



TABLE OF CONTENTS

EXPERIENCE.....	1
MANAGEMENT APPROACH.....	14
COMPUTATION OF ENERGY BASELINE AND POST-INSTALLATION ENERGY USE	30
RANGE OF SERVICES	38
SAVINGS AND EQUIPMENT PERFORMANCE GUARANTEES.....	44
SUBCONTRACTING PLAN	52
FEE SCHEDULE	56



McKinstry Essention, Inc.
October 6, 2006

Energy Savings Performance Contracting
City of Seattle
Request for Proposal - #FFD-1791



EXPERIENCE

A. Describe Proposer's experience in auditing and identifying energy and utility conservation projects. Provide a list of all projects completed in the past five years, including contract value, client contact and client phone number. For firms in business less than five years, document the above information for actual time in business. The City seeks at least 8 projects within Washington, but preferably no more than 15. If you do not have 8 projects within Washington, you may provide experience and references for projects outside of Washington.

Key Points:

- We have designed and implemented energy projects that range in size from \$50,000 – \$20,000,000
- McKinstry Essention is evaluating, implementing, or commissioning over 400 buildings, in excess of 25 million square feet.
- Our experience includes over 40 municipal clients, 30 commercial and industrial customers, and over 10 college and universities.

McKinstry Essention has a vast amount of experience with energy and utility conservation projects. Our clients are a combination of public and private organizations that have collaborated with us to reduce their annual utility costs and upgrade aging infrastructures. McKinstry Essention has developed many innovative solutions that meet our clients' financial and technical criteria. Even on remodel and new construction projects, McKinstry Essention continues to provide energy and utility conservation solutions that leverage utility rebates and ongoing savings to justify the project. We have designed and implemented projects that range in size from \$50,000 – \$20,000,000 that have had energy rebates and resulted in annual energy and utility savings. Our customers have consistently provided us with feedback that the projects we have implemented have met their expectations in terms of innovation, quality, and realized savings. Our specific project experience truly highlights our ability to identify, design, and manage energy and utility conservation projects.

Currently, McKinstry Essention is evaluating, implementing, or commissioning over 400 buildings, in excess of 25 million square feet with over 70 clients with systems ranging from packaged rooftop units to large central steam and cooling plants. McKinstry Essention has worked or is working with over 10 colleges and universities, over 40 municipal clients (including school districts, cities, public district hospitals, etc.), and 30 commercial and industrial customers in various stages of development of energy utility and energy services work. Our auditing staff is made up of energy engineers, commissioning engineers, and energy auditors that have hundreds of years of direct auditing and field experience of existing facilities. Our clients can therefore feel confident that we have the necessary expertise to identify potential energy savings opportunities and ensure all potential opportunities and needs are identified.



McKinstry Essention has completed a significant number of ESPC projects within the past five years. Per the RFP request, we have provided a limited list of 15 projects that we have completed. These projects were selected because they represent a broad range of facility type, project size, type of project, and clients. Supplemental project information for projects demonstrating the broad range of facility types, project sizes and project types we have performed is available in Appendix A.

Client	Completed Phases Contract Value	Client Contact	Phone
Washington State University	Approx. \$20.0 million	Terry Ryan	509.335.9352
Eastern Washington University	Approx. \$7.5 million	Shawn King	509.359.6878
Bethel School District	Approx. \$2.8 million	Rob Van Syke	253.683.6080
Shoreline Community College	Approx. \$650,000	Randy Stegineier	206.546.4503
Lake Washington School District	Approx. \$1.9 million	Forrest Miller	425.882.5108
Cascade Natural Gas	Approx. \$950,000	Mike Brooks	206.624.3900
Central Kitsap School District	Approx. \$850,000	Richard Best	360.692.3106
Department of Ecology	Approx. \$2.0 million	Steve Fry	360.407.6018
Department of General Administration	Approx. \$1,500,000	Clint Lougheed	360.902.7262
Northshore School District	Approx. \$500,000	Terry Taylor	425.489.6426
One Union Square	Approx. \$3.0 million	Rick Mock	206.613.5351
Renton School District	Approx. \$1,100,000	Ray Vogel	425.204.4408
Seattle Public Schools	Approx. \$400,000	Frank Griffin	206.252.0000
Whatcom Community College	Approx. \$750,000	Ray White	360.647.3278
University of Washington	Approx. \$4.0 million	John Chapman	206.543.3860



B. Describe the Proposer's experience with designing, costing and managing the construction of heating system upgrades (including steam), chilled water system upgrades, heating and air conditioning systems, heat recover, energy management and control systems, lighting and lighting control systems, water conservation, and other utility system improvements;

Key Points:

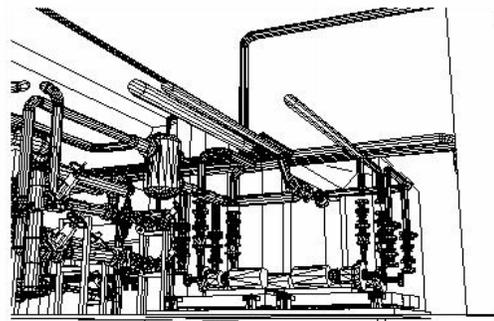
- McKinstry Essention has designed, budgeted, and managed all forms and sizes of projects including chilled water systems, steam systems, ventilation systems, building controls, lighting systems, water conservation, and other utility systems.
- We have dedicated engineering and energy services groups that are experienced on the latest technologies across all building disciplines related to energy performance.
- Our engineers collaborate with our construction and service people to ensure their designs account for construct-ability and ongoing maintenance issues.
- We have decades of historical estimating information that is used when budgeting projects. We provide construction grade, not engineering grade, estimates.
- We are vendor neutral; however, we do have a number of staff members that are well versed in Siemens control systems, as well as other control systems.

EXPERIENCE WITH DESIGNING

McKinstry Essention's engineering and design knowledge related to designing utility and energy conservation measures in both central and local systems is powered by our depth of highly skilled engineering staff and by our unique position in the ESCO industry as a 45 year old full service "Design and Build and Operate" company. Although we may not install all energy projects with McKinstry Essention trades people, our engineering knowledge capital has increased substantially due to our design/build/operate cycle of services. Our

engineers have access to trades people and construction professionals that allows for a blend of strong engineering with real world construction know-how. Furthermore, having designs reviewed by service professionals at McKinstry

Essention also addresses the element of understanding and respect for what it takes to maintain equipment and systems after the implementation is completed.



University of Washington Fisheries

McKinstry Essention has in-house access to 50 engineers, designers, and CAD staff, 20 of which are registered Professional Engineers in the State. We have a dedicated engineering group located at our main office in Seattle with engineers well-versed in design and code requirements in the City of Seattle. McKinstry Essention has been involved in all phases of utility system planning, construction, and operation in projects throughout the Pacific Northwest. In addition, we have been involved for the past several years with sustainable design concepts and



organizations such as the U.S. Green Building Council. We have provided additional information on this topic later in our response to this question.

We have designed in excess of 25,000 tons of chilled water plants in the last five years, and a significant number of heating plants. In addition, we have designed ventilation systems for all types of facilities including office, lab, recreational, industrial, educational, and healthcare facilities. Also, in the same time frame, we have performed the detailed hardware engineering, wiring diagrams, and software programming for hundreds of energy management control systems.

McKinstry Essention has implemented a significant number of Energy Services projects that included a lighting system upgrade. We specialize in providing energy lighting retrofits and lighting upgrades to facilities and have completed major renovations in sports arenas, offices, classrooms, warehouses, labs, and other buildings. Our capabilities include 3D modeling of interior and exterior lighting scenes, physical mock-ups, controls systems design, securing energy rebates and incentives, and investment-grade facility audits.

In addition to HVAC and lighting measures, McKinstry Essention has developed and implemented many water based conservation measures (irrigation, flow reducers, waterless urinals, etc.), and even solid waste conservation measures such as solid waste pulpers and trash compaction systems.

EXPERIENCE WITH MANAGING

In addition to the engineering and technical skills needed to perform thorough system selection studies and system design, we also have managed the construction of many significant system installations. The vast majority of this work has been focused on mechanical and electrical system installations and upgrades, including chilled water systems, heating systems (hot water and steam), ventilation systems, heat recovery systems (water and air-side) building controls, electrical systems including lighting, and other mechanical and electrical work.

McKinstry Essention's construction experience enables our ESCO teams to successfully complete construction projects for our many clients. Our construction experience is vast and includes multiple cities/municipalities, university and college campuses, and a great number of school districts, high tech and bio-tech facilities, as well as many other commercial buildings. Our construction management teams utilize experience, technical tools and personal commitment in delivering outstanding results and timely conclusions. Plain and simple, McKinstry Essention knows how to build projects and build them right!

Our project managers have significant experience and are well-versed in the technical tools and planning processes needed to successfully implement ESCO projects. ESCO projects are unique from other construction projects, in that for most projects, the building(s) remain in operation and occupied while projects are under construction. This means that clear communication, thoroughly planned project schedules, project safety plans, detailed work plans with risk management procedures, system shutdowns and interruptions, and other procedures are all integrated into a seamless delivery.



After a project is approved, McKinstry Essention's first step is to finalize a detailed schedule and work plan for the project. Many of these details will have been discussed during project development. The scheduling and work planning process takes into consideration this information, adds significantly more detail based on client input and direction, and crystallizes the information so a clear path can be followed. All of our project managers utilize industry-standard scheduling tools (i.e. Microsoft Project) to formulate schedules. In addition, McKinstry Essention will develop a construction work plan that details out all of the major tasks associated with construction and includes information such as the required completion date for each task, the status of each task, the responsible party, potential risks, and proactive measures taken to mitigate and minimize possible risks.

Finally, McKinstry Essention is involved in the service, maintenance, and operation of systems and facilities. The best operations practices and knowledge gained from this hands-on operations experience allows us a feedback loop to further refine our management process and educate our project managers. We simply cannot and do not think of jobs being complete after they are *installed*. Rather, they must be operating as designed, integrated into the overall operation of the facility, with client personnel trained and ready to assume operation of the systems after our construction management presence has diminished. This mindset of leaving the client with a fully functioning system and fully prepared to assume operation is ingrained in our delivery and culture.

EXPERIENCE WITH COSTING

McKinstry Essention's costing capabilities are second to none in the ESCO industry—we determine costs through a construction-grade estimating process, not an engineering-grade estimate. We have dedicated in-house construction cost estimators with over 100 years of combined estimating experience of mechanical, electrical, building controls, and other construction disciplines. These personnel are supplemented with the latest in cost estimating hardware and software, with digitized estimating stations and the latest cost estimating software.

These capabilities are supplemented with decades of cost estimating data and knowledge gained through the implementation of a vast number of projects. Our field tradespeople continually provide feedback to our estimating group to adjust our labor factors based on job conditions, project schedule, and other factors in order continually provide an extremely accurate picture of project costs. The majority of our work is competitively procured—we know how important it is to accurately estimate costs.

Why is this important? First of all, it ensures that project costs are not overly inflated to cover risks and unknowns due to a lack of estimating knowledge. Since ESCO fees are typically calculated as a percentage of project construction costs, this also helps reduce project costs. At the same time, it protects our client from receiving estimates that are too low, as this could potentially derail projects due to unforeseen, last minute costs.



EXPERIENCE WITH SUSTAINABILITY

McKinstry Essention is well-versed at integrating sustainable design practices and concepts into our delivery process. We have the capabilities to review, analyze and participate in the design of a multitude of sustainable building concepts. Our staff has been involved in this activity on many projects and our resume of sustainable design and energy conservation projects is extensive. We have participated in several LEED™ Certification studies and resulting designs and we have 17 LEED™ Accredited Professionals on staff.

We are fully supportive of the prudent implementation of design concepts that benefit long-term sustainability, as well as obtaining LEED EB (Existing Building) Certification when applicable and desired by our clients. We are prepared to devote resources to participate in a comprehensive investigation and business case analysis of building sustainability issues.

