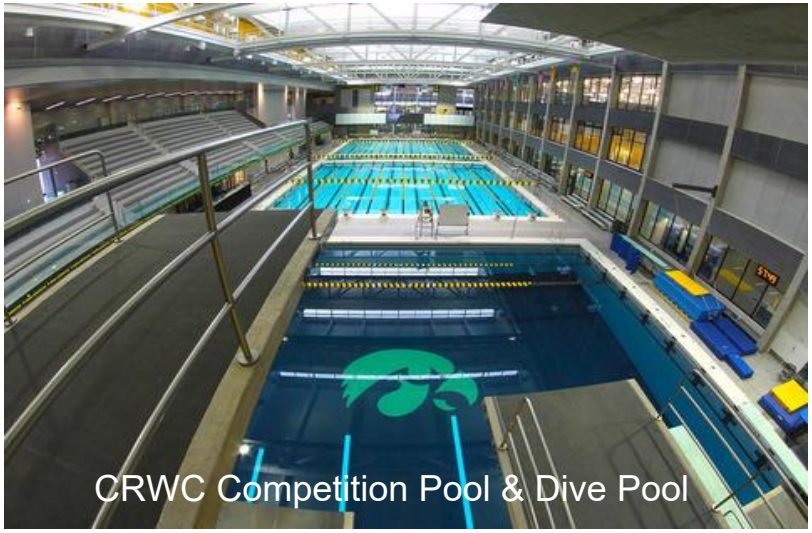
Water Softeners

Oakdale Boilers (1-4)

Campus Portfolio

- High Quality Water Services
  - Chemical treatment to 90 closed loops for building air conditioning systems.
  - Campus pools and therapy spas at CRWC, FH, Sports Medicine, UIHC; hydraulics modeling wave basins main and Oakdale campuses.
  - High Quality Water Systems in ~45 buildings consisting of RO, DI and softening systems for heating & cooling systems, humidification, labs, and processing of medical equipment.
  - Disinfection and sampling of new/remodeled/repaired piping systems, chlorination/dechlorination, main break sampling.
  - Oakdale Campus Water System
  - State and federal permit-required bacteria and lead/copper sampling.
  - ~300 water meters for monthly billing.
  - Sampling and analysis for regulated storm water outfall discharges and environmental regulatory reporting.

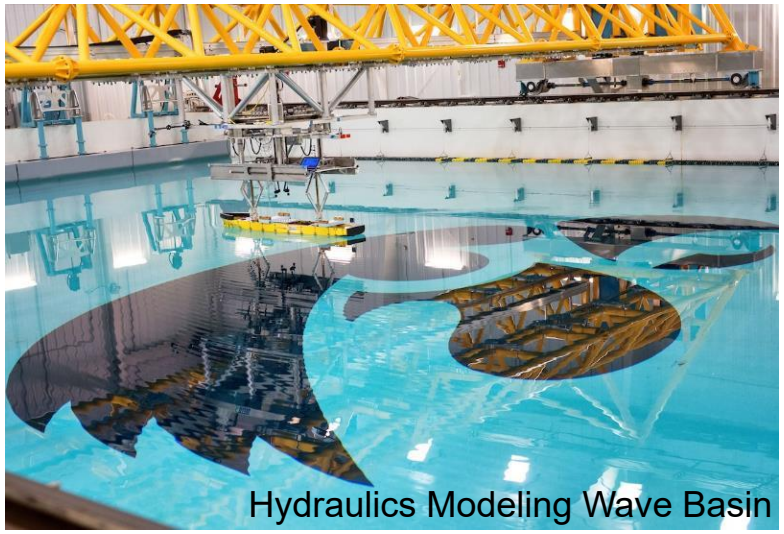
CRWC Pool Equipment



CRWC Competition Pool & Dive Pool

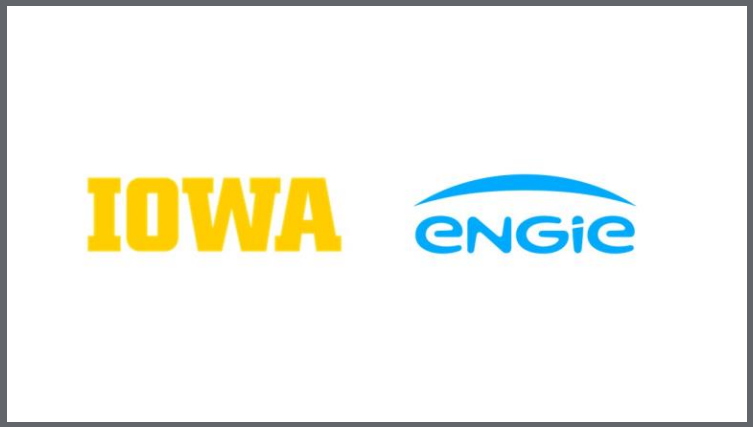
CRWC Pool Equipment

PBDB RO Train



Hydraulics Modeling Wave Basin

Voxman RO Train


IOWA
ENGIE

Building Coordinator

Next meeting:
February 21, 2024, via zoom 11 AM to 12 PM

Proposed Agenda:

- FM 2027 Goals
- Facilities Information Systems

Thank you