

High Performance O&M Training for Multifamily Building Staff

Proper operations and maintenance (O&M) training for building staff delivers a high return on investment – equipping staff with a valuable skillset, lowering operating costs, and preparing buildings for a climate-ready future. Hosted by Building Energy Exchange in partnership with Cadmus and NYSERDA, this program will walk through the measurable, positive impacts of O&M training and upskilling of staff in the multifamily sector.

Moderator

Chas Anders Hall, Managing Director, Thor's Hammare Energisnal

Speakers

Davetta Thacher, Senior Project Manager, NYSERDA

Adam Romano, Senior Building Systems Consultant, Steven Winter Associates

Phil Wischerth, Senior Director, Residential Project Management, Kings & Queens Maintenance Services

Rudy Mercado, Resident Manager, Allied Partners

October 4, 2022 | 9 to 11 am ET

Building Energy Exchange | 31 Chambers St, New York, NY

CADMUS

be
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NYSERDA

building
energy
exchange

High Performance O&M Training for Multifamily Building Staff



Davetta Thacher
NYSERDA WFD
Senior Project
Manager

NYSERDA Building Operations and
Maintenance Training (PON 3715)

nyserderda.ny.gov/PON3715



NYSERDA

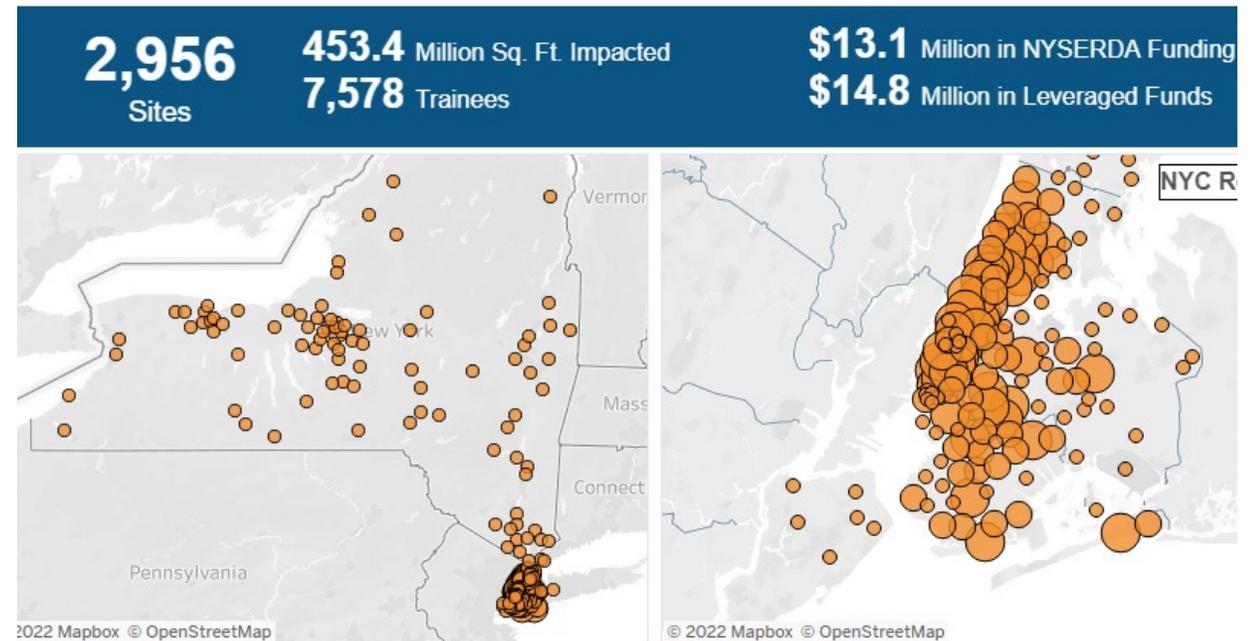
Goals

- To reduce **energy use** and associated **carbon emissions**
- To save building operators and owners **money** by developing and strengthening the skills of operations and maintenance (O&M) staff and managers across the state so that they can **optimize building energy performance**
- To **equip building O&M workers with the skills to operate** increasingly energy-efficient, grid-flexible, and electrified building systems (including heat pumps)
- To reduce equipment downtimes, increase occupant comfort, reduce occupant complaints and tenant turnover, increase numbers of staff with national certifications, and offer greater opportunities for employee retention, promotion, and career advancement
- To advance building O&M workers beyond classroom training and create:
 - Talent development strategy
 - Corporate culture
 - On-site training framework
 - Training tools

Eligibility Requirements

- Facilities must be New York State electricity customers that pay into the System Benefits Charge (SBC)/Clean Energy Fund (CEF)
- Proposals must be for training activities connected with specific buildings or portfolios/campuses of buildings
- Minimum total annual energy expenditures of \$1 million or more (all fuels and uses) for impacted buildings

* Training programs that don't partner with buildings should see [PON 3981](#) Energy Efficiency & Clean Technology Training



Locations of NYSEERDA Building O&M Training projects funded to date

Funding & Cost Share Requirements

\$10 Million in NYSERDA Funding Available

Cost Share Requirements:

- NYSERDA will provide funding of up to 90% when 75% or more of the buildings are within in a [Disadvantaged Community](#), with a cap of \$400,000 per proposal
- Qualifying union-led projects or pre-apprenticeship programs require 10% of cost share
- For all other proposals, NYSERDA will provide funding of up to 70% with a cap of \$400,000 per proposal
- Cost share may include cash or in-kind services.