CAPABILITIES

- McKinstry is a fully participating member of the U.S. Green Building Council and our staff includes members of the steering committee for the local Cascadia Chapter, where we are a proud Gold Level Sponsor.
- Our 50 person engineering team and 20 licensed professional engineers includes 17 LEED Accredited Professionals.
- Our energy & facilities services group includes 125 professionals including mechanical designers, electrical designers, lighting designers and sustainability specialists.
- Throughout our organization we employ principles of sustainability, including CFC recovery policies and programs in our extensive service organization, LEED-EB certification programs delivered through our energy services group, LEED measure and verification programs delivered through our facility management group and of course extensive participation in LEED certification targeted design strategies delivered on the majority of our design build projects.
- We have developed both an extensive sustainable measures library of initiatives and an innovative score management and point evaluation tool to ease the LEED process on our projects. This LEED tracking tool links to our Life Cycle Cost Modeling Tool (TCO) to allow clients a comprehensive view of the decisions and implications that the sustainable strategies deliver.



SUSTAINABILITY DESIGN PROJECTS, LEED™ STUDIES AND LEED™ CERTIFIED PROJECTS

Our in-house personnel have participated in several LEED™ design and cost studies and are currently working on several projects submitting documentation for LEED™ Certification. This list of projects includes projects that are:

On the Boards (current projects being developed with the intention to become LEED Certified):

- **City of Post Falls, ID**—Targeting LEED Gold Certification for new 41,000 s.f. City Hall.
- **City of Spokane**—Targeting LEED EB (Existing Building) Certification for upcoming remodel of 150,000 s.f. City Hall completed through ESPC process.



- **UW DBOM**—Targeting LEED-CS Certification - \$4,300,000.
- **Alley24** (180,000 s.f. office project in Seattle)—Targeting LEED-CS Certification - \$4,000,000.
- **1900 Morrison Housing Authority of Portland (HAP) Building**—Targeting LEED-CS Certification – \$2,000,000.
- **1900 Morrison Condos** (18-story residential tower in Portland) —Targeting LEED-CS Silver Certification - \$5,500,000.
- **Microsoft Building 7 & 99**—Targeting LEED-CS Silver Certification – \$18,000,000.
- **NBBJ TI @ Alley24**—Targeting LEED-CI Silver Certification – \$1,200,000.
- **Skanska TI @ Alley24**—Targeting LEED-CI Certification – \$1,200,000.
- **Bastyr University TI**—Targeting LEED-CI Silver Certification – \$300,000.

Completed (projects for which our in-house engineers and tradespeople designed and installed the mechanical systems that have attained LEED Certifications):

- **307 Westlake**—the country’s first LEED-CS Silver Certified laboratory project – \$8,300,000.
- **Seattle Central Library**—LEED-NC Silver Certified – \$12,800,000.
- **ZGF Architects Seattle Offices**—LEED-CI Certified – \$245,000.
- **Department of Ecology**—LEED-EB Silver Certified, completed through the ESPC process – \$2,000,000.

We have also *participated* in many other projects designed and constructed with LEED standards used as a gauge to creating a mechanical system designed for sustainability. This approach included projects such as:

- The **Sellen Office Building**.
- **428 Westlake** for Tommy Bahama (a 90,000sf office in Seattle).
- For the **University of Washington South Lake Union** expansion we created innovative design solutions that not only qualified for design innovation LEED points but also delivered substantial energy rebates for our client.
- For the **Central Laundry facility for the University hospital system**, McKinstry delivered an innovative water recycling system that received the City of Seattle’s Leadership Award for water conservation projects.
- For the State of Washington, McKinstry designed and delivered the largest solar panel installation of its type at the **State Capital Building in Olympia**, where we received special commendation from both the legislature and the governor for our leadership in sustainability.

EXPERIENCE WITH ENERGY MANAGEMENT CONTROL SYSTEMS

Most energy projects typically include an energy management system upgrade component. Understanding how various manufacturer’s systems and products work and their respective programming, integration capabilities, and limitations is key to optimizing facility performance. Our staff is very knowledgeable on writing of specifications, sequence of operations, and point lists to ensure that functionality and configuration of the specific control system is optimized and energy savings are maximized. The EMCS systems typically include many functions that can be utilized to track key performance indicators and other important energy features such as



load shedding, capacity tracking, system optimization, system metering, remote monitoring, remote alarming, temperature resets, variable frequency drives, and more.

Our relationship with all the major system manufacturers is un-matched in the industry. This experience reaches all levels of expertise from design to construction to service. In addition, McKinstry Essention has an in-house remote monitoring system with a total of nine control system interfaces.

We have had an excellent working relationship with Siemens, Johnson Controls, Invensys (CCI), and Alerton (ATS) for many years. We have worked with each vendor on hundreds of projects with great success. Involvement in the construction activities through the years has given us an excellent understanding of their systems and operations. We also have been involved at a building operations level while working with their systems in buildings we now service and maintain.

We not only have an excellent working relationship and experience with these outside manufacturers, we also have an entire team in-house that is strictly devoted to finding and providing energy management solutions for our customers. We can bring this expertise to the City to properly analyze the very best value-based solution to the controls for each project.

EXPERIENCE WITH SIEMENS

In addition to our overall Energy Management & Control System (EMCS) experience and knowledge, we also have significant experience working with Siemens. Over the past five years we have subcontracted in excess of \$6.5 million dollars of controls work to Siemens through various ESCO and design/build projects.

On these projects we have interfaced with Siemens during the design process to coordinate the mechanical system design with the control system. The coordination during the design effort is critical in order to ensure the control system can meet the design intent of the system. During implementation, our construction managers interface with Siemens' project managers throughout the course of the project, providing the proper documentation and communication in order for Siemens to successfully install their system. During the project commissioning phase, our commissioning personnel work closely with Siemens to perform the point-to-point and functional performance testing needed to guarantee optimal and correct operation.

In addition, our staff consists of many individuals (10+) formerly employed by Siemens, as well as other personnel who work with Siemens systems on a regular basis. This in-house experience includes individuals very knowledgeable with the programming, operation, and functional capabilities of Siemens systems. Our commissioning group is routinely involved in the point-to-point testing of Siemens systems, as well as the functional performance testing to ensure proper operation. Our Remote Operations Center monitors in excess of 1,000,000 square feet of office, retail, and other facilities controlled with Siemens systems.



C. Describe the Proposer's experience securing utility incentives for its customers;

Key Points:

- McKinstry Essention has rebate capture experience going back 20 years and has captured over \$8.0 million dollars of rebates for our customers.
- Unlike annual utility savings, utility rebates are often paid with a single lump sum check, so they can buy down the first cost of the project.
- McKinstry Essention understands that rebate capture is as much about learning the ins and outs of each utility company's program and people as it is about energy analysis.
- McKinstry Essention works to get written confirmation from the utility regarding incentive amount before the energy services proposal is presented.

Seeking and securing utility incentives for our clients is a critical part of the financing ability an ESCO brings to a performance contract. McKinstry Essention has found that the key to success in securing utility incentives with the utilities is to ensure that the partnership begins from the initial phases of the project and continues through to the performance assurance phase. Typically, the conservation programs provide certain guidelines that must be met throughout the development of the project in order to qualify for a rebate or incentive program. In addition, incentive monies and rebates are paid directly to the owner with McKinstry Essention operating as an advocate for the owner. A representative from the utility's conservation program therefore is an important member of the project team to ensure that all necessary milestones are met from the utility's perspective.

The approach to securing funding from local utilities typically proceeds in the following manner:

- McKinstry Essention contacts the applicable utility during the preliminary scoping phase in order to outline the potential project. Utility requests that a proposal or specific forms to be completed, describing the project and intended audit and calculation methodology.
- Once the methodology is approved by the utility, the audit and calculation proceed as planned. McKinstry Essention presents the final study to all parties.
- The utility reviews the information provided and issues a letter of authorization or intent stating the amount or type of funding secured for the project. This letter may also contain a description of construction deliverables required, as well as an M&V (measure & verification) plan that is required at the end of construction.
- Once all construction deliverables are provided and the utility's M&V plan is fulfilled, the owner can expect an incentive payment.

This partnering approach eliminates end-of-project conflicts regarding funding levels, and will help to expedite the final incentive payments to the owner. *Our experience with the local rebate programs will prove to be invaluable on this project.* McKinstry Essention has strong relationships with Seattle City Light, Seattle Public Utilities, Avista, Snohomish PUD, and Puget Sound Energy, to name a few. These strong relationships ensures that a level of success that will continue throughout the performance contracting process for our clients.



The following is a detailed list of utility rebate experience, detailing the project name, installed ECMs, and the utility incentive amount.

Project Name	Owner/ Developer	Utility Company	Installed ECMs	Utility Rebate
The Rosen Building	Schnitzer NW	Seattle City Light	Efficient chillers, lighting and "cooling" heat recovery	\$150,000
One Convention Place	Trammell Crow	Seattle City Light	AHU VFD's, efficient chillers, controls	\$100,000
Amazon.Com	Wright Runstad	Seattle City Light	Controls, AHU VFD's, heat recovery, efficient chillers	\$350,000
AGC VFD Retrofit	AGC Building	Seattle City Light	AHU VFD's, high efficiency motors	\$30,000
Seattle Exhibition Center	First And Goal	Seattle City Light	High efficiency RTU's	\$150,000
Proctor	Proctor And Associates	Puget Sound Energy	Packaged VAV RTU's with VFD's	\$15,000
Touch-Stone	Touchstone Corporation	Puget Sound Energy	Packaged VAV RTU's with VFD's	\$20,000
Microsoft Building #26	Microsoft	Puget Power	AHU VFD's, lighting, efficient chillers, garage co sensors	\$200,000
Microsoft Building #27	Microsoft	Puget Power	AHU VFD's, efficient chillers, garage co sensors, OSA co ₂ sensors	\$150,000
Microsoft Redmond West	Microsoft	Puget Power	AHU VFD's, efficient chillers, garage co sensor, OSA co ₂ sensors	\$600,000
Willows Creek	Carr America	Puget Sound Energy	Packaged VAV RTU's with VFD's	\$26,000
US Bank Building	Bellevue Associates	Seattle City Light	AHU VFD's	\$50,000
Plaza Center Building			AHU VFD's	\$90,000
Bank Of California		Seattle City Light	VAV system w/ AHU VFD's	\$400,000
Overlake Christian Church	Overlake Christian Church	Puget Sound Energy	Ice storage, controls, lighting controls	\$100,000
The Space Needle	Space Needle Corporation	Seattle City Light	Control retrofit, efficient chillers, economizer, VFD's	\$20,000
Kennewick School District	Kennewick School District	Benton Co. PUD	Lighting, Controls, OSA co ₂ sensors	\$130,000



