Technical Submittal

For Commissioning Agent

ReBid

New Castle Readiness Center
New Readiness Center

Project No.: DGS C-0963-0065-001
Prepared for: PA DGS

H.F. LENZ
ENGINEERING

H.F. Lenz Co.
1407 Scalp Avenue
Johnstown, PA 15904
Phone: 814-269-9300

HFL File No. 2024-1557.00

Original Submittal: May 24, 2024

ReBid: June 21, 2024

H.F. LENZ
ENGINEERING
H.F. Lenz Co. | 1407 Scalp Avenue | Johnstown, PA | 15904 | 814-269-9300

June 21, 2024

Design Project Manager
Department of General Services

Subject: Technical and Cost Proposal for ReBid
DGS C-0963-0065 - 001 - New Castle Readiness Center Commissioning
HFL File No. 2024-1557.00

Dear Selection Committee Members:

Thank you for the opportunity to resubmit our technical qualifications and cost submittal for this commissioning contract.

We have been providing commissioning services for over 27 years and are a Full Member Provider Firm with the Building Commissioning Association. We believe it is essential for commissioning to be included on every building project in order to maximize energy efficiency over the life of the building. We feel confident that our experienced Commissioning Team can bring strengths and benefits to this project while working in harmony with the project design team. Our strengths include:

- Our commissioning team has the backing of our total government design team, consisting of over 30 dedicated professionals, the majority of which have been with our firm over 15 years
- Our firm has been awarded over 350 commissioning projects in the past 20 years, including government facilities, correctional facilities, educational facilities, research facilities or healthcare facilities, ranging from small fit-outs to new free-standing facilities, to campus-wide infrastructure upgrades
- Our DGS Readiness experience includes projects: PA Army National Guard, Crane Readiness Center Rehabilitation, and the PA Army National Guard, New Castle Readiness Center Rehabilitation and PA Army National Guard, Clearfield Readiness Center, which is just beginning design
- Our subconsultant for Building Envelope Commissioning Services is Engineering Consulting Services Mid-Atlantic, LLC (ECS), with more than 800 employees and over 35 years of experience, ECS is equipped to help clients through the entire project cycle for both the private and public sectors

If you have any questions or require any additional information, please contact me at 814-269-9322. We look forward to continuing a long and mutually beneficial relationship with the Pennsylvania Department of General Services, and the PA Army National Guard.

Sincerely,

H.F. Lenz Co.

Steven J. Gridley, P.E.
Principal/Senior Vice President

Table of contents

Section A
Prior Experience

PRIOR EXPERIENCE - COMMISSIONING SERVICES SIMILAR IN SCOPE

Commissioning services provided typical for all projects in this section:

- Design Document Review
- Commissioning Plan Development
- Develop Commissioning Specifications
- Start-up Plan Review and Observation
- Developed Pre-Functional checklists
- Functional Performance Testing
- Seasonal Functional Testing
- Training and System Education (verification only)
- Commissioning Agents Findings
- Operational Recommendations
- Final Commissioning Agents Findings
- Final Commissioning Report
- Submittal Review
- O&M Review and Coordination
- Warranty Review and Report
- Warranty Period Equipment Evaluation
- Systems Manual

Project Reference:

Mr. Carl Copeland
Odyssey International
Project Superintendent
720 Crown Point Cross Road
Winter Garden, FL 34787
801-497-1530
carlcopeland@odyint.com

Project Details:

Project Start/End Date: 2017-2018
Gross Construction Cost: $18.0M
HFL Responsibility of Cost: $4.0M
HFL Fee: $84,000

LETTERKENNY ARMY DEPOT - COMMISSIONING SERVICES FOR BUILDING 350 COMPONENT REBUILD FACILITY *Chambersburg, PA*

Building 350 at Letterkenny Army Depot is a new, 44,985 SF 1-story facility housing industrial processes including sanding, blast booths, wash bays, and project dip tanks.

H.F. Lenz Company provided building commissioning services as the "Commissioning Specialist", as a sub-contractor to the prime contractor. H.F. Lenz Company's responsibilities included development of preliminary and final construction phase Commissioning Plans, pre-functional checklists and functional performance tests; performed site observation visits to verify system installation and readiness for testing; reviewed contractor submissions of completed pre-functional and start-up documentation; scheduled, directed, and witnessed functional performance testing; conducted commissioning meetings; documented and maintained an issues log through resolution; observed training of government personnel; and developed a System Manual.