Examples of eligible cost share include:

- The proposer/facility's employees' wages while working on project activities
- The proposer/facility's employees' wages during training hours
- New equipment that will be used exclusively for training purposes
- Training fees offset by a third party

Upcoming Proposal Due Dates:

November 16, 2022

Feb 16, May 18, Aug 17 and Nov 14, 2023

Targeted O&M Occupations

- Energy/sustainability managers
- Facility managers & coordinators
- Operating and stationary engineers
- Technicians
- Repairpersons
- Maintenance workers
- Mechanics & supervisors
- Electricians
- Plumbers
- HVAC technicians
- Procurement staff

Eligible Activities

Proposals should be aimed at continuously advancing the skills of new and/or existing building O&M workers.

Training should be for identified skills gaps for which training is not currently available within the proposing facilities or readily available in the market.

Eligible training initiatives can be equipment-based or O&M-based.

Eligible Activities:

- On-site training laboratories
- Curriculum development or revision
- Career pathways training
- Coaching and mentorship
- Apprenticeships
- Training trainers within the buildings
- Partnerships with manufacturers
- Planning for training replicability and sustainability

List* of PON 3715 Contractors

(Training Partners and Buildings)

32BJ Training Fund	NYU Medical Center
AKF Engineers	Related Management
Association for Energy Affordability (AEA)	Rural Housing Coalition
Energy Economic Development Corp. (EEDC)	Rensselaer Polytechnic Institute
FirstService Energy	Smith Engineering
Ross Energy Consulting	Steven Winter Associates
Interstate Renewable Energy Council (IREC)	SUNY Brockport & SUNY Poly
Lefrak Estates LP	Sustainable Investment Group/Aetos Imaging
Memorial Sloan Kettering Cancer Center	The City College of New York
Hospitals: Montefiore & NY Presbyterian	The Cooper Union
NYS School Facilities Association (NYSSFA)	Urban Green Council

* [See map of PON 3715 projects for a full list](#)

Thank You!

- **Available contractor resources:**
 - [NYSERDA Clean Energy Workforce Development Website](#)
 - [Partner Connector](#)
- **Next [PON 3715](#) application due dates are**
 - **Thursday, November 16, 2022**
 - **Thursday February 16, 2023**
- **Still have questions?**
Davetta.Thacher@nyserda.ny.gov

Current NYSERDA Workforce Funding Opportunities

[PON 3715](#)

Building Operations & Maintenance Training
Next Due Dates: September 22 and November 16

[PON 3981](#)

Energy Efficiency & Clean Technology Training,
including Career Pathway Training Partnerships
for High Efficiency HVAC and Heat Pumps

[PON 3982](#)

