Statement of Work 01.06.2025

Replace FFDG-Supplied Process Chiller

INTRODUCTION

This Statement of Work (SOW) outlines the provisions of supervision, expertise, labor, materials, and equipment necessary to complete the project.

The work will be performed at the E-Cool building 31, FIMS#731, located within the Fermilab facility located in Batavia, Illinois. Fermilab is operated by the Fermi Forward Discover Group (FFDG), which will assign a Task Manager/Construction Coordinator (TM/CC) to oversee this project.

The subcontractor shall install the FFDG-Supplied process chiller. The subcontractor is responsible for all aspects of the project's execution, including labor, supervision, equipment, measurements, programming, installation, and testing to ensure the work is completed in accordance with the project specifications. Upon completion, the subcontractor shall turn over the completed work to the FFDG TM/CC.

Scope of Work: MI-31 Process Chiller Replacement

1. Project Mobilization

- **Location: FIMS 731, E-Cool Service Building 31 (MI-31).**
- **Site Preparation: Mobilize personnel, tools, and equipment to the site.**

2. Pre-Construction & Safety

- **Refrigerant Recovery: The Task Manager/Construction Coordinator shall have all the refrigerant removed prior to project commencement.**
- **Lockout/Tagout (LOTO): Contractor is responsible for LOTO and zero-energy verification of electrical and water sources.**
    - **Condenser (A731CD01): Panel PHP-MI31A1-1, Circuits 14-16-18 (20A).**
    - **Process Chiller (A731C01): Panel PHP-MI311A1-2, Circuits 7-9-11 (60A).**
    - ***Note: Contractor must perform final field verification of all circuits.***
- **Waste Management: The Task Manager/Construction Coordinator will provide a metal dumpster for construction debris.**

3. Demolition & Removal (Outside Condensing Unit)

- **Line Set: Remove and cap existing refrigerant lines at the penetrations.**
- **Controls: Remove and dispose of all associated control wiring.**
- **Electrical: Remove conductors from the unit back to the panel. Breaker shall remain, labeled as "SPARE" on the panel schedule.**
- **Unit Prep: Free the unit for future removal by the Fermi personnel.**
    - ***Note: New Chiller is air-cooled; the legacy condensing unit will not be replaced.***

4. Demolition & Removal (Indoor Chiller)

- **Line Set/Controls: Remove and cap refrigerant lines; dispose of existing controls.**
- **Electrical/Supports: Remove existing electrical whip and physical supports.**
    - ***Note: Ensure all overhead obstructions are cleared to accommodate the increased height of the new unit.***
- **Mechanical/Plumbing:**
    - **Contractor to disconnect and cap/plug water supply lines during construction.**
- **Rigging: The Task Manager/Construction Coordinator will provide an overhead crane and operator for chiller extraction from the lower level and removal from the site.**
- **Housekeeping: Perform final cleanup of the footprint prior to installation.**

5. Installation (AEC GPL07A Packaged Chiller)

- **Rigging: The Task Manager/Construction Coordinator will provide a crane/operator to lower the new chiller to the lower level.**
- **Setting: Contractor shall set, level, and plumb the unit in its final designated location.**
- **Electrical:**
    - **Install new conductors and MOCP-compliant breaker per manufacturer specifications.**
    - **If a fused disconnect is used, install time-delay fuses sized to the unit's nameplate.**
- **Mechanical:**
    - **Route and install new supply, return, and automatic water make-up lines from existing headers.**
    - **Layout Change: Contractor must adapt piping to the new process connection locations (per AEC Installation Guidelines).**
    - **Safety Controls: Install a thermal dispersion flow switch in the process piping to provide low-flow cutout protection.**
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- **Controls/Testing:**
    - **The Task Manager/Construction Coordinator will handle control logic internally.**
    - **Contractors must be present to assist with system-side adjustments and testing.**
- **Commissioning: Contractor is responsible for the formal startup and initial inspection of the new chiller.**

6. Project Closeout

- **Site Restoration: Final cleanup and removal of all contractor-owned materials.**
- **Documentation: Deliver all O&M manuals, warranties, and project redlines to the Task Manager/Construction Coordinator.**

GOVERNMENT FURNISHED PROPERTY

- **AEC GPL07A Packaged Chiller**

PLACE OF PERFORMANCE

Fermi National Accelerator Laboratory, FIMS 731, E-Cool Service Building 31 (MI-31). Fermilab Batavia, IL 60510.