Project Reference:

Mr. Thad Kocuba
Facility Manager
VAMC Lebanon
1700 S Lincoln Avenue
Lebanon, PA 17042
717-228-6050 Ext 4740
Thaddeus.Kocuba2@va.gov

Project Details:

Project Start/End Date: 2011-2015
Gross Construction Cost: $7.5M
HFL Responsibility of Cost: $300,000
HFL Fee: $47,500

VETERANS AFFAIRS MEDICAL CENTER - NEW BEHAVIORAL HEALTH OUTPATIENT FACILITY *Lebanon, PA*

H.F. Lenz Company provided the engineering services including commissioning for a new 17,000 SF Health Outpatient Facility. The space program consisted of exam rooms, classrooms, group conference rooms, work rooms, office space and support spaces. The MEP work included demolition of two existing buildings on the future site, a new geothermal ground source heat pump system with central AHU, and a VAV chilled beam distribution system. A solar domestic hot water system was evaluated but was not selected. An energy model and life cycle cost analysis were conducted to determine the optimum efficient systems. The building is designed to attain LEED Silver.

Project Reference:

Mr. Jamison Fielding
Senior Project Manager
Carnegie Mellon University
417 South Craig Street, 3rd Floor
Pittsburgh, PA 15213
412-268-6824
jfieldin@andrew.cmu.edu

Project Details:

Project Start/End Date: 2017-2019
Gross Construction Cost: $18.0M
HFL Responsibility of Cost: $7.0M
HFL Fee: $74,000

CARNEGIE MELLON UNIVERSITY - COMMISSIONING SERVICE FOR NEW ANSYS HALL *Pittsburgh, PA*

H.F. Lenz Company was hired as the Commissioning Authority for the LEED Fundamental and Enhanced Commissioning services for ANSYS Hall, constructed for CMU's College of Engineering. H.F. Lenz Company's sub-consultant, Building Performance Architecture, provided building envelope commissioning services. The new, approximately 36,000 SF four-story building houses the ANSYS Simulation Lab and includes classroom space, student space for individual project collaboration, training rooms, conferencing space and office space for the partnership program and the College of Engineering. The facility also features a specialized space for the manufacturing of large-scale prototypes. Both design phase commissioning and construction phase commissioning was provided. A cloud-based commissioning software program was used by HFL for this project.

The project has achieved LEED Gold Certification.

H.F. LENZ ENGINEERING

PRIOR EXPERIENCE - COMMISSIONING SERVICES SIMILAR IN SIZE

Commissioning services provided typical for all projects in this section:

- Design Document Review
- Commissioning Plan Development
- Develop Commissioning Specifications
- Start-up Plan Review and Observation
- Developed Pre-Functional checklists
- Functional Performance Testing
- Seasonal Functional Testing
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- O&M Review and Coordination
- Warranty Review and Report
- Warranty Period Equipment Evaluation
- Systems Manual

Project Reference:

Mr. Carl Copeland
Odyssey International
Project Superintendent
720 Crown Point Cross Road
Winter Garden, FL 34787
801-497-1530
carlcopeland@odyint.com

Project Details:

Project Start/End Date: 2017-2018
Gross Construction Cost: $18.0M
HFL Responsibility of Cost: $4.0M
HFL Fee: $84,000

LETTERKENNY ARMY DEPOT - COMMISSIONING SERVICES FOR BUILDING 350 COMPONENT REBUILD FACILITY *Chambersburg, PA*

Building 350 at Letterkenny Army Depot is a new, 44,985 SF 1-story facility housing industrial processes including sanding, blast booths, wash bays, and project dip tanks.

H.F. Lenz Company provided building commissioning services as the "Commissioning Specialist", as a sub-contractor to the prime contractor. H.F. Lenz Company's responsibilities included development of preliminary and final construction phase Commissioning Plans, pre-functional checklists and functional performance tests; performed site observation visits to verify system installation and readiness for testing; reviewed contractor submissions of completed pre-functional and start-up documentation; scheduled, directed, and witnessed functional performance testing; conducted commissioning meetings; documented and maintained an issues log through resolution; observed training of government personnel; and developed a System Manual.

Project Reference:

Mr. Thad Kocuba
Facility Manager
VAMC Lebanon
1700 S Lincoln Avenue
Lebanon, PA 17042
717-228-6050 Ext 4740
Thaddeus.Kocuba2@va.gov

Project Details:

Project Start/End Date: 2011-2015
Gross Construction Cost: $7.5M
HFL Responsibility of Cost: $300,000
HFL Fee: $47,500

VETERANS AFFAIRS MEDICAL CENTER - NEW BEHAVIORAL HEALTH OUTPATIENT FACILITY *Lebanon, PA*

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Project Reference:

Mr. Jamison Fielding
Senior Project Manager
Carnegie Mellon University
417 South Craig Street, 3rd Floor
Pittsburgh, PA 15213
412-268-6824
jfieldin@andrew.cmu.edu

Project Details:

Project Start/End Date: 2017-2019
Gross Construction Cost: $18.0M
HFL Responsibility of Cost: $7.0M
HFL Fee: $74,000

CARNEGIE MELLON UNIVERSITY - COMMISSIONING SERVICE FOR NEW ANSYS HALL *Pittsburgh, PA*

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The project has achieved LEED Gold Certification.