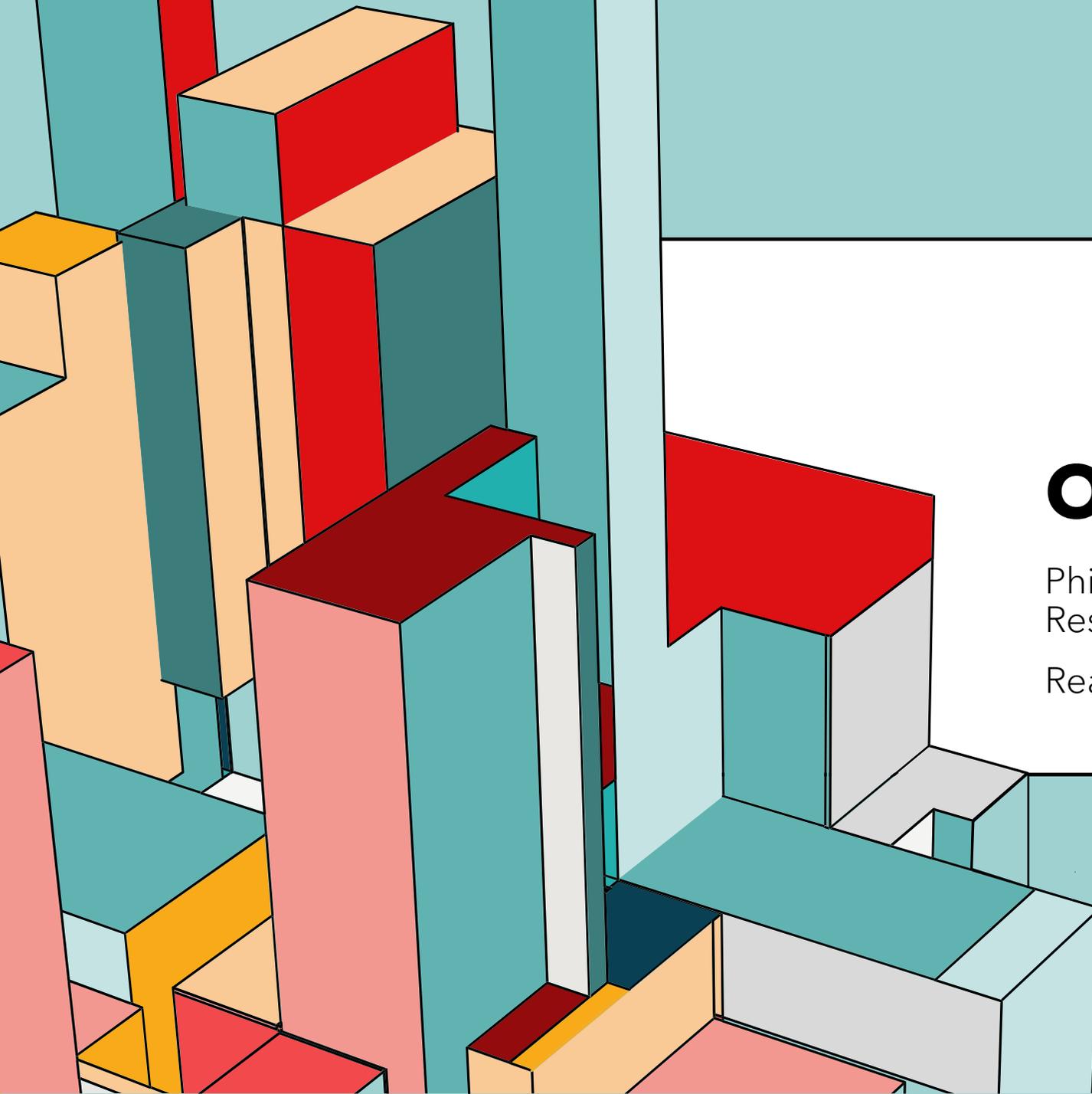
On-the-Job Training for Energy Efficiency &
Clean Technology

[PON 4000](#)

New York State Clean Energy Internship
Program

[RFQL 4145](#)

Clean Energy Training Services



O&M TRAINING

Phillip Wischerth Senior Director,
Residential Project Management
Realty Operations Group