Project Name	Owner/ Developer	Utility Company	Installed ECMs	Utility Rebate
Adobe	Quadrant	Seattle City Light	Controls, VFD's, lighting	\$35,000
Fisher Plaza Phase One	Fisher Properties/Fisher Broadcasting	Seattle City Light	Underfloor HVAC, Heat recovery on building exhaust, high efficiency chillers and high efficiency lighting.	\$190,000
1000 Dexter	Alper NW	Seattle City Light	Controls	\$15,000
Westlake Center VFD's	Rouse Co.	Seattle City Light	Control retrofit, VFD's	\$63,000
Valley Office Park	Unico	PSE	Lighting control	\$5,000
Forum Building	Private		Controls retrofit, VFD's	\$32,000
Group Health	Sabey	Seattle City Light	Controls retrofit, VFD's	\$72,000
PEMCO	Pemco		Controls retrofit, VFD's, conversion of constant volume to VAV.	\$155,000
Washington Mutual Aurora Village	Washington Mutual		Controls retrofit, VFD's, conversion of constant volume to VAV system	\$42,000
Lake Washington Technical College	State Of Washington	PSE	Controls retrofit, VFD's	\$175,000
Surrey Building	Private		Heat pump control retrofit	\$20,000
West Lake Union Center	Fisher Properties	Seattle City Light	Controls, VFD's, lighting controls	\$20,000
Campus Square	JSH Properties		Controls retrofit, VFD's, conversion of constant volume to VAV system	\$60,000
Hidden Valley Office Park	Metric		Controls retrofit, VFD's	\$105,000
12600 Factoria	Alaska Teachers Pension Fund	Puget Sound Energy	Controls retrofit, VFD's, conversion of constant volume to VAV system	\$350,000
One Renton Place	Unico		Controls retrofit, VFD's	\$55,000
Washington Mutual Head Office Building	Washington Mutual		Constant volume to VAV conversion, controls retrofit, VFD's	\$175,000
Metropolitan Park East And West	Benaroya Capital		Controls retrofit, VFD's	\$72,000
Key Services Tacoma Operations Center	Key Bank		Dual duct conversion, controls retrofit, VFD's	\$60,000



Project Name	Owner/ Developer	Utility Company	Installed ECMs	Utility Rebate
Westin Building		Seattle City Light	VFD's, low pressure drop HX	\$113,000
Museum of Flight	Museum of Flight	Seattle City Light	VFD's, Controls, Lighting	\$40,000
Washington State University	Washington State University	Avista	Lighting, Chilled Water, others	\$3,000,000
Eastern Washington University	Eastern Washington University	Cheney Light	VFD, Lights, Controls, Cooling Tower	\$150,000
North Mason SD	North Mason SD	Mason Co. PUD	Lights, controls	\$115,000
One Union Square	Unico	Seattle City Light	VAV box Retrofit, Controls	\$700,000
307 Westlake Labs	Vulcan / Harbor Prop.	Seattle City Light	Cooling recovery, chillers, CO2 controls.	\$144,000
WAMU/SAM			Chillers, single zone fan VFDs, delta P valves (rebate amount pending)	
	Pine Street	Seattle City Light		\$200,000
UW Blueflame	Vulcan / UW	Seattle City Light	Cooling recovery, chillers, pump VFDs	\$60,000
Northshore Schools	NSD	PSE	Retro-Commissioning	\$180,000
WWU			Lighting, air compressors, retro-commissioning	
	WWU	PSE 258 Program		\$138,000
UW Medical Center	UW	SCL	Chillers (rebate amount pending)	\$100,000
UW School of Medicine	UW	SCL	Cyclotron cooling tower.	\$50,000
UW Fluke Hall	UW	SCL	VFDs, Controls, Lighting	\$70,000
Zymogenetics Earl Davies	Zymogenetics	SCL	Chillers, Pump VFDs	\$40,000
Microsoft 121/122	Microsoft	PSE	ECM Motors, VFDs, Rooftop Units	\$50,000
Equity Office Kruse Way	EOP	Energy Trust of Oregon	Rooftop Units and Controls	\$50,000
IBM Beaverton			Economizer controls, VFDs, schedule reduction. (pending)	
	IBM	Energy Trust of Oregon		
Abovenet	Sabey	Seattle City Light	Central Chilled Water Plant	\$500,000



D. Provide the qualifications and/or resumes of ESCO staff who will be assigned to this project and of any sub-contractors included on the Proposer's team;

Key Points:

- McKinstry Essention's dedicated team for the City of Seattle brings together personnel resources experienced and knowledgeable in all elements of performance contracting.
- Our team will utilize the experience and resources of the Rushing Group to support our design and engineering efforts and will seek additional WMBE resources needed to help deliver projects.
- Our project team is easily scalable (up or down) to match the needs and schedule requirements of the City.
- With our professional staff of over 125 people, the majority of whom reside in Seattle, we have the depth of resources needed to fully support all efforts for the City of Seattle.
- The McKinstry Essention team members will be directly involved in all phases of work related to the project.

McKinstry Essention's professional staff of over 125 people provides the depth of resources to manage a wide variety of projects, from all facets including auditing, engineering, construction, and performance assurance. We have 20 licensed professional engineers as part of our 50 person engineering talent pool and 74 construction managers. In addition, we are proud of the real-world field knowledge we gain from the more than 350 union tradespeople we employ. We provide a single point of accountability for all projects, with a depth of resources that allow us to handle projects of all sizes.

In addition to the internal resources McKinstry Essention has at hand, we have also supplemented our team with the Rushing Group. The Rushing Group is a WBE firm focused on delivering energy efficient and sustainable design solutions for clients. In addition, their engineering resources are extremely familiar with the codes and requirements associated with the City of Seattle. Principals of the Rushing Group have served for six years on the City of Seattle Construction Code Advisory Board (CCAB), as well as significant involvement in the Washington State Energy Code Technical Advisory Group, and the City of Seattle Technical Advisory Committees for both Mechanical and Energy.

As shown in our responses to questions A and B, we have extensive energy and performance contracting experience that allows us to fully understand our client's needs and we expect high standards of our team. Our extensive experience has proven that we have the skills, knowledge, and attitude required to complete projects on time and within budget. Our involvement can easily be varied depending upon the type of project and the specific needs and outcomes desired for each project.

The resumes provided in APPENDIX B provide detailed information regarding the team members we have available to fulfill the roles we describe in MANAGEMENT APPROACH – Question E.



MANAGEMENT APPROACH

E. Provide the Proposer’s organizational structure and management approach to the project. Clearly describe the roles and responsibilities of all ESCO staff who will be assigned to this project and of any sub-consultants included on the Proposer’s team. For sub-consultants describe the Proposer’s prior experience working with the sub-consultant;

Key Points:

- Our management approach is focused on delivering innovative solutions that meet our clients’ needs as the single-point-of-accountability for the entire project.
- McKinstry Essention’s organizational structure is set up to ensure clear communication with the client and efficient development and execution of projects.
- We have documented role responsibilities and processes in place to ensure strict quality-control during development, implementation, and ongoing performance assurance.
- Our project teams are scalable to meet the schedule requirements of the City—we will develop and execute work at your pace.
- Our team includes The Rushing Group, a WMBE organization, who will support the design and engineering analysis of projects.

MANAGEMENT APPROACH

McKinstry Essention’s management approach is committed to ensuring the successful development and installation of projects that ensure system performance, improved operations, enhanced standards of comfort, on-going performance assurance, and guaranteed occupant satisfaction...*For The Life of Your Building.*

Our management philosophy is developed around a client-centered approach, with McKinstry Essention the single point of accountability for all aspects of a project. Our processes and procedures are well-defined, yet flexible enough to be tailored to the needs of each specific client and/or project.

The management sequence of a project from development to ongoing performance assurance typically flows as follows:

Sequence		Actions and Results
1	Establish Project Objectives	We strive to establish the goals and objectives of a project as early as possible, and truly understand what benefits the client wants to achieve through a performance contracting program. Gaining this understanding early in the process helps tailor our delivery and sharpen our focus on solutions consistent with the City’s requirements.



Sequence		Actions and Results
2	Preliminary Facility Assessment	The Preliminary Facility Assessment is focused on developing initial information to help gauge the viability of potential projects. We will interview site staff, gather information, perform site surveys, develop preliminary information, and gain an understanding of the future use and requirements for the facilities. We will begin to gather utility data and place logging and data acquisition instruments. We will complete this at our own risk, with the hope that any project determined viable would be pursued in greater detail. We would work with the City of Seattle determine the financial criteria for success required, as well as other desired achievements.
3	Directed Engineering Study	This is the investment grade audit stage. A detailed audit and complete energy analysis is conducted to determine the savings for each measure identified. In addition, during this time, guaranteed maximum project costs are developed for the scopes of work. McKinstry Essention also works with the utility companies during this time to identify and define the utility funding component of any project. We also work closely with the customer during this process to ensure that time spent on this assessment will be focused on those initiatives that have a strong possibility of implementation. The outcome of this phase is the delivery of a Conservation Services Project Proposal that includes scope of work, guaranteed costs, guaranteed savings, a performance assurance plan, and other information.
4	Installation of Conservation Measures	Once a thorough review of the Conservation Services Project Proposal is completed by the City of Seattle and the scope of work is accepted, we will begin implementation of selected measures. Implementation may include finalization of the detailed design, schedule preparation, as well as solicitations of bids from selected suppliers and sub-contractors. We then continue our commitment to single-point accountability and install the project on time and on budget.
5	Project Completion	McKinstry Essention provides thorough project completion services to ensure projects function properly after completion. Services typically include a comprehensive commissioning program, a thorough training program for City maintenance personnel, development of project documentation (as-builts, O&M manuals, maintenance plan development), and other construction close-out related activities.
6	Ongoing Verification, and Performance Assurance	<ul style="list-style-type: none"> ▪ Ongoing Energy Savings Verification & Performance Assurance ▪ Warranty Services ▪ Ongoing Utility and Energy Services Support



ORGANIZATIONAL STRUCTURE

Our commitment to every project is to assign dedicated team of qualified professionals, with the required skills to develop and implement a successful project. We structure our team to ensure a single-point of accountability and contact for our clients through a Project Director. The Project Director quarterbackes the team in assuring the overall success of the project and customer satisfaction. The Project Director is supported in three areas by:

1. Analysis and solutions development, auditing, and engineering which is lead by a Sr. Program Manager.
2. On time solutions implementation through construction management is lead by the Construction Manager.
3. Assuring savings and ongoing performance assurance is lead by the Performance Assurance Specialist.

Appendix B includes a Project Organization Chart for the City of Seattle and outlines our team structure and resumes. The resumes describe the specific role assigned to the various team members for the City of Seattle, and their associated duties and responsibilities.

McKinstry Essention is fortunate to have a significant wealth of personnel resources in-house. This advantage helps us provide a consistent delivery across projects, scale our teams to meet project requirements, and structure our teams so personnel qualifications are aligned with the needs of the client and projects. These in-house resources include program managers, mechanical engineers, electrical engineers, energy engineers, lighting engineers, construction managers, performance assurance specialists, commissioning technicians and commissioning agents, project directors, and other various support personnel.

For the City of Seattle project, we have chosen to supplement our internal team resources with those of the Rushing Group, a WMBE firm specializing in engineering, design, and sustainable building solutions. For the City of Seattle projects, the Rushing Group will work with our development and design teams to deliver innovative solutions that meet the criteria of the City. In addition, key personnel from the Rushing Group are leading experts on the interpretation and application of local codes, with experience that includes serving on the City of Seattle Construction Code Advisory Board, Washington State Energy Code Technical Advisory Group, and the City of Seattle Technical Advisory committees for Mechanical and Energy. This knowledge will supplement our engineering experience and knowledge of the City of Seattle design and code requirements. We have utilized the resources of the Rushing Group on over 20 projects within the past year and have a great working relationship with their organization.

From time to time, it is necessary to supplement our team with additional resources based on the needs of the project. These resources could potentially include structural, architectural, acoustical, or other design consultants. Our partners on past projects have included CTA (electrical), Kia Co. (structural), Yantis Acoustical Design (acoustics), Zimmer Gunsul Frasca Partnership (architecture).



F. Describe the method for contracting the installation of the measures, and how the Proposer, as the prime, will maintain cost competitive pricing, and whether the Proposer uses open book pricing. For Proposers who intend to self-perform components of the installation and/or who represent equipment vendors, the method for maintaining cost competitive pricing will be critical;

Key Points:

- We will actively pursue involvement from WMBE firms to take part in delivering the installation of projects.
- Pricing and mark-ups are presented in a straightforward manner that is 100% open book.
- We will leverage our significant *local* buying power to obtain the lowest possible prices for all projects.
- We are vendor neutral and not aligned with any specific equipment manufacturer.
- Clients often leverage our self-performance contracting capabilities in order to receive the lowest cost, rapid turnaround, and overall best value.