H.F. LENZ ENGINEERING

PRIOR EXPERIENCE - COMMISSIONING SERVICES SIMILAR IN TYPE

Commissioning services provided typical for all projects in this section:

- Design Document Review
- Commissioning Plan Development
- Develop Commissioning Specifications
- Start-up Plan Review and Observation
- Developed Pre-Functional checklists
- Functional Performance Testing
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- Operational Recommendations
- Final Commissioning Agents Findings
- Final Commissioning Report
- Submittal Review
- O&M Review and Coordination
- Warranty Review and Report
- Warranty Period Equipment Evaluation
- Systems Manual

Project Reference:

Mr. Ronald Cummings
Office of Administrative & Management Services
NIOSH/CDC
626 Cochrans Mill Road, Pittsburgh, PA 15236
412-386-6681
rpc6@cdc.gov

Project Details:

Project Start/End Date: 2019-Current Project
Gross Construction Cost: $6.8M (estimate)
HFL Responsibility of Cost: $2.2M
HFL Fee: $400,000

CENTER FOR DISEASE CONTROL AND PREVENTION (CDC)/NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH) - DOMESTIC POTABLE AND FIRE WATER DISTRIBUTION SYSTEMS UPGRADES *Pittsburgh, PA*

H.F. Lenz Company provided the Civil and Plumbing engineering services for the design of a new underground waterline system for the NIOSH - Bruceton Research Center located in Pittsburgh PA. The project consisted of the design of a combined potable and fire service system to serve the campus that included flow modeling.
The project was broken into 4 phases based on budgetary constraints and in accordance with the needs of the campus. The design included a total of 76 water valves of varying types and sizes from 2-8", 1,810 ft. of 2" copper waterline, 230 ft. of 4" C900 PVC waterline, 1,640 ft. of 6" C900 PVC waterline, and 12,675 ft. of 8" waterline.

Additional project elements include fire hydrants, meter pit vaults and meters and additional miscellaneous site items.

Project Reference:

Mr. Larry Volpato, Facilities Maintenance Manager
18th and Herr Streets, Harrisburg, PA 17125
724-459-4597
lvopato@pa.gov.

Project Details:

Project Start/End Date: 2020-Current Project
Gross Construction Cost: $8.7M
HFL Responsibility of Cost: $8.7M
HFL Fee: $760,000

TORRANCE STATE HOSPITAL - ELECTRICAL DISTRIBUTION UPGRADE, *Torrance, PA*

H.F. Lenz Company is providing engineering services for the electrical distribution upgrade. The project involves replacing the site electrical distribution system that serves each building on campus and includes the demolition and replacement of the main campus switchgear, medium voltage distribution cabling, individual building service transformers, and low voltage main distribution panelboards within each building. The service conductors will be replaced from the pad-mounted transformer into the main distribution panel. In the Beistel and Renner Buildings, the branch panels will also be replaced, but will reuse the existing feeder conduit and conductors. A new building to house the service entrance switchgear was designed an allowed the existing structure to be demolished. The final system topology will distribute four radial circuits throughout the campus and allow for automatic changeover between two circuits at each building should one of the medium voltage circuits become disabled.

Project Reference:

Mr. Bruce Herring, Project Manager
Shippensburg University
1871 Old Main Drive, Shippensburg PA 17257
717-532-1451
BEHerr@ship.edu

Project Details:

Project Start/End Date: 2016-2019
Gross Construction Cost: $7.5M
HFL Responsibility of Cost: $7.5M
HFL Fee: $ $606,000

SHIPPENSBURG UNIVERSITY - MEDIUM VOLTAGE CAMPUS DISTRIBUTION UPGRADE *Shippensburg, PA*

H.F. Lenz Company provided the electrical engineering services for the $7.5 million upgrade to the campus electrical distribution system, which included over 40 buildings.
The goals of the project included:

- Replace an aged electrical distribution system
- Upgrade to modern standards electrical service to 6 buildings
- Provide campus-wide power redundancy at the main substation
- Provide metering at the main substation to enhance demand side management
- Replace an aged IT network
- Provide redundancy for IT networking by designing to a looped versus radial system

Section B
Understanding Project Requirements

Understanding Project Requirements

Work Statement

Design Phase Services

Owner's Project requirements (OPR) - The CxA / BCxA will work with the DGS Design Project Manager, Design Professionals and the Client Agency facilities maintenance staff to conduct an OPR workshop to develop the project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information for each system included in the design per each phase. A formal ORP for the project, per phase, will be developed from the workshop and will provide the following descriptions: 1) Primary Purpose of the Project; 2) Environmental and Sustainability Goals; 3) Energy Efficiency Goals; 4) Indoor Environmental Quality Requirements; 5) Desired Equipment / System Quality, Reliability, and Maintenance Requirements; 6) Facility Operation and Maintenance Requirements including requisite personnel training and orientation.