ABOUT US

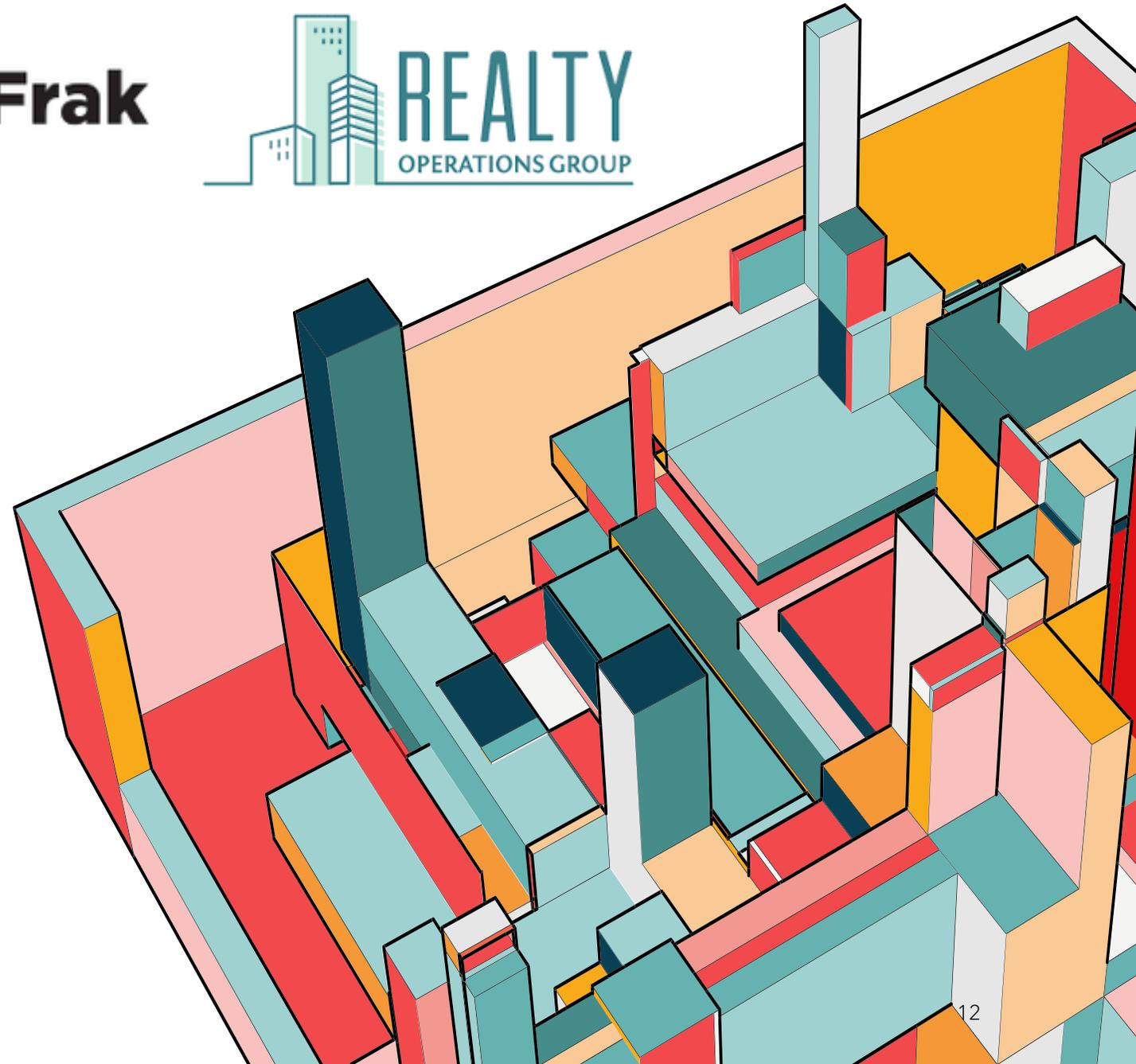


LeFrak



LeFrak is a preeminent, family-owned property company committed to community development and long-term ownership. Our principles, consistently applied, have strengthened and deepened the expertise that supports our real estate leadership.

ROG's commitment to quality has navigated both our business practices and our company values. Using this guiding commitment, we have established ourselves as a dominant force in the world of real estate and investments. We are dedicated to provide best-in-class development service and management to our properties.



TRAINING PROGRAM GOALS

PROFESSIONAL DEVELOPMENT

As new staff are hired, we wanted to have the framework in place to provide them with the essential knowledge and skills, as well as the ability to upskill existing staff in order to support career advancement

STANDARDIZATION

The management team recognized the need to perform certain maintenance tasks more consistently across the portfolio

NEW TECHNOLOGY

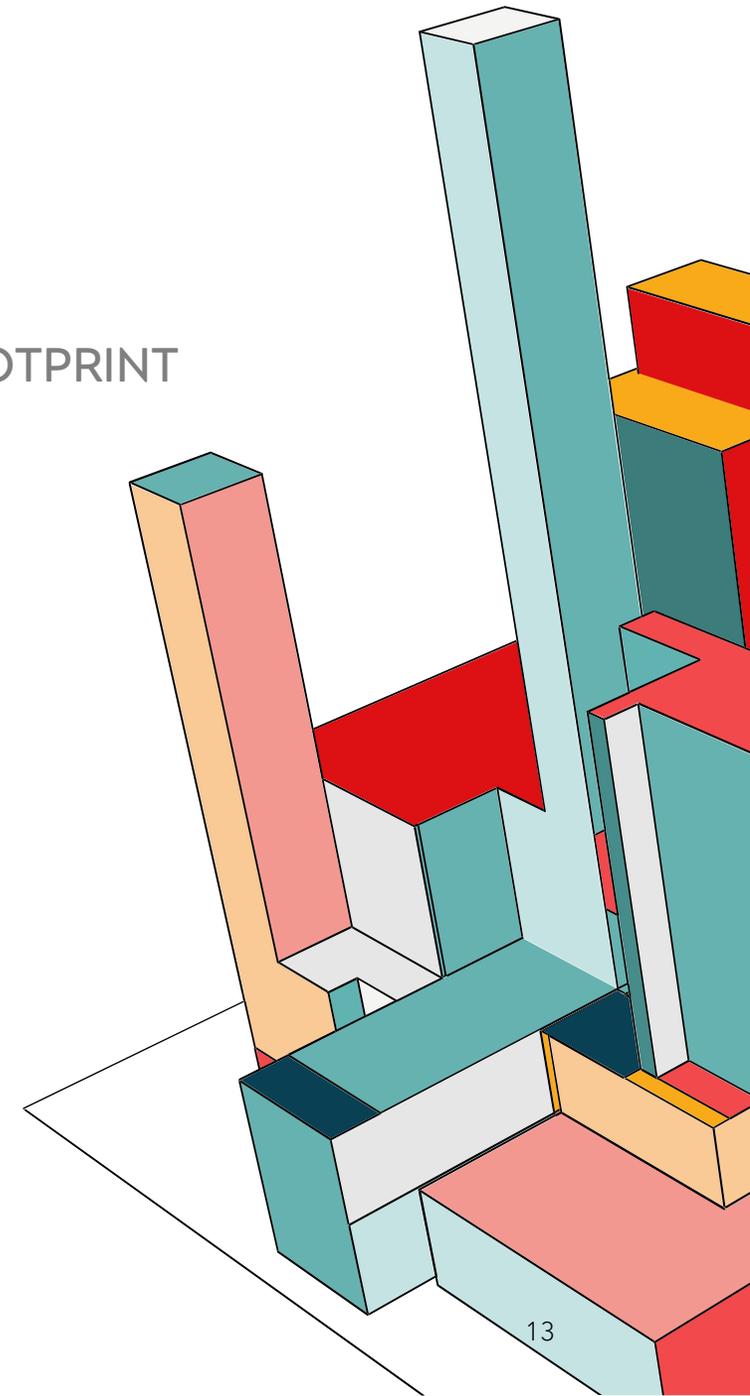
As new technology is deployed, we wanted to make sure our staff have the knowledge and skills needed to operate and maintain these systems