CONTRACTING METHOD

Our contracting approach is focused on delivering the highest quality installation at the lowest possible cost, while meeting the project schedule and minimizing disruptions to client facilities. When we develop our contracting plan, this philosophy is first and foremost in our minds and guides our decisions as we proceed.

McKinstry Essention has a very competitive fee and mark-up structure. Simply put, our business model does not require the same profit targets as national ESCO firms which allows McKinstry Essention's clients to complete *the most project for the lowest cost*. Our philosophy has always centered on developing long term partnerships with our great clients. As such, our interest is not focused on developing confusing pricing in order to hide an extra buck. Rather, we believe that fair and open pricing develops a level of trust that will benefit all parties through a long term relationship.

Our fee and mark-up structure is presented in an open book pricing format for all projects. This pricing format will allow the City of Seattle to review our direct costs, overhead, mark-up, discounts, and labor rates. We have used this format with all of our customers in order to confirm competitive pricing. Specific cost and fee information is detailed in FEE SCHEDULE – Question R.

While many ESCOs take a 'briefcase' approach to project management, we believe that a hands-on approach is critical to minimizing costs and control of projects. With that in mind, our construction teams are set up to minimize multiple tiers of contractors, thereby savings mark-up costs, and have a McKinstry Essention representative as the single point of accountability for the day-to-day on-site management of construction. We simply believe that this position is too important to subcontract to another firm.



While all projects are different, we typically will subcontract and directly manage the following categories of work including mechanical, electrical, controls, structural, and general construction. In addition, depending on the scope, we will even separate these categories further and specifically directly manage the mechanical dry side (sheet metal), mechanical wet side (piping), painting, demolition, lighting, and other work in order to minimize second and third levels of mark-up that would occur by contracting the project to one or two major subcontractors.

We also have the capability to self-perform mechanical and electrical work with in-house personnel when it provides a benefit to the project and client. Many clients request that we self-perform the applicable components of the installation because they realize they receive the best value under this approach. The value is realized through eliminating tiers of mark-up by utilizing in-house forces. In addition, with in-house capabilities, we have the ability to rapidly engage our construction services on projects that require aggressive schedules, which can further reduce project costs.

COST COMPETITIVENESS

Below are the key aspects of our approach to ensuring cost competitiveness, while maintaining a turnkey quality project. However, we also appreciate that these projects are only successful when a partnership is established with the City of Seattle. Therefore, we welcome the opportunity to work closely with the City to ensure competitiveness through this project, and work to develop a specific process that will meet the City's requirements. Below are the key aspects of our approach that we have used with energy projects to ensure cost competitiveness.

1. Our business is facility infrastructure upgrades. We complete in excess of \$150 million annually as a local design-build solutions provider. To complete this volume of work annually, two critical items must be in place. First, our clients rely on us to provide the "Best Total Solutions"; secondly, we provide these solutions at the best value that ensures our clients of the best overall pricing. We are expert budgeters and cost estimators, which will ensure that the first budgets established at the beginning of the project will not dramatically fluctuate through the development process.
2. An "open-book" pricing approach and a guaranteed maximum pricing (GMAX) agreement will ensure that any cost advantages gained through the construction process will be fully (100% of construction savings) realized by the City of Seattle.
3. McKinstry Essention has the in-house engineering and professional service expertise to provide solutions that will meet the first cost and long-term life cycle operating needs of the City of Seattle. Our engineering fees are always lower than those of stand-alone consulting firms. Our fee is always on the lower end of the range if we are self-performing the work based on our integrated delivery method that takes standard engineering drawings and creates field construction drawings. This process of design-build also reduces the number of typical field changes that may occur.



4. We competitively bid major equipment. Based on the volume of mechanical and electrical equipment McKinstry Essention purchases annually, the equipment pricing we receive directly will be the most competitive, and will provide the City of Seattle with a negotiated advantage regarding extended warranties.
5. We competitively bid subcontractors. McKinstry Essention will develop the detailed scopes of work required to receive competitive bids from qualified subcontractors that are also acceptable to the City of Seattle. We will bid the work to qualified contractors, and ensure that the scope of work is maintained with no cost increases. We will share all subcontractor costs with the City of Seattle, in keeping with our open-book approach.
6. All available utility rebates will be secured. McKinstry Essention has secured over \$8.0 million in utility rebates for our clients. We have a dedicated in-house energy services team that understands how to optimize these rebates for our clients. We will work diligently with your staff to secure rebates. McKinstry Essention is unique in this regard; not only will we be providing the City of Seattle with the most competitive pricing, we will dramatically reduce the first cost by securing rebates. We have found that through our integrated delivery method we optimize these rebates. Most other delivery methods fall short in delivering the best first cost, while optimizing energy savings and therefore utility rebates. It is a complex balance that we have mastered for our clients.
7. We provide an aggressive solution development and implementation timeline. As energy rates continue to impact your operation, any energy savings solutions should be brought online in short order. We are currently working with many clients, using our integrated delivery method, to implement needed solutions and energy savings solutions on a fast-track to optimize utility rebates and savings.
8. Finally, we are committed to staying within the final proposal prices we provide for all scopes of work. Our goal is to be your single-point of accountability, therefore *No Scope Modifications - No Change Orders*.



G. Identify how potential hazardous materials encountered in the installation of energy conservation measures will be managed; and whether the Proposer has been cited by the Washington Department of Ecology, Federal Environmental Protection Agency, or any other regulatory agency for inappropriate handling, transportation or disposal of hazardous materials;

Key Points:

- Hazardous materials—not just our client’s concern.
- We have a \$5,000,000 pollution liability insurance policy.
- We work diligently to develop a specific hazardous material work plan and strategy for every project.
- We are a certified Green Works company, which has never been cited by any regulatory agency.
- McKinstry Essention works hand-in-hand with clients to develop the most effective methods to mitigate hazardous material on every project.

McKinstry Essention recognizes the critical nature of the various hazardous materials encountered while performing energy related work. We recognize that many of the facilities that we complete work in were constructed with materials that pose hazards when encountered on projects. In response to this potential risk, McKinstry Essention is covered through a \$5,000,000 pollution liability insurance policy.

During the course of a project, McKinstry Essention takes the lead role in addressing and managing any hazardous materials. We require all McKinstry Essention projects to have a "Good Faith Survey" for hazardous materials before performing work in a facility. Upon careful review of the survey, if any hazardous materials are identified, a management plan will be created before there is any potential exposure of the hazardous material to McKinstry Essention personnel and building occupants. McKinstry Essention will manage the lawful abatement process through a subcontractor (approved by the City). If hazardous materials are found during construction, all construction activities will cease or move to other work areas until the abatement process is complete. McKinstry Essention has never been cited by any governmental or regulatory agency for inappropriate handling, transportation, or disposal of hazardous materials.

In an effort to provide our customers with further piece of mind, McKinstry also supports green building initiatives. McKinstry Essention is a certified Green Works company, and also has LEED™ accredited professionals on staff. We make a strong commitment to prevent waste, recycle, and use recycled products on our construction projects.

Appendix C provides a sample plan developed for the handling, removal, and disposal of PCB materials (typically encountered in older lighting system ballasts) on a recent project. On this particular project, the work was completed by McKinstry Essention. On a project where work would be completed by subcontractors to McKinstry Essention, applicable language would be modified in order to ensure that the contractor adhered to the same policies and standards outlined in the plan.



I. Specify the Proposer’s policies and procedures for recycling materials such as lamps, ballasts, fixtures, ceiling tiles, and, other recyclable materials;

Key Points:

- McKinstry Essention develops a comprehensive waste management plan for all projects which includes a recycling component.
- Our design and implementation processes are geared towards actively reviewing and minimizing the amount waste generated during construction.
- For existing material removed from the job, we strive to divert as much material as possible from the waste stream, either through re-use, salvage, and/or recycling opportunities.
- We are very familiar with the LEED process and the impact of recycling and diverting materials from the waste stream.

McKinstry Essention is committed to sustainable design and construction, and as such, we believe in developing and executing a comprehensive waste management plan that seeks to minimize the waste stream from projects whenever feasible. Our waste management plan not only considers the existing materials that need to be removed from the jobsite, but also the construction methods and materials that will be used for any new work being installed. The following paragraphs describe the various components we take into consideration throughout the duration of the project are described.

IDENTIFICATION OF MATERIALS FOR REMOVAL

The majority of all ESPC projects focus on the renovation or replacement of existing energy-consuming systems such as lights, boilers, chillers, ventilation systems, and other equipment. Due to the nature of the projects, much of the existing materials need to be removed as part of the project. Prior to the beginning of any project, McKinstry Essention identifies all of the material to be removed, including the disposal method and handling procedure. While most of the materials are typically of the metal or glass variety, it is common to also encounter other materials that need to be removed in order to support either the replacement of the primary equipment or the installation of the new systems. The following table is an example of the initial material identification survey.

Material	Quantity	Disposal Method	Handling Procedure
Clean dimensional wood and palette wood		Keep separate for reuse by on-side construction or by site employees for reuse in home projects. Recycle at local recycling centers.	Keep separated in designated areas on site. Place in 'Clean Wood' container.
Plywood, OSB, particle board		Reuse (preferred), landfill	Keep separated in designated areas on site. Place in 'Trash' container.
Painted or treated wood		Reuse (preferred), landfill	Keep separated in designated areas on site. Place in 'Trash' container.



Material	Quantity	Disposal Method	Handling Procedure
Concrete, brick, aggregate		Recycle	
Concrete masonry units		Keep separate for re-use by on-site construction or by site employees	Keep separated in designated areas on site.
Metals		Recycle at local recycling center	Keep separated in designated areas on site. Place in 'Metals' container.
Gypsum drywall (unpainted)		Recycle at local recycling center	Keep scraps separate for recycling – stack on pallets provided on site. All scrap drywall will be taken back by contractor to drywall supplier.
Insulation		Reuse (preferred), landfill	
Flooring		Reuse (preferred), landfill	
Carpet and pad		Reuse or recycle with carpet manufacturer	
Lamps (non-hazardous)		Recycle at local recycling center	Keep separated in designated areas on site.
Glass products		Recycle at local recycling center	Keep separated in designated areas on site.
Paper products		Recycle at local recycling center	Keep separated in designated areas on site.

PROJECT RECYCLING, FIELD OFFICE

Our field office will sort paper and other waste stream items such as aluminum cans for disposal in the project recycling center. Additionally, we will utilize computer-based detailing and project management systems to maximize the drive toward paperless documentation and shop drawings. This will both reduce the waste stream and properly recycle the waste products. McKinstry Essention’s clean up crews will be directed to sort construction waste into paper, cardboard, wood and waste products and dispose of them in jobsite recycling dumpsters. Maximizing off-site fabrication of ducting and piping systems will reduce packaging and shipping waste and contain the waste stream created wherever possible off-site where recycling can be both more effective and more cost efficient.

DESIGN ENGINEERING

We believe the most successful waste management strategy is to minimize products, materials, and construction techniques that generate waste. To this point, throughout the design process, one of the key variables considered is the impact of design selections and options on the waste



stream. The waste factor is weighed against other design criteria in order to provide the best overall solution to our client.

FABRICATION STRATEGIES

Should McKinstry Essention be involved directly with sheet metal fabrication, we will utilize processes that minimize scrap metal generated. Our computerized layout system uses sophisticated computerized nesting software to utilize the minimum metal sizes for fitting fabrication. All scrap metal produced in the fabrication process will be recycled at our Seattle fabrication facility. We will also utilize our shop facility for staging of waste intensive material items so that recycling activities can be performed in a location more suitable to maximizing our recycling efforts.

EQUIPMENT PACKAGING STRATEGIES

McKinstry Essention will implement meetings with each equipment supplier to optimize shipping packaging to minimize the waste stream shipped to the jobsite. These meetings will emphasize the utilization of recycled products for packaging, minimized packaging requirements and reusable packaging that can be returned to the vendors for reuse on future packaging. Preliminary discussions with vendors suggest that significant reduction to the waste stream is possible through this effort.