Commissioning Plan (Cx Plan) – This will be developed based on the OPR workshop. It will outline the overall process, organization, responsibilities, planned schedule, allocation of resources, and documentation requirements of the Commissioning Process to verify and document that the design, construction, and operation of the facilities meet the OPR. The Cx Plan will also outline all of the components to be commissioned and what commissioning processes will be utilized to perform the commissioning. A list of all the required product submittals will be included. The plan will provide pre-functional test documents for each type of component. The plan will provide a unique tag name for each item that coordinates with the tag nomenclature provided in the design documents. The plan will be a living document that will be revised and updated as required throughout the commissioning process. The final document will include functional test procedures and an outline of training requirements with a preliminary training plan.

Design Review – Provide a review and comments of the Professional's design documents and Basis of Design (BoD) narrative for compliance with the Owner's Project Requirements. Design review includes a back-check of Commissioning Design Review Comments at subsequent Design Submission.

Commissioning Specifications – The CxA will provide Commissioning Specifications for all systems/assemblies being commissioned for inclusion within the Project Construction Documents.

Construction Phase Commissioning

During construction, we will work directly with the Commissioning Team members on a continual basis to maintain a current commissioning plan – one that adapts with the overall construction schedule to allow time for commissioning, while meeting the targeted completion date. CxAlloy, an easy to use web-based commissioning software program, will be used by the commissioning team and members assigned by the owner. The team is able to log in from any computer or tablet with internet access to see the progress of the commissioning activities, issues logs, upcoming Cx events, etc. We will develop the Pre-functional checklists and they can be completed electronically by the installing contractors with no hard copy forms to be passed around from contractor to contractor. The functional performance tests developed by the CxA and reviewed and approved by the commissioning team. They will then be completed by the CxA electronically.

Submittal Review - Identify and review Contractor submittals applicable to systems/assemblies being commissioned. Identify issues that might result in rework or change orders. Verify the following: a) conformance with OPR expectations and anticipated outcomes and Basis of Design (BoD), b) achievement of operations and maintenance requirements, c) enablement of performance testing. All submittal reviews and correspondence will take place in eBuilder.

Job Construction Meetings - CxA shall attend regular job construction meetings virtually until the equipment installations begin and then the CxA will attend physically in person to ensure the systems are properly installed, operated and tested, and are functioning correctly to meet the design intent. Per the RFQ, the CxA will participate in one (1) meeting every three (3) weeks for (108) weeks, five (5) hours each, in person, totaling thirty-six (36) total meetings.

Understanding Project Requirements

Commissioning Meetings - CxA shall hold regularly scheduled jobsite Commissioning Meetings, in conjunction with the Job Construction Meetings. All project stakeholders are encouraged to attend in order to review important aspects of the new Protective Systems, new HVAC Systems, new Plumbing Systems, and new Electrical Systems being installed and commissioned under this RFP. Review and document necessary installation details, system testing procedures, and documentation requirements. Keep Commissioning meeting minutes and including all the information collected in the Cx Report.

Construction Observation and Testing - Verify that the performance of the systems/assemblies being commissioned, as installed, meet the Owner's Project expectations and anticipated outcomes, Sustainability Criteria, Basis of Design (BoD), and Contract Documents. Furnish test procedures and checklists prior to equipment installation. Produce a Pre-functional test for each system / component being installed and scheduled to be commissioned. Test procedures shall list the entities responsible for executing each test. Provide installation inspections. Direct, witness, and document tests. Evaluate test results and verify that installed systems/assemblies meet the criteria for the Project.

Issues and Resolution Log – Develop a commissioning issues log containing open and continuing items, status, and name of person/organization responsible for resolution. The log will also include proposed and actual resolutions for each issue indicated in the log.

Systems Manual - During the design and construction of the project, the design and construction documents should be assembled into the systems manual. The assembly of documents provides the details and history of the design and construction of the building. The systems manual includes the Owner's Project expectations and anticipated outcomes, BOD, construction record documents, submittals, completed startup, pre-functional checklists, functional and performance checklists, verified sequence of operation, facility guide, training records, and commissioning report. The systems manual should be used in the initial and subsequent training of the building operations staff and occupants. The systems manual should be able to be updated throughout the life of the building. The systems manual is intended to facilitate the construction to maintenance handoff and is to be electronically searchable.

Pre-Functional and Functional Performance Testing- Confirm (but not necessarily witness) manufacturer's startup of individual equipment components (Pre-Functional Performance Testing). Write, direct completion of, witness, and document full Functional Performance Testing of each system and system component. Confirm proper operation of all control sequences for each season operation. Document in Cx Report.

Training Plans and Records – Review, pre-approve, and verify training of the Client Agency personnel by the Contractor, to operate and maintain systems/assemblies being commissioned. Include training plan, training materials, and records in final Systems Manual.

End of Warranty Cx Report – Provide post-occupancy operation commissioning, including incomplete, and delayed testing, as well as warranty issues. Post-occupancy operations shall begin at Substantial Completion and shall continue as needed through to the end of the warranty period.