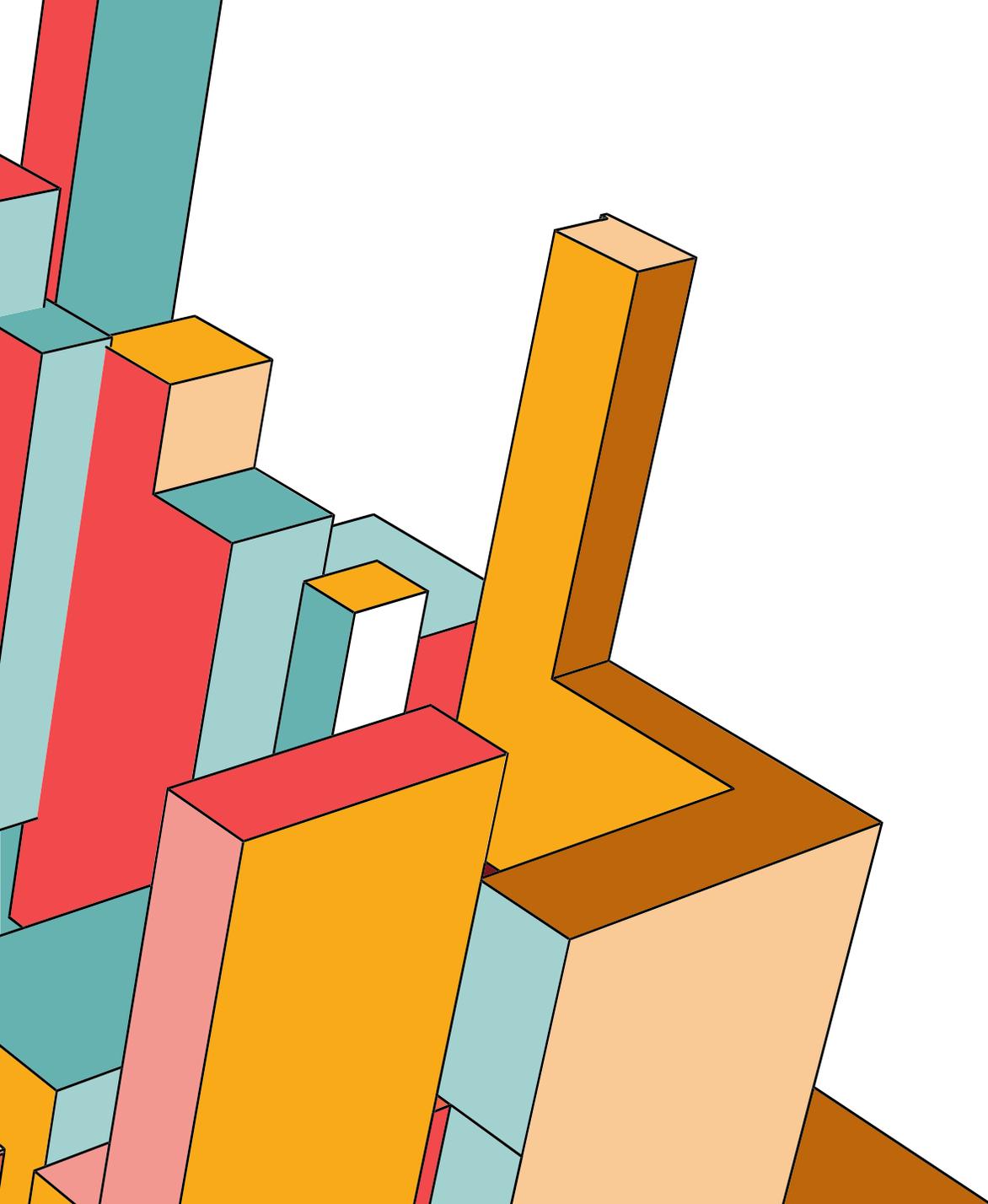
ENERGY SAVINGS / CARBON FOOTPRINT

Reduction in gas/oil usage as a result of running our HVAC systems more efficiently

RELIABILITY AND COMFORT

We want our staff to be able to diagnose problems and have the tools needed to solve these issues in-house improving equipment reliability and occupant experience





SOLUTION

CURRICULUM DEVELOPMENT

We worked with SWA to customize the training, covering the topics specific to our needs and identifying goals that we wanted to accomplish

TRAINING DELIVERY

The training program was delivered in a blended format, combining classroom and field-based training as well as O&M videos, covering topics such as boilers and controls, distribution balancing, lighting, DHW, and air sealing.