CONTRACTED WORK

Many ESPC projects require a significant portion of subcontracted work. For this work, it is necessary to communicate the waste management plan effectively to all potential subcontractors so necessary recycling and waste management actions can be imbedded into their scope. During the planning and bidding of work, all subcontractors are made aware of the waste management plan and the recycling and sustainability goals for the project. Once projects move into construction McKinstry Essention actively manages and tracks the recycling and waste management efforts for all contractors through the completion of the project.



J. Specify how the Proposer would recommend commissioning of the project. The City of Seattle requires certain projects to pursue LEED Certification, and in such cases, independent commissioning would be required. Other projects could conceivably be commissioned by the design/contractor team provided that independence could be assured, or by City staff depending on the nature of the project. The Commissioning Authority (CA) needs to be able to objectively evaluate the work, so if the CA is not from an independent firm, a plan describing how the CA activities and responsibilities would occur and how they would remain independent must be submitted to the City prior to adoption of the Conservation Plan. If this plan is not adequate, then an independent firm will be required. Some very simple projects may not need a high level of commissioning and the contractor or even the City may perform the CA activities.

Key Points:

- McKinstry Essention believes that commissioning is a critical component to the success of performance contracting.
- We have an intimate understanding of the commissioning process that stems from our in-house full service commissioning department.
- Commissioning requirements for projects can vary greatly, depending on the size, complexity, and nature of the project. We do not subscribe to a one size fits all approach and believe that each project should be reviewed with the City to define what Commissioning approach best suits the needs of the project.

McKinstry Essention believes that project commissioning is critical to the overall success of any project. We view commissioning as an element within an overall Transitional Services package that is structured to take the building from construction into a mode of successful operation. For City of Seattle projects, we envision utilizing a combination of the following approaches to commissioning:

McKINSTRY ESSENTION COMMISSIONING

Commissioning will be provided on all applicable projects through our in-house commissioning group. This group consists of over 30 commissioning professionals dedicated to making sure systems operate correctly. We provide this service for all of our energy performance contracting projects because we believe this element is so critical to the nature, intent, and guarantees associated with performance contracting.

The nature of the work provides a level of independence between our commissioning and construction. We want and need to find out about any problems since we guarantee the results. Also, our commissioning group develops a comprehensive commissioning plan for all projects that is reviewed by the client prior to implementation. This plan lays out in detail all of the steps of the commissioning plan, the testing that will occur, and the report information that will be provided back to the client at the completion of commissioning.



CITY OF SEATTLE COMMISSIONING

Depending on the nature of the project and the availability of City staff, we would investigate the option of utilizing City personnel when appropriate for commissioning tasks. Most likely, this effort would be focused on projects that are smaller and/or do not have a high degree of commissioning.

INDEPENDENT 3RD PARTY COMMISSIONING

McKinstry Essention recognizes the importance of 3rd party independent commissioning for particular projects such as those that require LEED certification. In these applications, McKinstry Essention would work directly with the 3rd party commissioning authority to develop a comprehensive plan. In this situation, there may still be components of commissioning that McKinstry Essention would want to maintain with in-house staff in order to verify proper performance and the guaranteed energy savings. In these cases, we would work to define the commissioning work for the 3rd party authority in order to meet any documentation and performance requirements of LEED. We have completed many LEED projects in the past utilizing a combination of our in-house forces and independent 3rd party commissioning authorities to achieve the best possible results.

Below, we have provided some additional information of our in-house commissioning process and the steps we take to ensure an effective delivery.

One of the most critical areas of focus for an enhanced mechanical system installation is start up and commissioning. The best designs, installations, and construction processes fall short of meeting the clients' objectives unless a thorough and well-managed commissioning process is implemented. For this reason, McKinstry Essention has established and developed its own in-house commissioning team to close out our projects. Our group has successfully implemented commissioning plans for many of our major projects over the past several years and has extensive knowledge of project requirements and objectives. McKinstry Essention's Commissioning Team assumes responsibility for the following functions working in conjunction with other project team members.

1. Review of project submittals, shop drawings, and equipment detail sheets to ensure that specifications are complied with and that a balanced system can be achieved.
2. Development of a prioritization schedule for commissioning the installed systems.
3. Assemble of site-specific commissioning forms to be used for recording all documentation required.
4. Verification of installation of the various systems in the project to ensure compliance with project documentation.
5. Participation in the factory start up or self perform start up for all major equipment items and document operating compliance.
6. Performance or supervision of project balancing and function adjustment to ensure that systems are operating as designed and that proper air and water flow levels are achieved.
7. Management of the control system check out procedures including software checks to verify complete compliance with contract requirements. Review and approve the final graphics package for owner approval.



8. Implementation of a series of functional tests to demonstrate the fully automatic operation of the various systems and features. Special attention is focused on redundant and back up systems to ensure automatic operation in a fault condition. Schedule tests so that owner, factory, or other team members are present during testing and verifications when requested.
9. Implementation and monitoring of EMS trends or use independent trending instruments to measure and verify initiative performance requirements.
10. Development of a training and documentation plan to provide for operator/owner training and education on the completed systems.
11. Monitoring and documenting of any discovered issues through resolution.
12. Interfacing with other disciplines on the project that relate to testing and commissioning such as fire alarm, emergency power generation, and similar systems.
13. Coordination and assistance in development of the preventative maintenance plans and procedures and a system of warranty procedures to ensure the proper operation of the facility after occupancy.

The following outlines the structure, and components included in McKinstry Essention's Commissioning process.

MECHANICAL COMMISSIONING SPECIFICATION—BASIS OF DESIGN

This section contains the commissioning specification and basis of design. Its purpose is to enhance the test report forms that will comprise and represent the commissioning process. It will aid in clarifying and expanding details and procedures that cannot be included within the report forms.

COMMISSIONING SCHEDULE

Once the design and scope are finalized, we develop a Commissioning Schedule. The schedule is intended to coincide with the master construction schedule.

Project closeout is a very busy time on every project. Consequently, conditions often arise that may prohibit commencement of commissioning tasks during the precise time scheduled. McKinstry Essention realizes that commissioning is a dynamic and fluid process and scheduled commissioning tasks are managed and altered in to fit with site-specific conditions and opportunities.

ISSUE RESOLUTION

It is an unfortunate fact that unforeseen issues and problems will develop during all projects. Early identification and prompt resolution may be the most important component of a successful commissioning process.

From the moment onsite commissioning begins through project completion, we identify, document, communicate and track issues until they are resolved.



Typical issues encountered include:

- Equipment damage
- Part failures
- Substandard performance from other trades or subcontractors
- Unacceptable test results
- The unexpected

McKinstry Essention Commissioning participates in, affects, and directs resolution of most issues. However, some issues may reach beyond the Commissioning Authority to direct work. In such cases, McKinstry Essention Commissioning's responsibilities are to communicate with other team members, provide supporting documentation or research, and track issues until they are resolved. McKinstry Essention Commissioning and Project Management teams endeavor to provide proactive issue resolution.

INSTALLATION VERIFICATION OR STATIC COMMISSIONING

After installation, all equipment and systems are inspected to verify they have been installed in accordance with the design objectives as indicated on the mechanical drawings. Typical items verified are:

- Location and zoning
- Make and model
- Serviceability and access
- Connections to subsystems
- Completeness
- Free of dirt and debris
- System readiness for start-up
- System readiness for balancing

We document this information, providing a record of an acceptable installation as well as a means of identifying deficiencies. When deficiencies or discrepancies are found, we generate an issue log is generated and notify the appropriate team members are notified. After the discrepancy is resolved, a re-inspection is performed.

HVAC EQUIPMENT AND SYSTEMS START-UP INFORMATION

Start-up commissioning verifies all mechanical equipment is activated and operating in accordance with the manufacturer's operating criteria. This includes all internal equipment electrical components and safety devices.

McKinstry Essention Commissioning coordinates and supervises equipment start-up activities. McKinstry Essention Service performs start-up on most equipment. All start-up procedures are reviewed to ensure that they meet—or in most cases exceed—manufacturer's recommended procedures. In certain cases, qualified equipment vendors may perform factory start-up. McKinstry Essention Commissioning reviews all vendor start-up procedures, documents, and work.



TEST, ADJUST, AND BALANCE

The Test, Adjust and Balance (TAB) discipline sets, measures, and documents air and hydronic system performance.

All TAB work is performed in accordance to the National Environmental Balancing Bureau (NEBB). McKinstry Essention is an NEBB certified firm (certification No. 2728). NEBB qualified supervisors perform or supervise all TAB work.

Final TAB performance data is recorded onto appropriate forms where it is compared to the designed performance criteria given. In the event a system is not meeting the design intent, McKinstry Essention Commissioning works with the project and design teams to develop and implement a timely and suitable resolution.

POINT-TO-POINT CONTROL SYSTEM COMMISSIONING

As control device installation and wiring is completed, the control contractor tests and adjusts all components (point-to-point.) Point-to-point commissioning verifies control hardware and components for proper communication, operation, orientation, range, calibration, and functionality. This testing ensures and documents that all devices are complete, communicating, and functional.

After point-to-point commissioning, the control contractor performs dynamic testing of the approved sequence of operation. These tests document all logic and control sequence statements accomplishing each specific control function. Test processes and corresponding results are documented and included in the final Commissioning report.

The role of McKinstry Essention's Commissioning team is to verify that the control contractor has completed and documented the work described in the previous paragraphs. This is accomplished by performing specific, redundant point-to-point testing on devices considered critical or of high importance. A percentage of remaining points are randomly spot checked. (Note: Sequence of operations verification is described in the following section—Functional Performance Verification.) McKinstry Essention's controls commissioning does not replace the responsibility of the control contractor in completely checking and de-bugging the installation. It is intended to supplement and ultimately enhance the ability of the construction team to provide the owner with a complete and operational building.

When discrepancies are revealed the issue is immediately transmitted to the control contractor for repair or clarification. After the discrepancy is resolved, a re-test is performed.

FUNCTIONAL PERFORMANCE TESTING

Prior to this portion of the commissioning process, all field commissioning activities have been intentionally focused on inspecting and verifying the individual components and/or subsystems included as part of the entire mechanical scope. Once static, start-up, point-to-point, and TAB are complete, functional performance testing (FPT) begins.

FPT verifies and documents mechanical system performance as a whole. All mechanical operating scenarios are tested to ensure that each system's performance characteristics and



corresponding test results achieve the design intent. FPT is McKinstry Essention's final verification that the mechanical and control systems are complete and operating properly.

FPT documents are generated directly from the approved sequence of operation. If needed, additional FPT documents are generated for systems not covered in sequenced of operation (e.g., a generator fuel delivery system may be a standalone system with no DDC interface.)

Tests predominately consist of verifying the system operation under automatic control. Testing is accomplished by manipulating variables that will generate a condition resulting in appropriate system response. Each test is verified, initialed and dated by a commissioning engineer. In addition, relative test conditions, system configurations, system responses, and observations are documented.

HVAC EQUIPMENT AND SYSTEM TRAINING

The commissioning of the facility is not complete until we have passed the information learned and acquired during the commissioning process on to the owners and owner's maintenance personnel. Training objectives are as follows:

- Confirm that operation and maintenance manuals have been turned over to the proper people and that the content of these document has been identified.
- All equipment locations have been reviewed in the facility. This includes operational information as well as a summary of maintenance requirements.
- All system valves, clean-outs, future stub-outs, etc., have been reviewed and located for the owner and his representatives.
- Complete review of the control system including all components, addressing method, graphics and system programming.
- The contents of the commissioning manual have been reviewed so all parties know what was done and how the systems were left.
- A list of risk items has been reviewed with the owner so he is aware of potential problem areas and how they should be addressed.
- A list of emergency procedures and contact people the owner can use 24 hours a day, 7 days a week.