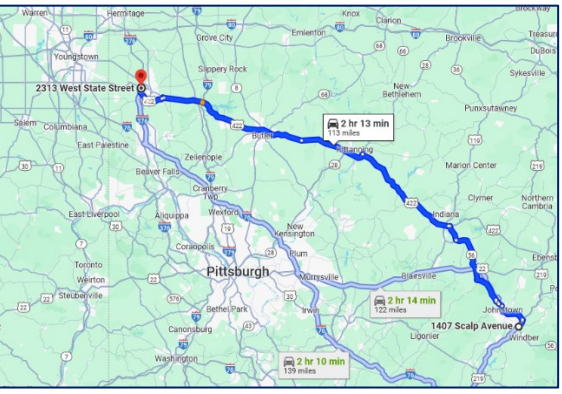
Preliminary and Final Cx Report – A preliminary commissioning report should be prepared that shows the commissioning progress and equipment performance to date at the time the Certificate of Occupancy is issued. At the completion of the project the final commissioning report should be assembled and provided to the owner and others as required by the OPR and local jurisdiction requirements. This report includes the final commissioning plan, copy of design and submittal review reports, all startup, inspection, verification, functional and performance test forms and reports, the verified sequence of operation, the final Issues and Resolutions log, and summary of the performance of commissioned systems.

Section C
Geographic Location

Geographic Location

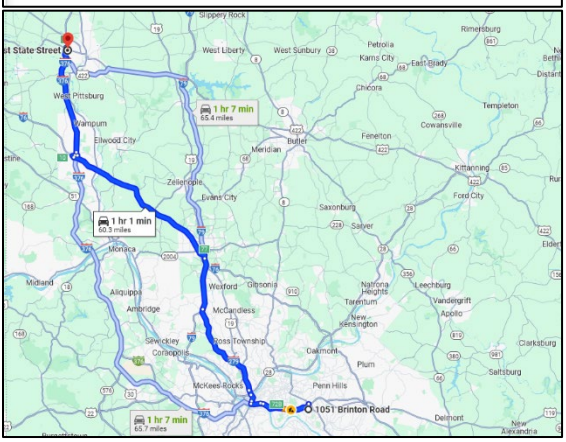
from 1407 Scalp Ave, Johnstown, PA 15904
to 2313 W State St, New Castle, PA 16101

2 hr 13 min (113 miles)
via US-422 W



from 1051 Brinton Rd, Pittsburgh, PA 15221
to 2313 W State St, New Castle, PA 16101

1 hr 1 min (60.3 miles)
via I-76 W and I-376 W
Fastest route, the usual traffic



The H.F. Lenz Company is located in Johnstown, Pennsylvania, which is 113 miles from the DGS C-0963-0065 - 001 - New Castle Commissioning project and our Pittsburgh, PA office is 60 miles from the proposed project site.

The travel time is included in the total project fee. Please refer to the Cost Proposal for travel time to be billed as reimbursables for this effort.

Section D
Project Work Plan

Approach and Methodology for Meeting Project Goals and Objectives

Project Goals and Objectives

The Project goals and objectives are based upon the Request for Quote (RFQ) (date of issue 04-24-2024), and are summarized as follows:

1. Work with the Design Team and the Owner to develop and document the Owner's Project expectations and anticipated outcomes for the design development.
2. Assist in creating a formal Owner's Project Requirements (OPR) document which will include: 1) Primary Purpose of the Project; 2) Environmental and Sustainability Goals; 3) Energy Efficiency Goals; 4) Indoor Environmental Quality Requirements; 5) Desired Equipment / System Quality, Reliability, and Maintenance Requirements; 6) Facility Operation and Maintenance Requirements including Requisite Personnel Training and Orientation.
3. The CxA will provide professional expertise and proactive feedback during the design stage in an effort to assist the Project team in accurately evaluating the system options, costs, and multiple design solutions for each system listed, to prioritize a final scope to move forward into the further design and construction phases.

Systems to be Commissioned

The primary role of the CxA is to ensure that the Owner's design intent developed during the planning phase is achieved through the design, construction, and operation of the facility. The intent would be that the Commissioning Team will be responsible for:

1. Building Assembly Systems including Building Shell, Exterior Wall Assemblies, and Roof Assemblies.
2. Heating, Ventilating, Air Conditioning and Refrigeration Systems (HVAC) including Heat Generation, Refrigeration, Ventilation, and HVAC Control Systems including Fire Alarm System Control and Suppression Interfaces.
3. Electrical Systems including Power Distribution, Lighting, and Controls Building Automation Systems and Emergency Generator Systems.
4. Vertical Transportation including elevators, escalators, hoists and their control, monitoring and backup power systems.