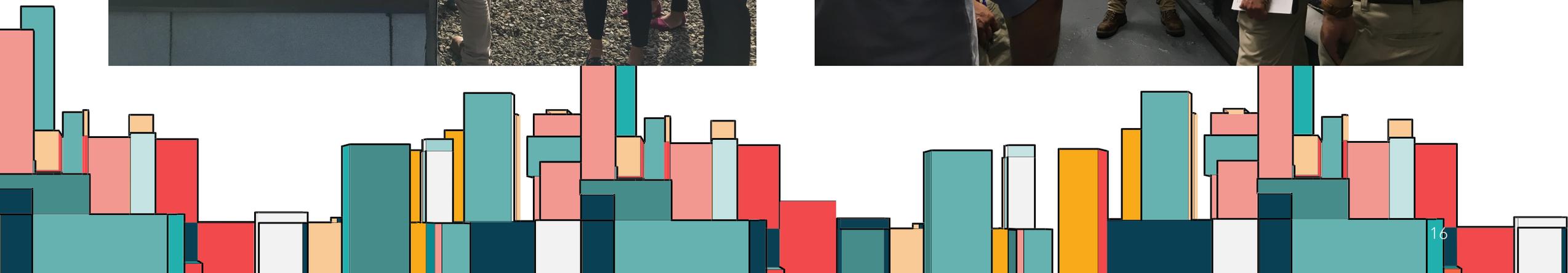
EVALUATION

As the training program was delivered, evaluation instruments were used to gather feedback from attendees in order to adjust/modify the content/delivery format

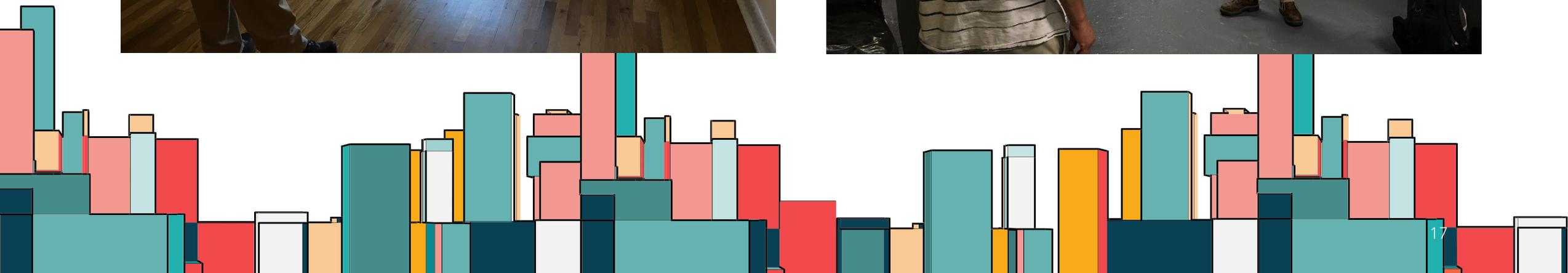
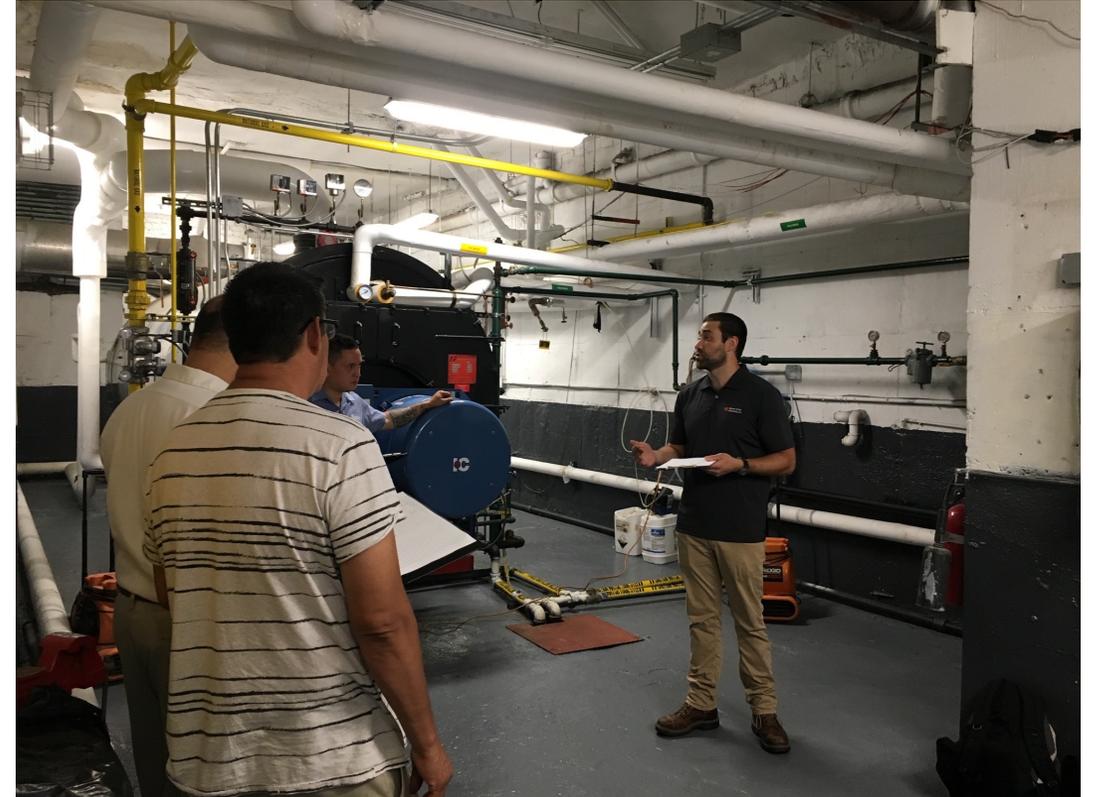
TRAINING DELIVERY