COMPUTATION OF ENERGY BASELINE AND POST-INSTALLATION ENERGY USE

- K. Provide the methodology to compute energy and utility baselines and the methodology for calculating post-installation savings, including the methodology when individual buildings may lack separate metering. Also, describe the Proposer's equipment and personnel capabilities to monitor energy usage, both pre and post retrofit;**

Key Points:

- Regardless of whether or not the building has separate metering, McKinstry Essention develops measure-specific energy baselines using data logging equipment.
- McKinstry Essention believes strongly in the input of our client's staff in developing measures and making sure the client has a high comfort level with the savings numbers (no black box approach).
- McKinstry Essention's first priority is to maintain code compliance for the safety, health, and comfort of building occupants.
- McKinstry Essention brings the utilities in early to accurately estimate utility rebates.

METHODOLOGY TO CALCULATE AND MEASURE SPECIFIC BASELINES

The absence of individual building metering is handled by establishing *measure-specific* baselines. We accomplish this by isolating and measuring only the energy related to the specific initiative. In general, the more detailed performance data that can be gathered relative to the specific measure (i.e. kW, run time, flow rates, temperatures, and equipment efficiencies), the more accurate of a baseline that can be developed. Therefore, to the extent that the project constraints will allow, McKinstry Essention will focus significant effort in collecting this data using data logging equipment. In addition, McKinstry Essention will also gather information from equipment logs, balancing reports, equipment specifications, and interviews with staff on the operation of the existing system.

This baseline data is input into a baseline energy model. The energy model is developed utilizing analysis tools such as spreadsheet programs for simple systems to hourly energy analysis programs such as Trace 700 or DOE2 for complex systems with significant interaction between measures. The analysis will include correlation to other factors that affect energy consumption such as weather and occupancy, when applicable. The completed model is then compared against the existing utility bill end-use breakdown for additional validation and tuning of the model.

McKinstry Essention's first priority in developing initiatives for our customers is to ensure code compliance is maintained for the safety, health, and comfort of the occupants. In situations where the current operation of the system is not in compliance with current standards, McKinstry Essention will bring the situation to the attention of the project team and may recommend a baseline adjustment. This modification to the baseline will represent what the energy consumption would have been had the existing situation been code compliant.



Energy cost savings are calculated utilizing the baseline model with new input variables and logic to reflect the post-retrofit operation of the systems. The post-retrofit input variables are based on new equipment's performance specifications and the performance criteria that are specified for the new control system. The difference between the baseline energy consumption and the post retrofit energy consumption then becomes the target energy savings. Guaranteed savings levels are then set based on the amount of control we will have over the critical performance factors associated with the particular measure. All the baseline and savings calculations are available for review as part of the energy services proposal. A performance assurance plan is then developed outlining the methodology that will be used to measure and verify the savings for review and approval by the client.

ESCO'S EQUIPMENT AND PERSONNEL CAPABILITIES

McKinstry Essention relies on sound engineering practices and industry accepted tools and methodologies in developing baselines and calculating savings associated with specific initiatives. We strive for our baseline and savings calculations to be an accurate representation of the facility's operations, presented in an easy to understand format, with associated parameters that can be measured and verified.

McKinstry Essention has over \$250,000 of logging equipment to deploy on projects to gather field measurements and trend data. These tools include: electrical logging meters, light level meters, combustion efficiency testing equipment, HOBO micro data loggers, indoor air quality logging, ultrasonic meters, air flow measurement devices, water flow measurement devices, utility manager accounting software, Metrix utility accounting software, and a remote monitoring station staffed 24/7.

Our personnel capabilities to monitor energy usage are robust and extremely knowledgeable in all facets of buildings systems and energy use. Within our energy and facilities staff of 125 professionals, we have a stable of energy engineers and energy auditors to gather the necessary information during the energy audit needed to establish an accurate energy performance baseline. Many of these individuals are licensed professional engineers and/or Certified Energy Managers and have the knowledge and skill set needed to evaluate systems and gather the necessary data needed to model and calculate energy performance.

After projects have been completed, we rely on the same individuals that developed the energy baseline to review the performance of the installed systems. The same variables that were measured before the project are measured post-retrofit to determine savings. In addition, McKinstry Essention has a Remote Operations Center (ROC) continuously staffed that has the capability to monitor the performance of the facilities where we have completed projects. Through the ROC, we have the capability to trend and monitor the energy performance of buildings. Should the energy or performance of the system fall outside of established parameters, McKinstry Essention will investigate and solve the problem per a set of business rules pre-established with the client.



METHODOLOGY TO CALCULATE UTILITY BASELINES (FOR EARLY SCOPING AND FOR VALIDATION OF MEASURE SPECIFIC BASELINES)

At the beginning of the project, utility data is analyzed to get an overall look at the buildings' energy use. Typically, two to three years' worth of utility data are entered into Utility Manager (UM) software. The UM software is used as a reliable storage database for basic reports and for secure Internet access to bill data. More in-depth reports are created by exporting specific pieces of data from the UM database into McKinstry Essention's utility data analysis spreadsheet tool that incorporates heating degree day regression analysis, end use breakdown, occupancy, optimal benchmark targets, and current rate application. The utility analysis remains an important check of the energy savings, but as the project progresses, the focus shifts toward measure-specific baselines (i.e. based on real system operating parameters) with the utility bill baseline serving as a check and balance.

If a meter serves multiple buildings and no submeter data is available, the first and simplest method employed by McKinstry Essention is to assign a percentage of the meter to each building in the UM software—the percentage split is based on square footage, building operating hours, and building use. This generally provides the accuracy necessary for a rough scope of the energy savings potential, and the measure-specific metering (described in the following paragraph) is put in place after the rough scoping stage. For certain Facility Improvement Measures (FIM), such as a full HVAC upgrade, building meter data might be required to establish the FIM baseline—in this case McKinstry Essention would either provide temporary logging (if possible) or we would work with the client to get a submeter installed. Submeters will offer other benefits to the client, so we will provide specific submeter recommendations, including steam submeters, at the beginning of the project. Submeters could even be installed as part of a performance contract.

METHODOLOGY FOR CALCULATING POST-INSTALLATION SAVINGS

Even though the savings calculations themselves require time and expertise, we strongly believe that the critical steps in projecting energy savings are the steps already discussed above—identifying and measuring an accurate baseline and agreeing on realistic parameters for the proposed system operation are the keys to creating accurate projections of energy savings. First and foremost, regardless of whether a simple calculation or an hourly model is used, the quality of the inputs is McKinstry Essention's focus.

Once accurate inputs are established, McKinstry Essention's energy engineers use a combination of commercially available calculation programs such as Trace 700, DOE2, EZ-Sim, E-Quest, Watergy, Motor Master, as well as many spreadsheet tools that have been developed in-house. A variety of tools are required because each FIM has unique requirements. Having many tools to choose from allows the calculation to be done in the best way to combine accuracy, simplicity, and time efficiency. In addition to these tools, all of McKinstry Essention's energy engineers are very capable of developing custom calculations for measures that don't fit the standard calculations. We can also draw on a large library of custom calculations that we have used on past projects.

- **Trane Trace 700 & DOE2 Simulation Software:** In situations where there is extensive interaction between different measures, McKinstry Essention utilizes



- modeling software to calculate energy savings. To ensure the accuracy of the baseline model, actual logged data is fed into the base model and compared with the simulated model. McKinstry Essention also adjusts the model based on utility bill end use analysis.
- **EZ Sim and E-Quest:** These tools are limited in their modeling abilities, but they can be very useful during the rough order of magnitude (ROM) phase of the project, and they do a good job of tuning to utility history.
 - **Watergy:** The National Renewable Energy Laboratory has developed this program. It is the industry standard for water conservation savings calculations.
 - **Motor Master 4.0:** This is a newly released update to the most fully featured software available for modeling savings from motor upgrades. It includes details such as power factor, part load efficiency, etc. and has a very large database of information based on manufacturer model numbers for existing motors.
 - **Custom Worksheets:** Custom worksheets developed in Microsoft Excel are utilized in situations where the energy savings calculation does not warrant simulation software. Three notable spreadsheet tools that McKinstry Essention has developed in-house are our lighting tool, our standard bin calculation, and our pool HVAC calculation.
 - **Lighting Tool:** The lighting tool has extensive libraries of fixtures, lamps, and ballasts that contain information related to energy consumption, component life, and maintenance costs. The libraries make use of information from McKinstry Essention's past lighting projects related to actual construction material and labor costs.
 - **Standard Bin Calculation:** The standard bin calculation is used in cases where a full Trace 700 or DOE2 model is not necessary. McKinstry Essention's bin calculations have been created to be very flexible so they can quickly and accurately model a wide variety of energy conservation measures. In addition, since the tool is Excel based and since it was created in-house, modifications are possible if a non-standard system requires analysis—this is not possible with commercially available programs. For example, one of our energy engineers recently made a job-specific modification to our standard bin calculation for Shoreline Community College to include the effects of return water temperature on the efficiency of a proposed condensing boiler across a hot water return reset schedule. McKinstry Essention's standard bin calculation accounts for internal heat gains, building insulation values, infiltration, solar loads, night setback with or without HVAC fan and outside air damper shut down, peak monthly kW, economizer operation, reheat systems such as VAV, fuel type, heating and cooling efficiency, fan energy, and end use breakdown of heating load components. It is set up so that all inputs can be varied between the base and the proposed system.



- **Pool HVAC Calculation:** Trace 700 and DOE2 are not adept at adequately modeling pool HVAC systems. Consequently, McKinstry Essention has developed our own pool HVAC calculation tool that accounts for water temperatures, activity level, outdoor air specific humidity ratio, etc. It can model dehumidification using outside air, outside air with heat recovery, mechanical dehumidification, and mechanical dehumidification with heat recovery.
- McKinstry Essention strongly believes that the success of proposed initiatives also reside with the facility staff believing that a measure makes sense to implement and that the proposed operational changes are obtainable based on their knowledge of the facility. To that end, McKinstry Essention's development process is structured to invite staff involvement. McKinstry Essention develops a baseline criteria plan before beginning the detailed data gathering. This plan clearly identifies which variables will be measured and how they will be measured for the baseline as well as identifying key operating parameters for the post retrofit operation of each specific measure. The plan is discussed with client's staff to ensure the systems can be operated as they are proposed. Based on the input and feedback, McKinstry Essention will begin the baseline logging and field measurement effort.



- L. Provide at least 3 specific case histories of installations to display the accuracy of the computation of energy use, including the energy usage baseline and actual past installations, sufficient for the City to understand how closely the anticipated savings have matched the actual realized savings. If there was a correction or shortfall in the energy savings, describe how this was negotiated with the owner.**

Key Points:

- McKinstry detailed approach to the calculation of energy savings provides very accurate projections of energy savings and system performance.
- For the vast majority of performance contracting projects completed by McKinstry Essention, the actual energy and performance of systems meet or exceed our guarantees.
- In situations where actual energy savings or system performance fall below our guarantees, McKinstry Essention will either fix the problem or provide financial compensation to clients for any shortfalls.

McKinstry Essention has completed numerous energy savings performance contracting projects throughout the Pacific Northwest for all types of clients including cities, counties, K-12 education, higher education, healthcare, municipalities, and private/commercial facilities. For all of these projects, great detail and effort has been expended to calculate and verify the guaranteed energy savings.

Following are descriptions of three projects that McKinstry Essention recently completed. An overview of the projects is provided below, and copies of the Performance Assurance reports are included in Appendix D. The Performance Assurance reports demonstrate the energy performance of the projects and show how actual performance compares to the predicted and guaranteed performance.