Approach and Methodology

Our commissioning services are based on ASHRAE Guidelines 0-2019 ASHRAE Standard 202-2018, and the Building Commissioning Association (BCA). Our approach to commissioning is to become an integral part of the project team, and not just to serve as a "third party" review agency. Our commissioning authority is a Certified Commissioning Professional (CCP) through the BCA having over 25 years of Mechanical Systems design experience and over 11 years of commissioning experience. This design and commissioning experience leads to a smooth CxA integration into design team when design phase services are required. Our Cx Team has access to design Professionals on all levels of infrastructure design. This includes but is not limited to the following disciplines: HVAC systems, ventilation systems, refrigeration, building automation / control systems, electrical system, telecom / date systems, safety systems, domestic water systems, storm and sanitary systems, emergency notification systems. We have integrated CxAlloy, a web-based commissioning program into our process to help manage the quality process for feasibility, design and construction phases. The software application provides collaborative issue management, and quality verification through custom checklists and progress logs that we write. By implementing CxAlloy into our commissioning projects, all team members are provided with real-time commissioning information for Design, Construction, Occupancy/Closeout and Warranty phases of a project. With the additional of our Building Commissioning consultant, we can provide a full range of building envelope services with the typical Mechanical, Electrical, and Plumbing commissioning services.

Design Phase

1. Participate in the Design Kick-Off Meeting with Project Team
2. The CxA / BCxA will work with the DGS Design Project Manager, Design Professional, and the Client Agency facilities maintenance staff to conduct an Owner's Project Requirements (OPR) workshop early in the concept design stage to develop the project goals, measurable performance criteria, cost considerations, benchmarks, and all supporting documentation required to facilitate a successful project. The OPR shall establish the following:
    a. Primary purpose, goals and objectives of the Project.
    b. Environmental and sustainability goals.
    c. Energy efficiency goals.
    d. Indoor environmental quality requirements.
    e. Desired equipment and systems quality, reliability, and maintenance requirements.
    f. Facility operation and maintenance requirements including requisite personnel training and orientation.
3. Provide a written Commissioning Plan that outlines the overall commissioning process, organization, responsibilities schedule, allocation of resources and documentation requirements of the Commissioning Process to verify and document that the design, construction, and operation of the facility meets the OPR.
4. The CxA will attend Team Meetings:
    a. Participate in one design team meeting every two weeks for three hours, virtually for a total of thirty-six total meeting.
    b. Participate in the job review conference, one occurrence in person for a total of 8 hours.

Construction Phase Services

1. Identify and review Contractor submittals. Verify the following:
    a. Conformance with OPR and Basis of Design (BoD).
    b. Achievement of operations and maintenance requirements.
    c. Enablement of performance testing.
2. CxA shall attend regular job construction meetings as necessary to ensure the systems are properly installed, operated and tested, and are functioning correctly to meet the design intent.
    a. Participate in one meeting every three weeks for one-hundred and eight weeks, five hours each, in person for a total of thirty-six meetings.
3. CxA shall hold regularly scheduled jobsite Commissioning Meetings with all project stakeholders to review important aspects of the equipment and systems being installed. The meeting shall coincide with the Job Construction meeting when possible.
4. Construction Observation and Testing - CxA shall verify that all the equipment and systems are being installed, commissioned and perform per the OPR, sustainability criteria , BoD, and Contract Documents.
5. Issues and Resolution Log - Develop and maintain commissioning issue log throughout the course of the project. Distribute the CX issues log to the project team on a previously agreed-upon frequency.
6. System Manual - During the design and construction of the project, the design and construction documents should be assembled into the systems manual. This assembly of documents provides the details and history of the design and construction of the building and information needed to properly operate the building. The systems manual includes the project final OPR, BOD, construction record documents, submittals, completed startup, verification checklists, functional and performance checklists, verified sequence of operation, facility guide, training records, and commissioning report. The systems manual should be used in the initial and subsequent training of the building operations staff and occupants. The systems manual should be updated throughout the life of the building.
7. Pre-Functional and Functional Performance Testing - Confirm, but not necessarily witness, manufacturer's startup of individual equipment components (Pre-Functional Performance Testing). Write, direct completion of, witness, and document full Functional Performance Testing of each system and system component. Confirm proper operation of all control sequences for each season operation. Document in Cx Report.

8. Training Plans and Records - Review, pre-approve, and verify training of the Client Agency personnel by the Contractor, to operate and maintain systems/assemblies being commissioned. Include training plan, training materials, and records in final Systems Manual.
9. End of Warranty Cx Report - Provide post-occupancy operation commissioning, including incomplete, delayed, and seasonal testing, as well as warranty issues. Post-occupancy operations shall begin at Substantial Completion and shall continue through to the end of the warranty period.
10. Preliminary and Final Cx Report - A preliminary commissioning report should be prepared that shows the commissioning progress and equipment performance to date at the time the Certificate of Occupancy is issued. At the completion of the project the final commissioning report should be assembled and provided to the owner and others as required by the OPR and local jurisdiction requirements. This report includes the final commissioning plan, copy of design and submittal review reports, all startup, inspection, verification, functional and performance test forms and reports, the verified sequence of operation, the final Issues and Resolutions log, and summary of the performance of commissioned systems.

