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Key Benefits

T **Save Time**

Automate RFQs and reduce manual work by up to 50%

$ **Cut Costs**

Negotiate directly with suppliers for better deals

→ **Streamlined Sourcing**

Take BuildVision's structured data and send it to suppliers at BuildVision.io

Customer Information

Customer Name	First Energy
Contact Person	Des Neary
Contact Email	dneary@structuretone.com
Contact Phone	N/A
Organization	Structure Tone (NY)

Project Information

Project Name	First Energy-Dover Richboynton Service Center HVAC Upgrades
Location	13 Richboynton Road, Dover, NJ 07801
Start Date	2025-05-15
Completion Date	2025-06-04
Budget	N/A
Scope	HVAC Systems Upgrades
Project ID	f0eb16d2-bbf8-45ba-b9fb-1b57adcaf1b7
Project URL	BuildVision Project Link
Project Size	5000 sq. ft.
Bid Status	BuildingConnected Lead
Contract Type	N/A
Request Type	Proposal
Rfis Due	2025-05-22
Date Invited	2025-05-15

Prepared By

Ben Lyddane
Ben@BuildVision.io
202-365-8628

Mackenzie Hoover
Mackenzie@buildvision.io
843-609-3265

Date: 2025-05-20

Project Equipment

Dedicated Outdoor-Air Units

Equipment Tag	Manufacturer	Model
DOAS-1-1	AAON	RQA-002

Notes

Provides dedicated outdoor air ventilation to the facility

Split System Air Conditioners

Equipment Tag	Manufacturer	Model
ACCU-1-1	Mitsubishi Electric (Including Trane Products)	SUZ-KA12NAHZ
FCU-1-1	Mitsubishi Electric (Including Trane Products)	SLZ-KF12NA1
FCU-2-3	Mitsubishi Electric (Including Trane Products)	SLZ-KF12NA1

Notes

Provides cooling for specific zones in the building

Water-Source Heat Pumps

Equipment Tag	Manufacturer	Model
ACCU-2-1	Mitsubishi Electric (Including Trane Products)	NTXMSM60A182BA
ACCU-3-1	Mitsubishi Electric (Including Trane Products)	TRUZH0301KA0ONA
ACCU-4-1	Mitsubishi Electric (Including Trane Products)	TRUZH0361KA0ONA

Notes

Provides efficient heating and cooling using water source technology

Fan Coil Units

Equipment Tag	Manufacturer	Model
FCU-2-1	Mitsubishi Electric (Including Trane Products)	SLZ-KF15NA1
FCU-3-1	Mitsubishi Electric (Including Trane Products)	TPEADA0301AAB0A
FCU-4-1	Mitsubishi Electric (Including Trane Products)	TPEADA0361AA70A

Notes

Provides conditioned air to various spaces in the facility

Variable Refrigerant Flow Systems

Equipment Tag	Manufacturer	Model
FCU-2-2	Mitsubishi Electric (Including Trane Products)	TPLA0A0241EA80A

Notes

Provides efficient, zoned comfort control

Packaged Rooftop Air-Conditioning Units

Equipment Tag	Manufacturer	Model
RTU-1-1	Trane	WHK060A3
RTU-2-1	Trane	WHK048A3

Notes

Provides primary HVAC to main building areas

HVAC Fans

Equipment Tag	Manufacturer	Model
EF-1-1	Greenheck	GB-140
EF-2-1	Greenheck	G-097-C
F-1	Loren Cook	30 XLW S
GEF-1-1	Greenheck	CUBE-180
GEF-2-1	Greenheck	CUBE-180

Notes

Provides ventilation and exhaust for various spaces

Suppliers

Dedicated Outdoor-Air Units

Note: Cost differences are AI-estimated percentages relative to Basis of Design and are not based on actual project data. Always obtain accurate quotes from vendors directly via buildvision.io.

Manufacturer	Model	Representativ	AI Est. Cost D	Compatibility Notes	BoD
AAON	RQA-002	N/A		Basis of Design	**Yes**
Daikin	Rebel	Daikin Representative	+5-10%	Compatible alternative with similar performance specifications	No

Split System Air Conditioners

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Manufacturer	Model	Representativ	AI Est. Cost D	Compatibility Notes	BoD
Mitsubishi	Electric (Including Trane Products) SUZ-KA12NAHZ	N/A		Basis of Design	**Yes**
Daikin	RXS12LVJU	Daikin Representative	-3%	Compatible alternative with similar performance specifications	No

Water-Source Heat Pumps

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Manufacturer	Model	Representativ	AI Est. Cost D	Compatibility Notes	BoD
Mitsubishi	Electric (Including Trane Products) NTXMSM60A1	N/A		Basis of Design	**Yes**

ClimateMaster	TMW060	ClimateMaster Representative	-5%	Compatible alternative with similar performance specifications	No

Fan Coil Units

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Manufacturer	Model	Representativ	AI Est. Cost D	Compatibility Notes	BoD
Mitsubishi	Electric (Including Trane Products) SLZ-KF15NA1	N/A		Basis of Design	**Yes**
Daikin	FXFQ15TVJU	Daikin Representative	+2%	Compatible alternative with similar performance specifications	No

Variable Refrigerant Flow Systems

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Manufacturer	Model	Representativ	AI Est. Cost D	Compatibility Notes	BoD
Mitsubishi	Electric (Including Trane Products) TPLA0A0241E	N/A		Basis of Design	**Yes**
LG	ARNU24GSCR4	LG Representative	-4%	Compatible alternative with similar performance specifications	No

Packaged Rooftop Air-Conditioning Units

Note: Cost differences are AI-estimated percentages relative to Basis of Design and are not based on actual project data. Always obtain accurate quotes from vendors directly via buildvision.io.