- **Central Kitsap School District:** This project consisted of lighting system upgrades at the following sites: Central Kitsap High School, Clear Creek Elementary School, Silver Ridge Elementary School, Klahowya Secondary School, and Emerald Heights Elementary School. The guaranteed energy savings for this project were 501,272 kWh and 190 kW. After measurements that included accurate as-built surveys of fixture counts and quantities, and pre and post kW surveys, the actual savings were determined to be 590,107 kWh and 199 kW. The fixture counts and kW surveys produced lower savings on some specific fixtures, but when the project was viewed as a whole, the savings were larger than guaranteed.
- **University of Washington Medical Center:** This project included improvements to the mechanical infrastructure of the University of Washington Medical Center. Demand for process cooling water had increased as a result of program enhancements. The existing infrastructure did not have adequate capacity to accommodate the additional process cooling loads. In order to increase system capacity while improving overall system efficiency, an existing inefficient heat



recovery chiller, which was previously serving process loads, was removed and replaced with a more efficient heat recovery chiller. In addition, an additional water cooled chiller was installed along with a new evaporative cooling tower. We removed the existing ineffective heat recovery coils located in exhaust streams to lower fan horsepower requirements and increase fan capacity to better manage building pressure relationships. The guaranteed energy savings for this project were 1,730,794 kWh, 2,440 lbs of steam, and 948 ccf of water. After tasks that include measurements of the new HR chiller kW/Ton, submittal review of the new non-HR chiller kW/Ton, and a sequence of operation testing, the actual savings were determined to be 2,072,876 kWh, 2,810 lbs of steam, and 1,091 ccf of water. The kW/Ton of the installed chiller was better than proposed in the original savings calculations, so the savings were recalculated with the better efficiency value. Not all of the proposed heat recovery coils were removed so the energy savings were lowered. However, the project as a whole produced more savings than guaranteed.

- **Eastern Washington University:** This project consisted of an energy management system installation and HVAC upgrades at the Computer Science and Martin buildings, installation of variable speed drives at the Computer Science, Martin, Art, Science and Sutton buildings, cooling tower replacements and upgrades at the Rozell central plant, realignment of a fan sheave at the Science building, and replacement of roll filter media with standard pleated media across multiple campus buildings, an HVAC replacement for Isle Hall, a full HVAC and lighting retrofit at Kingston Hall, installation of variable speed drives at the JFK library, implementation of demand controlled ventilation (DCV) at the Pavilion and Theatre buildings, and renovations to the existing HVAC, controls, and lighting systems for Tawanka Commons. The guaranteed energy savings for this project were 2,743,510 kWh, and 67,943 therms of natural gas. After tasks that included logging and trend data review, submittal review of the installed equipment, and a sequence of operation testing, the actual savings were determined to be 2,786,066 kWh, and 67,943 therms of natural gas. This Measurement and Verification project involved ongoing tasks, and after an initial verification, some of the VFDs were determined to not be modulating upon a subsequent visit. We determined that the programming language had been lost and therefore the VFDs could not modulate. We recalculated the guaranteed and actual energy savings and corrected the problem. Another savings change in this project involved estimated airflows used during the initial calculation for proposed space change. The savings were recalculated post retrofit after the actual air flows were measured.

For the vast majority of projects, the energy savings and system performance goals meet or exceed the guarantees and commitments made to our client. In rare instances, however, we have fallen short of the predicted performance for projects. While obviously these situations are not preferred, these cases do show the true nature our commitment to our clients.

One example occurred at Washington State University in Beasley Coliseum, the large arena on campus where basketball games, graduation, concerts, and other functions are held. McKinstry Essention completed a major lighting retrofit of the arena, resulting in energy savings and an



McKinstry Essention, Inc.
October 6, 2006

Energy Savings Performance Contracting
City of Seattle
Request for Proposal - #FFD-1791

improved lighting environment. When we completed the project, we took lighting measurements and noted that the light levels fell short of the requirements needed for still photography.

McKinstry Essention added additional fixtures needed to achieve the necessary lighting levels at our own expense, which was not insignificant. We believe that our approach to handling adversity and challenges demonstrates our true nature and commitment to our clients and our performance guarantees.



RANGE OF SERVICES

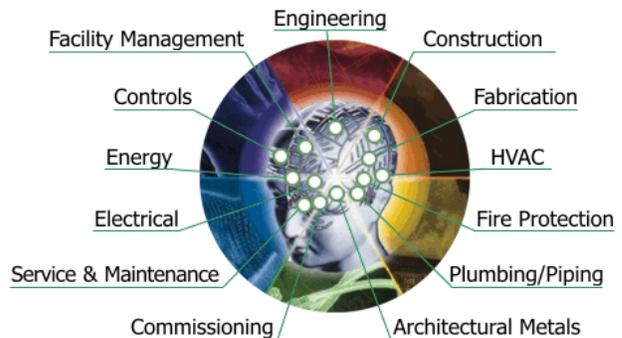
L. Indicate the range of energy and utility management services provided by the proposer, including whether the proposer has the capability to provide the following services: energy audit, financing, design, general contracting, construction management/administration, testing and balancing, coordination of independent 3rd party commissioning, warranty services, measurement and verification of savings, savings guarantees and facilitating utility participation to maximize utility rebates and incentives;

Key Points:

- McKinstry Essention provides a full range of services—from facility audits, to design, construction, commissioning, continuing through to measurement and verification of energy savings.
- Our integrated delivery of services is designed to offer the best solutions for our clients.
- This integrated approach to projects is truly the essence of performance-based contracting.
- Other services such as web-based project management and design-build-operate-maintain (DBOM) capabilities have proven to be valuable to many of our clients.

MCKINSTRY ESSENTION'S CAPABILITY OF PROVIDING SERVICES

Energy Auditing: The audit phase of a project is a very important step in identifying all viable opportunities. McKinstry Essention's staff has many years of combined auditing experience within the dedicated energy group to ensure that no stone is left unturned. McKinstry Essention's facility auditing process also consists of several steps designed to capitalize on the efficient use of the team's time and to strategically focus on initiatives that have a high probability of implementation and energy savings success. The facility auditing team usually consists of energy engineers, program managers, and one or more engineering resources. Other resources such as utility representatives and construction estimators are brought in as needed during the facility audit.



Financing: While we understand that the City of Seattle will not be financing projects, McKinstry Essention can offer multiple approaches to financing. Our preferred approach is to arrange financing that provides the best overall value for our clients. Typically, this is arranged through financing with banking partners of 3rd party lenders direct to the client to take advantage of lower interest rates. In order to arrange financing, McKinstry Essention develops a financing package Request for Proposal that takes into consideration the key financial criteria of the client. This package is then submitted to interested parties, with results reviewed by the ESPC team and ultimately selected by the client.



Design/Engineering: McKinstry Essention has a large team of industry professionals. We possess the in-house capability to design all aspects of energy and utility conservation systems including chilled water systems, steam systems, central plants, ventilation & air distribution, plumbing, process piping, laboratory specialized HVAC, lighting upgrades, fire protection, and integrated fire detection and DDC systems. We are committed to providing the highest level of service to our clients and to creating innovative and cost efficient solutions to the design challenges.

We incorporate sustainable building practices into all of our designs, and have 17 LEED-accredited professionals on staff. We believe a correct design should deliver the design criteria, but also do so in a manner consistent with long term operational goals and financial constraints. Our engineering staff consists of over 50 engineers, designers, and CAD professionals, 20 of which are registered Professional Engineers. Having the depth and breadth of design resources in-house provided McKinstry Essention with a unique ability to quickly and accurately develop and evaluate design options during the audit phase, and then rapidly complete engineering documents as projects move into construction.

General Contracting: McKinstry Essention functions as the General Contractor on ESPC projects. This approach minimizes project costs by eliminate multiple tiers of mark-up. We have a team of experienced individuals who are trained to oversee a project from the unique perspective needed to successfully perform this role. A key focus is scheduling and coordination of tasks. During the pre-construction phase of all projects, we collect input from the entire team to develop a detailed project schedule. In this general contractor role, we take responsibility for the entire project including all trades that are involved. McKinstry Essention's record of successful projects for a variety of customers continues to grow with our proven general contracting expertise.

Construction Management/Administration: Calling upon more than 45 years of experience in construction, McKinstry Essention's construction experience enables our ESCO teams to successfully complete construction projects for our clients. Our construction experience is vast and includes a great number of cities, counties, school districts, university and college campuses, high tech and bio-tech facilities, as well commercial buildings. Our construction management team utilizes experience, technical tools, and personal commitment in delivering outstanding results and timely conclusions.

In our experience in working with cities, one of the most critical elements of delivering a successful construction project is communication with the various stakeholders from the city. More often than not, construction projects need to take place in occupied buildings, during occupied hours, and under a tight schedule with any system shutdowns highly coordinated.

Testing and Balancing: McKinstry Essention performs all Testing and Balancing (TAB) work in accordance to the National Environmental Balancing Bureau (NEBB). McKinstry Essention is an NEBB certified firm (certification No. 2728). NEBB Qualified Supervisors perform or supervise all TAB work. Final TAB performance data is recorded onto appropriate forms where it is compared to the designed performance criteria given. In the event a system is not meeting the design



intent, McKinstry Essention's construction manager, commissioning manager, and design engineer are immediately notified. A resolution is worked through in a timely manner.

Coordination of 3rd Party Commissioning: McKinstry Essention has coordinated 3rd Party Commissioning on many projects and is familiar with the processes needed to ensure a successful outcome. Many times, the coordination of the 3rd party agent is done to meet certain requirements for LEED certification. McKinstry Essention has managed this process before and is familiar with all of the requirements needed to successfully manage this process. We look forward to working with the City of Seattle to establish the best and preferred method of commissioning for upcoming projects.

Warranty Services: We look at this as a long-term partnership and as such, we support our clients with resolutions for equipment and system issues after the warranty period expires. We will commission each project to ensure all equipment and systems installed will meet or exceed performance standards. We will guarantee installation and workmanship for one year against defects. Equipment typically carries the manufacturer's warranties, yet based on our relationships with vendors, we will extend warranties at no or low cost. Warranty time period starts at date of substantial completion or occupancy. If equipment is used for temporary service, its warranty date typically will start when it is put into service.

With 220 fully equipped service vehicles throughout the Pacific Northwest, McKinstry Essention boasts the capability to quickly respond to warranty issues with qualified technicians. Our personnel resources are bolstered by our innovative 24x7 web-based warranty management system that allows clients to log and track warranty issues. Clients are able to view warranty requests, note when the issue was logged, view progress on the issue, and receive confirmation when the issues are resolved. All this is handled seamlessly with minimal time commitment from the client organization. In addition, this process provides a single point repository of archived information.

Measurement and Verification of Savings: Delivering the energy savings is the core of our process. We have a dedicated measure and verification team that uses the latest remote monitoring technologies, loggers, and web-based services to enable the flow of data from and to our clients. We have an in-house remote monitoring center to monitor control systems. We use the Department of Energy IPMVP as our best practice standards. Please see our response to Question M – Savings and Equipment Performance Guarantees for further detail on our processes and philosophy on this topic.

Savings Guarantees: McKinstry Essention believes that guaranteed savings are one of the critical elements of successful performance contracting. To this point, we strive to develop accurate and detailed guaranteed savings for each measure. The energy savings are derived from electrical, gas, water, and waste initiatives that are pursued. Energy saving guarantees are developed around the predicted units (i.e. KWh) of energy saved, then converted to a dollar figure (by using the units saved multiplied by the utility rate) and guaranteed up to 100%.

Facilitating Maximum Participation and Involvement of Utility Companies: McKinstry Essention seeks all available funding avenues on behalf of our clients, which is reflected in the



fact that McKinstry Essention has secured over \$8.0 million dollars in utility grants for our clients in the last five years throughout the Pacific Northwest, with innovative approaches to design and implementation. Please see the response to the EXPERIENCE – C question for complete additional details and list of local projects where McKinstry Essention secured a rebate.