TRAINING DELIVERY



TRAINING DELIVERY



RESULTS



69 Buildings
Impacted,
Representing Over
9M SF



75 Staff Members
Trained
Safe Operation



Lower R&M
Increased Comfort
Sustainable Training

An abstract graphic on the right side of the slide consists of numerous 3D rectangular blocks of various colors (red, teal, yellow, white, dark blue) stacked and arranged to resemble a city skyline or a modern architectural structure. The blocks are outlined in black and set against a light orange background.

THANK YOU!!

Phillip Wischerth
Senior Director, Residential
Property Management
Realty Operations Group



SWA O&M Training





Adam Romano C.E.M.

Principal Building Systems Consultant

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Since 1972, Steven Winter Associates, Inc. has been providing research, consulting, and advisory services to improve the built environment for private and public sector clients.

Our services include:

- Energy Conservation and Management
- Sustainability Consulting
- Green Building Certification
- Accessibility Consulting

We have over 125 staff across three office locations:
New York, NY | Washington, DC | Norwalk, CT

For more information, visit
www.swinter.com



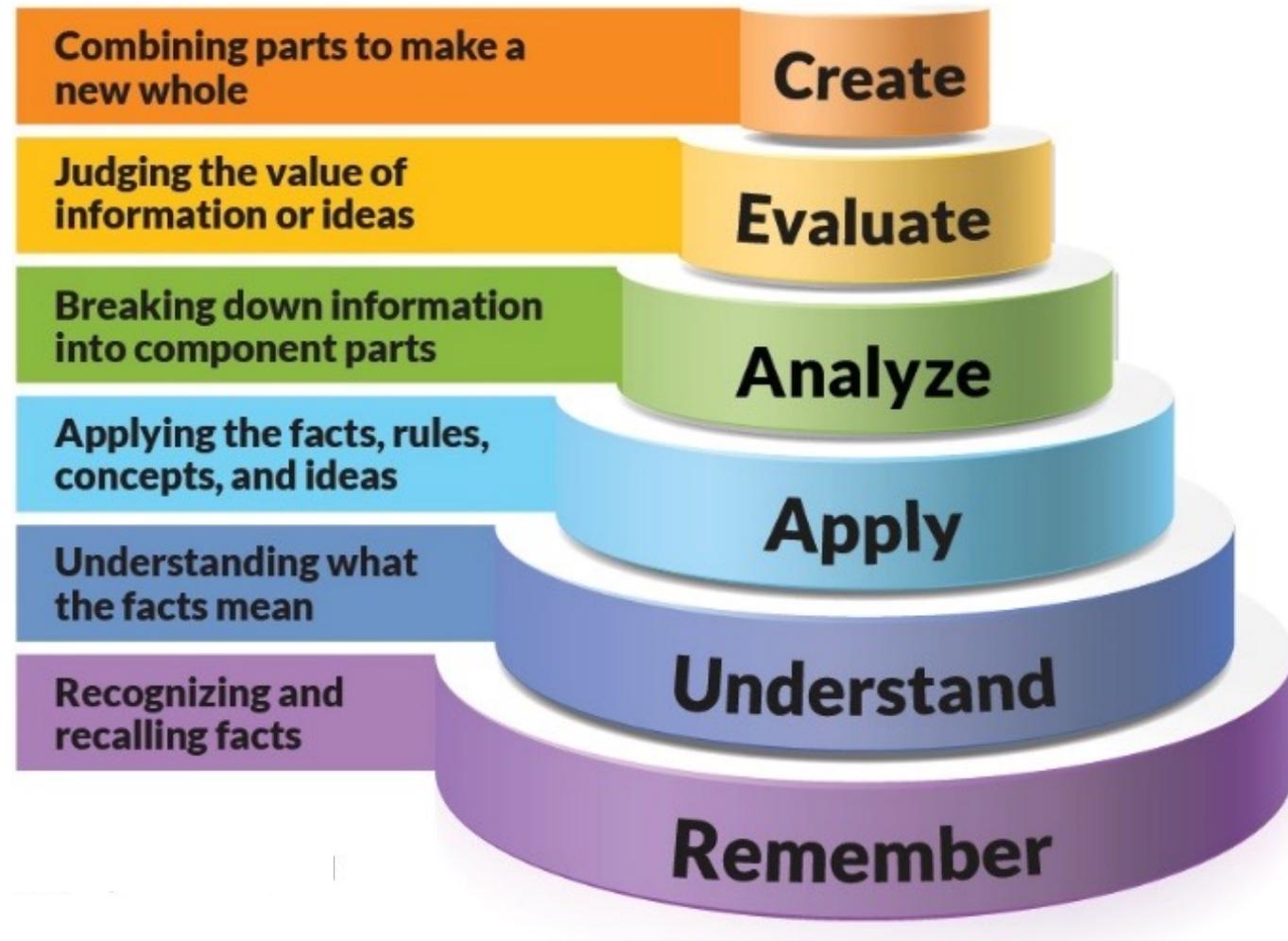
Training Program Kick-Off Meeting

- Overview of the Process
- Set Goals
- Identify an Internal Champion
- Roles and Responsibilities



Curriculum Development

- Training Needs Assessment
- Participant Centered Learning Objectives
- Training Module Development/Approval
- O&M Manual Development/Approval



Classroom Training

- Heating Season Training
 - Steam/Hydronic Boilers
 - Steam/Hydronic Distribution
 - Boiler Controls
- Common System Training
 - Air Sealing
 - Ventilation Systems
 - DHW Systems
- Cooling Training
 - Chillers/Cooling Towers
 - Air Handling Equipment
 - Heat Pumps



Field Training

- Applying what we've learned in the classroom.
- Performing the O&M Tasks
 - Guided by our Building Books



Building Books

- Equipment Explainers
- Equipment Inventory Sheets
- O&M Checklists
 - Daily, Weekly, Monthly, Annual O&M Tasks
 - Using the Checklists as a Diagnostic Tool

Steam Heating System Information Survey

Name: _____

Date: _____