Manufacturer	Model	Representativ	AI Est. Cost D	Compatibility Notes	BoD
Trane	WHK060A3	N/A		Basis of Design	**Yes**

Carrier	48TC06	Carrier Representative	+3%	Compatible alternative with similar performance specifications	No

HVAC Fans

Note: Cost differences are AI-estimated percentages relative to Basis of Design and are not based on actual project data. Always obtain accurate quotes from vendors directly via buildvision.io.

Manufacturer	Model	Representativ	AI Est. Cost D	Compatibility Notes	BoD
Greenheck	GB-140	N/A		Basis of Design	**Yes**
Twin City Fan	BCRD	Twin City Fan Representative	-2%	Compatible alternative with similar performance specifications	No

Design Notes

Dedicated Outdoor Air System

Technical Observations:

- The DOAS unit provides dedicated ventilation air to the facility
- System is designed to handle required outdoor air volume for the building
- Includes energy recovery to improve efficiency

Concerns:

- Adequate access for maintenance must be ensured
- Integration with existing building systems needs careful coordination

Opportunities:

- Energy recovery can reduce operational costs
- Improved indoor air quality through dedicated outdoor air system

Split Systems and Heat Pumps

Technical Observations:

- Mitsubishi systems provide efficient heating and cooling
- Multiple zones allow for flexible temperature control
- Water-source heat pumps offer efficient operation

Concerns:

- Proper drainage for condensate must be ensured
- Coordination required for refrigerant piping and electrical connections

Opportunities:

- High-efficiency systems reduce energy consumption
- Zoned control improves occupant comfort

Rooftop Units

Technical Observations:

- Trane units provide primary HVAC for main building areas
- Packaged systems simplify installation
- Sized appropriately for building loads

Concerns:

- Roof structure must be verified for additional loading

- Ductwork transitions from existing systems need coordination

Opportunities:

- High-efficiency rooftop units improve energy performance
- Simplified maintenance compared to split systems

Exhaust and Ventilation Systems

Technical Observations:

- Mix of Greenheck and Loren Cook fans provide exhaust and ventilation
- Various models selected based on specific application requirements
- Systems designed to meet building code ventilation requirements

Concerns:

- Coordination with architectural elements for exhaust outlets
- Balance of supply and exhaust air for proper building pressurization

Opportunities:

- Improved indoor air quality through proper ventilation
- Energy-efficient fan selections reduce operational costs

BuildVision Recommendations

1. Implement BACnet integration for all HVAC equipment

Rationale: Unified control system will improve operational efficiency and enable advanced scheduling and monitoring
Estimated Impact: 10-15% reduction in energy usage through optimized control
Implementation: Ensure all equipment has BACnet compatibility and coordinate with building automation contractor
Priority: High

2. Add variable frequency drives (VFDs) to all applicable fan motors

Rationale: VFDs allow for modulation of fan speed based on demand, reducing energy consumption during partial load conditions
Estimated Impact: 15-20% reduction in fan energy usage
Implementation: Specify VFDs compatible with motor sizes and control system
Priority: Medium

3. Consider increasing MERV rating of filters

Rationale: Higher MERV rating filters improve indoor air quality by capturing smaller particulates
Estimated Impact: Improved indoor air quality and potential reduction in airborne contaminants
Implementation: Verify equipment compatibility with higher pressure drop of improved filters
Priority: Medium

4. Implement duct leakage testing

Rationale: Ensuring minimal duct leakage improves system efficiency and reduces energy waste
Estimated Impact: 5-10% improvement in system efficiency
Implementation: Specify duct leakage testing in accordance with SMACNA standards
Priority: Medium

5. Consider adding UV-C lamps in air handlers

Rationale: UV-C technology can reduce microbial growth on coils and improve indoor air quality
Estimated Impact: Reduced maintenance costs and improved indoor air quality
Implementation: Add UV-C lamps to air handling units, particularly the DOAS and rooftop units
Priority: Low

Conclusion

Key Findings

- Equipment selections are appropriate for the application and facility requirements
- Mixture of split systems, packaged units, and dedicated outdoor air systems provides flexibility and efficiency
- Energy-efficient equipment will reduce operational costs compared to existing systems
- Alternative manufacturers are available for all specified equipment if needed
- Integration of control systems will be critical for optimal performance

Highest Priority Actions

- Implement BACnet integration for all HVAC equipment
- Verify structural capacity for rooftop equipment
- Ensure proper coordination between new and existing systems
- Conduct commissioning to verify proper system operation

Summary

The First Energy-Dover Richboynton Service Center HVAC Upgrades project involves comprehensive replacement and upgrading of HVAC systems throughout the facility. The selected equipment represents a good balance of efficiency, functionality, and cost-effectiveness. The specified Mitsubishi, Trane, AAON, Greenheck, and Loren Cook equipment will provide reliable operation with modern, energy-efficient technology. Implementing the BuildVision recommendations will further enhance system performance and occupant comfort.

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Ben@BuildVision.io
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