

**EXHIBIT A  
WORK ORDER FORM**

**PURSUANT TO AN AGREEMENT BETWEEN  
THE CITY OF FORT COLLINS  
AND  
ICONERGY  
#8094**

**DATED: 6/29/15**

Work Order Number: OP-600103

Purchase Order Number:

Project Title: I

Commencement Date: ASAP

Completion Date: 2017

Maximum Fee: (time and reimbursable direct costs):\$11,990.00

Project Description: Museum of Discovery Dehumidification Systems

Scope of Services: Please see attached

Professional agrees to perform the services identified above and on the attached forms in accordance with the terms and conditions contained herein and in the Professional Services Agreement between the parties. In the event of a conflict between or ambiguity in the terms of the Professional Services Agreement and this work order (including the attached forms) the Professional Services Agreement shall control.

The attached forms consisting of 7 ( ) pages are hereby accepted and incorporated herein, by this reference, and Notice to Proceed is hereby given.

PROFESSIONAL

By: *Erick Jeannette*  
Date: 2/14/17

*Erick Jeannette  
Iconergy, LTD*

CITY OF FORT COLLINS

By: *Bruce Anderson*  
Project Manager

Date: 2/10/17

By: \_\_\_\_\_  
Gerry Paul  
Purchasing Director (over \$60,000.00)

Date: \_\_\_\_\_

**Consulting Fees**

Iconergy is providing a time and materials estimated fee for the services described in this statement of work. This fee includes all mileage and other direct costs needed to complete the project scope.

Project Phase	Task #	Activity Name	Hours	Labor Fee	Estimated On-Site Days	Estimated Travel Costs
Design	1	Cx Specs	1		0	
	2	Design Review	12		2	\$110
		<b>Sub-Total</b>	<b>13</b>	<b>\$2,050</b>	<b>2</b>	<b>\$110</b>
Construction	3	Cx Scoping Meeting	3		1	\$55
	4	Submittal Reviews & Controls Meeting	6		1	\$55
	5	Construction Observations & Mtgs	18		2	\$165
	6	Review PFCs	2		0	
	7	Point to Point Checkout	4		0	
	8	Startup, Functional Testing & TAB review	18		2	\$110
	9	Issues Log Management	2		0	
	10	O&M Manual Review	1		0	
	11	Training Review and attendance	3		1	\$55
	12	Cx Report	2		0	
			<b>Sub-Total</b>	<b>59</b>	<b>\$8,250</b>	<b>7</b>
Post-Occupancy	13	Seasonal Testing	4		0	
	14	Warranty Review	4		1	
		<b>Sub-Total</b>	<b>8</b>	<b>\$1,140</b>	<b>1</b>	<b>\$0</b>
<b>Totals:</b>			<b>80</b>	<b>\$11,440</b>	<b>10</b>	<b>\$550</b>
<b>Grand Total NTE:</b>				<b>\$11,990</b>		

Thanks, and we look forward to working with you!



Erik Jeannette, PE  
 Director of Engineering



iconergy

Energy Management  
& Sustainability

**\*\*CONFIDENTIAL AND PROPRIETARY\*\***

February 9, 2017

Statement of Work and Fee Proposal – Building Commissioning  
City of Fort Collins Museum of Discovery Dehumidification Upgrades



City of Fort Collins  
Mr. Stu Reeve  
Energy Manager

Mr. Erik Jeannette  
720-949-5943  
ejeannette@iconergyco.com

## **Introduction**

Iconergy is pleased to provide this building commissioning proposal for the City of Fort Collins Museum of Discovery Building Dehumidification retrofit project. This statement of work outlines the activities that Iconergy will provide to execute the work according to the project requirement.

## **Systems to be commissioned**

Iconergy understands the scope of the project is to provide commissioning services for approximately four (4) dehumidification units being added to the existing building.

## **Commissioning Activities**

The following is a list of activities that Iconergy will perform for this project.