Use multiple sheets if you have more than 2 boilers. Update this sheet if any boilers are replaced.

	Example		Boiler Tag: #1		Boiler Tag: _____		Boiler Tag: _____	
BOILER INFORMATION								
Boiler Make and Model	Easco FST-200							
Boiler Serial Number	15234							
Fuel Type	Natural Gas							
Year Manufactured	2016							
Skim Port Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Yes	<input type="radio"/> No
Detergent Port Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Yes	<input type="radio"/> No
Chemical Water Treatment?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Yes	<input type="radio"/> No
Anode Bars?	<input type="radio"/> Yes	<input checked="" type="radio"/> No	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Yes	<input type="radio"/> No
Feeder Height	84"							
Minimum Waterline Height	81"							
BURNER INFORMATION								
Burner Make and Model	Industrial Combustion DLG-84P							
Burner Serial Number and UL#	Serial: 12345, UL:275							
High Fire Limit?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Yes	<input type="radio"/> No
Minimum Fire Rating	2,100 MBH							
BOILER PRESSURE CONTROLS								
Operating Pressuretrol Range	1 - 4 psi							
Modulating Pressuretrol Range	1 - 3 psi							
High Limit Pressuretrol Setpoint	12 psi							

Sustain the Training

- Development of a Sustainability Plan
 - Train-the-Trainer
 - Mentoring Program
 - Evolution of Building Books and Resources



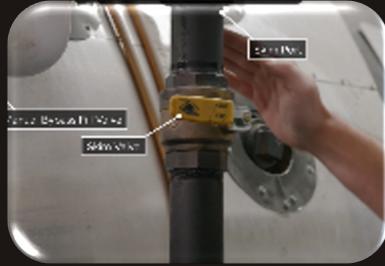




Daily Steam Boiler Inspection



Steam Boiler Blowdown



Steam Boiler Skimming



Pressure Control Settings



Steam Outdoor Reset Control Settings



Radiator Air Vent Replacement



Radiant Barrier Installation



Daily Hydronic Boiler Inspection



Hydronic Outdoor Reset Control Settings



Strainer Cleaning



Pump Maintenance



PTAC Maintenance



Stand Alone Water Heater Maintenance



Mixing Valve Maintenance



Ventilation System Maintenance



ERV Maintenance



Heat Pump Maintenance



Apartment Air Sealing

Results

- Upskilling Existing Staff
- Career Advancement
- Standardized Procedures
- Reduced Equipment Downtime
- Energy Savings from 5%-15%





Contact Us

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discuss.

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