Section E
Personnel & Qualifications

Personnel & Qualifications

Steven J. Gridley, P.E.

Principal-in-Charge

Mr. Gridley is responsible for the project management, multi-discipline design, and commissioning of office buildings, data centers, operations centers, and other corporate facilities. His responsibilities include interfacing with the Owner, and reviewing the program, budget, and project schedule. He works with the project team to establish responsibilities, allocate personnel and firms resources, and provide quality control. He is experienced in the design and commissioning of chilled water, steam, hot water, refrigeration, air distribution, heat recovery and control systems, underground power distribution systems, uninterruptible power supplies, and interior building distribution systems of all types.

Education

Bachelor of Science, Architectural Engineering, 1979, Pennsylvania State University

Experience

H.F. Lenz Company 1979-Present

Professional Registration / Certification

Licensed Professional Engineer in all 50 States and the District of Columbia

Professional Affiliations

First Place, 1987 ASHRAE International Energy Award, National Society of Professional Engineers, Pennsylvania Society of Professional Engineers, American Society of Heating, Refrigerating and Air-Conditioning Engineers, Building Officials Code Administrators International, Professional Engineers in Private Practice, National Fire Protection Association

Project Experience

Case Western Reserve University, Cleveland, OH

- North Residential Village – Phase I LEED Fundamental Commissioning and Enhanced Commissioning for three buildings comprising approximately 390,000 SF; Two buildings are LEED Silver, and one building is LEED Gold
- Structural Biology Research Facility – Commissioning services for a new 20,000 SF Structural Biology Research Facility

University of Connecticut, Storrs, CT

- 4,800 SF renovations to the Public Safety Building housing the University Police Department and 3,901 SF addition housing the University Fire Department support services

Seneca Valley School District, Cranberry Township, PA

- Fundamental commissioning services for anew two story 197,000 SF elementary school

Scott D. Adams, CCP, HFDP

Commissioning Authority

Mr. Adams is experienced in the design and commissioning of mechanical systems for both new buildings and building retrofits for educational, commercial, industrial, health care, and government facilities. He is experienced in the design and commissioning of boiler plant systems; hot water, chilled water, and steam distribution networks; air and water heating/cooling systems; heat pump systems.

Education

Bachelor of Science, Mechanical Engineering Technology, 1994, University of Pittsburgh at Johnstown

Experience

H.F. Lenz Company 2011-Present, 1995-2006, 1985-1987 • Deckman Company 2006-2011 • East Hills Engineering Associates 1993-1995, 1987-1991 • Dynamic Design 1991-1992

Professional Registration/Certification

Certified Commissioning Professional through Building Commissioning Association (BCA)• Healthcare Facility Design Professional (ASHRAE)

Project Experience

Veterans Affairs Medical Center, Lebanon, PA

- Commissioning Services for new Behavioral Health Complex including two new 15,000 SF and 5,000 SF Behavioral Health Buildings

Boone Memorial Hospital, Madison, WV

- Enhanced commissioning services for a 78,000 SF, three-story critical access replacement hospital

Geisinger, Various, PA Locations

- Geisinger Lock Haven - commissioning services for new two story 35,000 SF medical office building (MOB); Geisinger Lycoming - new 116,000 SF, 3-story with Level 4 penthouse hospital; Geisinger Henry Cancer Center 88,000 SF addition

Personnel & Qualifications

Aaron J. Tompkins

Commissioning Project Manager

Mr. Tompkins has over 30 years of experience and is knowledgeable in the design, commissioning, and field installation of mechanical and electrical systems for office buildings and other facilities; his responsibilities include project management, including estimating and bidding; construction administration; systems commissioning; and mechanical fabrication, manufacturing and design. His responsibilities also include project administration, review of existing equipment installations and operation, field inspections and testing of all aspects of the Heating, Ventilation, Air Conditioning, Plumbing, and Electrical systems on various stages of construction.

Education

Associates Degree in Specialized Electronic Technology, Penn Technical Institute, 1985

General Electronic Courses, Greater Johnstown Area Vocational-Technical School, 1984

Experience

H.F. Lenz Company 2010–Present• PA State Fire Academy, Suppression Instructor 1995 – Present (Part-time) • West Hills Regional Fire Department/Hilltop Ambulance, Fire Chief/EMT 1989 - Present (Part-time) • The Trane Company Inc., PA District 2003–2010 L.W. Straw & Company, Inc. 1995–2003 • Gary's Entertainment 1987–1989 • Gruss Electronic Repair 1986–1987 • Sortech Communications Company 1986