### Design Phase Activities

#### **1. Commissioning Specifications for Construction Documents**

Commissioning specifications for the targeted building systems will be prepared by Iconergy during the design phase of the project. The commissioning specifications describe the scope and requirements for commissioning, as well as the roles and responsibilities of the general contractor, installing subcontractors, Owner personnel, Design Team, and the Iconergy Commissioning Team.

*Deliverable: Commissioning Specification*

#### **2. Design Review of Design Documents at 50% and 95% Construction Document Phases**

The design documents review is undertaken to ensure that commissioning is adequately specified within the construction documents for those building systems to be commissioned, and that the targeted building systems are likely to meet the design goals (intent) relative to functionality, energy performance, maintainability and indoor environmental quality.

The intent and timing of these reviews is to identify and resolve any issues that may adversely impact the installation, operation and performance of the equipment and building systems to be commissioned before the construction documents are completed and used for construction purposes. Design reviews are provided at the 50% and 100% CD submission, and Iconergy will attend 2 design meetings to review the comments and design concepts.

*Deliverable: Design Review Memo*

### Construction Phase Activities

#### **3. Commissioning Scoping Meeting**

Iconergy will hold a scoping meeting at pre-bid and post-notice to proceed which will bring together all members of the design and construction team that will be involved in the commissioning process. During the scoping meeting, all parties agree on the scope of work, tasks, schedules, deliverables, and responsibilities for implementation of the Commissioning Plan.

*Deliverable: Scoping Meeting Presentation*

#### 4. Submittal Review

The contractor's standard submittals that are applicable to the commissioning scope will be reviewed to ensure that the equipment or system provided will meet the specifications and OPR, as they relate to their energy or environmentally responsive characteristics. This submittal review scope shall focus on energized equipment. Submittal review will be performed concurrent with the A/E, and will be returned with comments within (6) business days.

*Deliverable: Submittal Review Memos*

#### Commissioning Temperature Controls Review Meeting

Iconergy will conduct a temperature controls review meeting with the design engineer and the Owner's O&M staff. This meeting will focus on the sequence of operation, and the thoroughness and clarity of setpoints, alarms and modes of operation.

*Deliverable: Controls Meeting Minutes*

#### 5. Conduct Construction Observation

Iconergy will conduct onsite observations to verify compliance with manufacturer's installation and start-up instructions and recommendations, compliance with the OPR, and meeting the requirements for efficient operation and maintenance.

Iconergy will observe the installation practices throughout the duration of the construction process. This will include attendance of appropriate construction meetings. Following each visit, we will provide a Site Observation Memo detailing the progress of the project and any issues that may need to be resolved. All issues will be reported in Issues Log (described below). In addition, Iconergy will be present during equipment startup, ensuring adherence to the manufacturer's recommendations.

Iconergy will provide the following services in relation to the construction observations:

- Make regular job-site visits, which include checks of installation practices, attend construction meetings and report unresolved issues. Iconergy will provide (3) Construction Observations during construction to observe the installation of the commissioned system components.
- Work with construction team to ensure commissioning activities are included on the Master Construction Schedule.
- Create inspection checklists for the construction team and verify completion of the checklists (see Prefunctional Inspection Checklists below).
- Coordinate with the sequence of events for controls, TAB, and commissioning.
- Verify proper installation of equipment/systems to be commissioned
- Observe equipment start-up ensuring adherence to manufacturer's recommendations
- Test components as prescribed in commissioning specifications
- Hold (3) commissioning coordination meetings with the Cx team

*Deliverable: Site Observations Memos and Periodically Update Issues Log*

## 6. Pre-Functional Inspection Checklists (PFC)

Pre-Functional Inspection Checklists will be developed and completed by the contractors for all major equipment and systems being commissioned. The checklist confirms the as-built status of the equipment or system and ensures that the systems are complete and operational, so that the functional performance testing can be scheduled. While the contractors are carrying out the installation process and assisting with PFCs, Iconergy will conduct site visits to provide assistance and observe installation and start-up progress.

Iconergy will review and verify the completed Pre-Functional Inspection Checklists before beginning the functional performance testing.