Project Experience

Torrance State Hospital, Torrance, PA

- Commissioning services for electrical distribution upgrade

Center for Disease Control/NIOSH, Pittsburgh, PA

- Commissioning services for design of a new underground waterline system for the NIOSH - Bruceton Research Center

Shippensburg University, Shippensburg, PA

- Commissioning services for the upgrade to the campus electrical distribution system, which included over 40 buildings

Robert L. Tauber

Commissioning Technician

Mr. Tauber has over 20 years of experience in the HVAC industry as an Application Engineer as well as a Project Manager. He is intimately familiar with the proper control and operation of automatic temperature control systems. He had extensive experience in the design, installation, operation, and checkout of large control systems, including dedicated O/A system, energy recovery, geothermal systems, and building automation systems. Through his previous experience working for an automatic temperature controls company and with an equipment manufacturer's representative, he was responsible for component selection, systems layout and point-to-point diagrams of ATC systems, as well as coordination of construction activities, resolution of field issues and supervision of start-up and checkout of controls systems. His Commissioning responsibilities include site visits and on-site testing.

Education

Bachelor of Sciences 1994, Geology, University of Pittsburgh at Johnstown

Experience

H.F. Lenz Company 2006 – Present • LANCORP Advanced Systems 2000 – 2006 • Griffith & Petz, Inc. 1992 – 2000

Professional Affiliations

American Society of Plumbing Engineers (ASPE)

Project Experience

Veterans Affairs Medical Center, Lebanon, PA

- Commissioning Services for new Behavioral Health Complex including two new 15,000 SF and 5,000 SF Behavioral Health Buildings

Carnegie Mellon University, Pittsburgh, PA

- LEED fundamental and enhanced commissioning services for the new 36,000 SF four-story building - LEED Gold

Seneca Valley School District, Cranberry Township, PA

- Fundamental commissioning services for a new two story 197,000 SF elementary school

H.F. LENZ ENGINEERING

Personnel & Qualifications

John D. Krill

Commissioning Technician

Mr. Krill has more than 20 years' experience as a HVAC service technician and serves as a Commissioning Technician in all types of heating, ventilation, air conditioning, plumbing, fire protection, electrical, building management, and automatic temperature control projects. He is responsible for carrying out the company standard of quality during construction. His responsibilities include pre-design site surveys; on-site troubleshooting; mechanical/electrical coordination; monitoring and observing construction workmanship to ensure conformity with the contract documents; enforcing applicable codes during construction; attending construction and coordination meetings; providing cost estimates for contract revisions; and reviewing vendor/contractor submittals.

Education

Blackstone Valley Regional Technical School, Upton, Massachusetts

Experience

H.F. Lenz Company 2023-Present
CJL Engineering 2018-2020
Concurrent Technologies Corporation 2008-2017
Griffith & Petz Co. 1995-2007

Project Experience

Indiana University of Pennsylvania, Indiana, PA

- Chilled water plant expansion commissioning - Current DGS Project

Pittsburgh International Airport, Pittsburgh, PA

- Commissioning services for the Pittsburgh International Airport Terminal Modernization Program (TMP), 700,000 SF terminal facility

Fannie Mae Reston Gateway, Reston, VA

- LEED-CI Fundamental & Enhanced Commissioning for 850,000 SF of tenant improvements in a new, 22 story, multi-office tower

ECS

Personnel & Qualifications

Cole Williams

Building Envelope Commissioning Authority

Mr. Williams is a highly skilled consultant with a robust background in the construction industry, specializing in building science and enclosures. With a wealth of experience in pivotal roles within architecture firms, contractors, and consultancy, Cole has gained a profound understanding of the intricate challenges associated with building enclosures. His diverse portfolio includes successful contributions to projects spanning healthcare, K-12 and higher education, office spaces, residential developments, and industrial buildings, providing him with a comprehensive perspective on unique use cases and their specific needs. In his current role with ECS, Cole spearheads the efforts of the Pittsburgh office, leading a dedicated team focused on delivering exceptional building enclosure and building science consulting services. His commitment to excellence and extensive industry knowledge make him an invaluable asset, ensuring ECS clients receive toptier solutions tailored to the evolving demands of the sector.

Education

Slippery Rock University, 2010, Master of Science in Sustainable Systems
Edinboro University, 2007, Bachelor of Arts in Cognitive/ Behavioral Psychology

Experience

ECS Mid-Atlantic Facilities Group 2023 - Present

Certifications

Level II Thermographer
American Society of Home Inspectors, ASHI Certified Inspector
PA Department of Environmental Protection, Radon tester certified
University of Wisconsin, BECxP, CxA+BE

Project Experience

UPMC Presbyterian, Pittsburgh, PA

- The existing building is being expanded significantly with a new ground-up building. ECS is providing building enclosure commissioning (BECx) services

UPMC Mercy, Pittsburgh, PA

- Vision and Rehabilitation Center Project – New Addition and Alterations, 418,000 SF addition, five-story structure