*Deliverable: Pre-Functional Checklists*

## 7. Controls Point-to-Point Verification

Iconergy will verify the point-to-point report submitted by the control system contractor. Information from the design intent controls drawings and contractor documentation will be checked against our findings.

*Deliverable: Functional Performance Test Plans*

## 8. Functional Performance Testing/ TAB Review/ Startup

Functional performance testing verifies the intended operation of individual components and system interactions under various conditions and modes of operation. Functional Performance Testing Plans will be prepared by Iconergy so the complete sequence of operations is included in the test procedures.

Under the supervision of the Iconergy commissioning staff, the installing subcontractor performs the hardware and/or software manipulations required for the testing. The results of the functional performance testing will be documented in the Test plans. If a building component or system substantially fails the functional performance testing, the installing subcontractor is responsible for making the necessary system adjustments or alterations. The failed component or system will then be re-tested for conformance. It is critical that final start-up procedures, tune-up testing, air and water balancing, and control software de-bugging be complete before any functional performance testing is undertaken. Iconergy will plan to functionally test all HVAC devices.

Testing, adjusting and balancing (TAB) observation will also be performed to verify TAB methods and procedures on both air-side and water-side systems. The verification procedure will spot check air and water flow rates at locations selected by the commissioning engineer.

Iconergy will check the operation of all control valves and actuators. In addition, the trend logs will be reviewed. Space temperature and humidity will be verified to ensure design criteria is met.

*Deliverables: Functional Performance Test Plans*

## 9. Issues Log

The results from pre-functional checklists, functional performance testing will be documented in an Issues Log Report. The report includes all details of the components or systems found to be non-compliant with the drawings and specifications. The report also details the adjustments required to correct the system operation, and identifies who is responsible for making the corrective changes. The Issues Log is a living document that will be regularly updated.

*Deliverable: Issues Log*

#### **10. Operations and Maintenance**

Iconergy will review all O & M Manual Table of Content and will review all O & M manuals provided by the contractors for the equipment and systems commissioned. The review will verify the O & M instructions and their consistency with the commissioning process.

*Deliverable: O&M Manual Review Memo*

#### **11. Training**

Iconergy will assist in the schedule of the training sessions and insure that the material covered is appropriate and informative. The agenda for staff training programs proposed by the contractors will be requested and reviewed with the Owner maintenance staff to eliminate redundant training and capture new information training. Materials may be added, or requested from the contractors, to stress and enhance the importance of system interactions, troubleshooting, and long-term preventative maintenance and operation. In the event that training is videotaped, Iconergy will provide guidance for the staff training to reinforce the specifications of the training.

The operation and maintenance manuals compiled by the installing contractors will be reviewed for completeness and for adherence to the requirements of the specifications.

*Deliverable: Training Agenda Review Memo*

#### **12. Commissioning Report**

A final Commissioning Report will be compiled to summarize all of the tasks, findings, conclusions, and recommendations of the commissioning process.

The commissioning report includes the following information:

- Executive Summary
- Summary of Cx findings
- Observations Reports
- PFT's and FPT's
- Final Issues Log

*Deliverable: Commissioning Report*

## Post-Construction Phase

### 13. Seasonal Testing

Iconergy will perform diagnostic monitoring and will perform appropriate seasonal testing of HVAC equipment before the 1-year warranty period expires.

*Deliverable: Seasonal Testing Memo*

### 14. Warranty Review

Iconergy will review the building operation within 10 months after substantial completion. A plan will be developed to mitigate any outstanding commissioning-related issues.

*Deliverable: 10 Month Operation Review Memo*

### 15. Develop Systems Manual (not in scope/ fee)

In accordance with LEED V4 (EA CR3), a Systems Manual will be prepared by Iconergy and will include all information required to effectively maintain the building at optimal performance. The Systems Manual will include, at a minimum, the following information:

- Final version of the OPR and BOD
- Single line controls schematic
- Control system as-built
- Operating Instructions for Integrated Building Systems
- Functional performance test results, blank test forms, and recommended schedule for ongoing Re-testing
- Schedule for sensor calibration
- Ongoing Cx Plan

*Deliverable: Systems Manual*