We have a long and successful relationship with working with Seattle City Light, Seattle Public Utilities, and Puget Sound Energy, all of which may be utility providers for some / all of the City's facilities.

Our process for maximizing utility incentives begins early, with the philosophy that the sooner utility firms are introduced and educated on the potential project, the more apt they are to fund the project. The representative from the utility's conservation program is an important member of the project team to ensure that all necessary milestones are met from the utility's perspective and to add innovative suggestions for maximizing energy savings and minimizing payback.

OTHER MCKINSTRY ESSENTION SERVICES THAT HAVE PROVEN VALUABLE ON ESCO PROJECTS:

Web-based Project Management: At McKinstry Essention, we believe that a successful project is dependent on people, process, innovation, knowledge capital, and technology working together to deliver the best total solutions to our clients. As part of all energy services projects, and at no additional cost or fee to our clients, we deploy a secure web-based project management service called InfoCentre™ that was created by McKinstry Essention. We post data, pictures, meeting agendas and minutes, information about energy measures identified, O&M equipment information, and energy data to this site. This becomes our collaboration zone with our clients through all phases of a project, and allows the project team access to information at any point in the process.

Sustainability Projects: McKinstry Essention actively pursues potential sustainability projects with the clients we work with. Projects that we have completed or currently developing consist of multiple LEED projects, a large solar PV array for the Legislative Building in Olympia, bio-diesel and ethanol production plants, bio-mass heating systems, and co-generation. As a company committed to energy efficiency and sustainability, we have an obligation to explore opportunities and evaluate the merits of potential solutions with our clients.

Transition to Sustainable Operations: Transition to Sustainable Operations supports customers in transition from their current facility project to operation of the facility. Our solution encompasses three phases that are uniquely intertwined. We refer to these phases as *Project Closeout*, *Initial Occupancy*, and *Stabilized Occupancy*.

The first phase, *Project Closeout*, parallels the final construction and commissioning of the project. There are three critical components within this phase. Documentation consists of the capture of knowledge about systems, components and features of the completed project. It is the foundation for the successful operation of your facility. Development is the leveraging of catalogued documentation for the essential operation of facility programs. This ensures the comfort, safety and security of the facility and its tenants. Acceptance and training is the



transfer of ownership in the operations of the facility, in addition to the coordination and scheduling to provide specific system and operation knowledge.

The second phase, *Initial Occupancy*, will parallel the construction closeout phase of the project and provide additional services beyond the general deliverables of the project. This phase of the program will develop the methods and procedures to manage the staffing, maintain the equipment, and measure the results. This information will become standardized so that it will become the foundation for operating the facility. These standards will provide the ability to compare and track performance.

The final phase, *Stabilized Occupancy*, is a culmination of deliverables outlined in the previous two phases. The Stabilized Occupancy phase is focused primarily on the delivery of reliability through a combination of highly trained personnel utilizing the programs developed throughout construction closeout and initial occupancy. The transition to operation will complete this comprehensive plan.

Design-Build-Operate-Maintain (DBOM): McKinstry Essention has assessed and provided some of our clients with a design-build-operate-maintain approach for their facilities. Although over 45 years ago McKinstry Essention was best known as a plumber, we are proud of our evolution that has allowed us to continue to provide excellent plumbing services while expanding our support of client facilities to involve continued operation. This is summarized in our Mission Statement: *Taking responsibility to design, build, and operate facility systems and our corporate mantra of For the Life of Your Building*. We have provided these services to clients that range from high end-data centers to downtown office buildings. We have the right partners, financial strength, engineering, building development experience, construction management, facility management, and mobile field domain expertise to provide comprehensive DBOM services. We stand ready to provide these services based on the client's requests and requirements.

Remote Monitoring: Twenty-four hour remote monitoring is a specialty of McKinstry Essention. We monitor buildings throughout the Pacific Northwest and as far away as Alaska. Via a modem, network connection, and building DDC controls we are able to monitor system operations, temperatures, and foresee potential problems. Many adjustments to system operation such as temperature set points, schedules, and air volumes can be performed remotely, thus eliminating many emergency service calls.

Equipment Acceptance Testing: McKinstry Essention believes that the process for procuring equipment should include a comprehensive set of tests ensuring that equipment has been properly sized, applied, shipped, and installed. McKinstry Essention can perform site acceptance testing using predictive maintenance technologies as an integral part of assuring equipment condition.

Acceptance testing identifies serious problems that can reduce the reliability, maintainability, and life cycle costs of new equipment substantially. Typical issues identified by predictive technologies during acceptance testing include, but are not limited to: baseplate resonance, bearing damage, machine imbalance, rotor or stator defects, and foundation integrity. Defects



found during acceptance testing are often times relatively minor in nature and would not have caused issues prior to manufacturer warranty period, but the life cycle of the equipment would have been seriously reduced.

McKinstry Essention has invested in high technology predictive maintenance technologies such as SPM bearing analysis, vibration analysis, motor circuit analysis, and ultrasonic detection to assess equipment condition and hold manufacturers accountable to the specifications and condition of the equipment they ship. Acceptance testing is performed in conjunction with the commissioning agent and does not replace commissioning, but enhances its effectiveness significantly. Condition monitoring of new or repaired equipment also serves to establish a performance baseline for future assessment of conditions.



SAVINGS AND EQUIPMENT PERFORMANCE GUARANTEES

M. Provide the Proposer's energy and cost savings guarantee policies and procedures, including remedies when actual savings are lower than the Proposer's estimates and guarantees;

Key Points:

- McKinstry Essention will guarantee up to 100% of the energy savings.
- McKinstry Essention adheres to the International Measurement and Verification Protocol.
- All savings go to the client (no shared savings).
- McKinstry Essention will reimburse the client for any guaranteed savings shortfalls.
- Staff training and proper commissioning of systems are paramount in ensuring sustainability of savings.
- McKinstry Essention's focus is to develop a detailed M&V plan to ensure savings are sustained.
- McKinstry Essention understands that the M&V plan needs to focus on true savings.

OUR PHILOSOPHY

McKinstry Essention is prepared to guarantee any portion of a project for which we can exercise direct control of the implemented systems. Where McKinstry Essention does not have direct control (such as burn hours associated with lighting), we are prepared to work with our client to devise a method of Measurement and Verification (M&V), which will provide the highest degree of assurance that the energy cost savings are realized. The paragraphs below outline our standard practice, but it is important to note that we are very flexible in modifying our guarantee to meet our client's needs.

ENERGY AND COST SAVINGS GUARANTEE POLICIES AND PROCEDURES

A *measure-specific* performance assurance (PA) program will be developed to validate that optimal performance of the system is maintained throughout the life of the energy services contract. Measure-specific means that to the best of our ability we will put in place measuring and logging equipment directly on the equipment responsible for the energy savings. This approach minimizes the impact that other site condition changes may otherwise have on a particular measure. McKinstry Essention includes an easy-to-read table which clearly lists which values will be measured and quantified for each FIM at every stage of the guarantee—from baseline development, to commissioning, to ongoing performance assurance. The information can be reported to the client on a monthly, quarterly, or an annual basis. We further believe that an additional core value of the PA report is the ongoing information it provides to the client to further optimize building operations. Even when guaranteed savings are achieved, we strive to provide useful information and recommendations based on what we're seeing in the data to further optimize facility operations.

McKinstry Essention adheres to the International Measurement and Verification Protocol (IPMVP) in performing measure and verification procedures. This is an internationally recognized standard that provides several different avenues for providing verification for a particular measure: Measure and Monitor, Measure and Stipulate, Multivariate Utility Bill



Regression, and Standard Utility Bill Comparison. Each of these procedures provides a varying degree of accuracy, complexity, and cost. We rarely rely on utility bill comparison as the method of guaranteeing savings because, in many instances, it is difficult to disseminate the actual savings attributable to a particular measure—we do employ bill comparison as the verification method for specific FIMs where the utility meter serves a single end use and the proposed savings represent a significant fraction of the bills. Since the overall success of a project relies on the long-term performance of the measure, it is important that both McKinstry Essention and the client are comfortable with the verification process.

REMEDIES FOR WHEN ACTUAL SAVINGS ARE LOWER THAN ESCO ESTIMATES

McKinstry Essention takes responsibility to remedy any shortfalls by correcting system performance or making monetary payment. *Additional savings realized above and beyond the guaranteed level are passed on to the client—McKinstry Essention does not receive a share of the additional savings.* Also, McKinstry Essention does not bank excess savings from one year to the next—the client is protected throughout the guarantee period since each year must stand on its own. Our first response, if energy savings are tracking short of the guarantee level, is to identify the reason behind the shortfall and provide corrective action to the extent that the comfort, safety, and health of the occupants is not compromised. If efforts are not successful and an annual energy shortfall is realized, McKinstry Essention will pay the owner the difference. McKinstry Essention currently has no savings shortfall situations with its customers that haven't been field correctable—this is due to the methodical way in which we develop good baselines and solid savings estimates based on well thought out FIMs.

Should site conditions beyond our control change, we will continue to work with the owner to realize the proposed savings. These conditions include such items as a change of use or occupancy, change in operating hours, facility modifications, and varying preventative maintenance practices. An adjustment to the baseline energy use may be necessary to correct for these situations but we would first explore other alternatives. One very important advantage of the measure-specific verification approach we use is that it minimizes the impact that other site condition changes may otherwise have on a particular measure.

ADDITIONAL ASSURANCE THAT SYSTEMS ARE OPERATING PROPERLY

McKinstry Essention also offers other services as part of an energy project that significantly impact the long-term success and operation of a facility. We believe that proper commissioning of the building systems identify many problems affecting performance and reliability that would otherwise go unnoticed. Proper commissioning of the system will provide the highest confidence that the systems have been installed and are operating per the intent of the project documents. McKinstry Essention has a dedicated commissioning team that has worked with many different facilities' lighting, security, HVAC controls, fire, electrical, and mechanical systems with varying degrees of complexity.

McKinstry Essention will provide specific training to the staff on how to properly operate newly installed measures. McKinstry Essention realizes that facility staff plays a large role in ensuring energy savings and optimal performance is realized. They are the key players in the day-to-day operations of the systems including proper preventative maintenance practices. Training is



therefore essential for the staff so that they understand the principles behind proper operation of their new equipment and systems.

McKinstry Essention's strong background in engineering, construction, and commissioning of systems provides us great confidence in our ability to deliver reliable systems that perform as designed throughout the life of the initiative. The client can rely on McKinstry Essention to be the single point of accountability for which they can contact should issues arise with any of their systems. Simply stated, we want to develop long-term relationships with our customers.



N. Provide the Proposer's project cost guarantees and remedies when project costs exceed ESCO estimates;

Key Points:

- We guarantee all project costs, and account for excess savings with all invoicing and other documentation needed to substantiate the financial performance.
- We have the financial strength to stand behind and honor our project cost guarantees.
- We have significant in-house estimating expertise and develop accurate construction-grade estimates on all projects.
- Construction savings are yielded to the benefit of our clients at the end of a project.

PROJECT COST GUARANTEE

McKinstry Essention provides a guaranteed maximum project cost as part of the performance contracting agreement. This guarantee provision is intended to place the burden of project cost risk on McKinstry Essention. We understand that clients are purchasing projects that have a specified minimum return on investment, and therefore the cost to the client can not increase through the project implementation. If the project scope remains the same, and yet the project cost increases, then McKinstry Essention will bear the burden of those cost increases and shelter the client. If the project cost increases outside the control of McKinstry Essention, then we will manage those increases with our clients. For instance, in the event that the client requests additional work to be completed outside the scope of services we add the cost of those added scope of services to the GMAX.

Cost overruns occasionally occur, but McKinstry Essention is a financially strong company with an ethical approach to our business practices. This means that we will stand behind our project cost guarantees. However, we typically do not find ourselves in situations with cost overruns due to our estimating process that delivers accurate and reliable construction-grade estimates. Estimates are developed with decades of knowledge, databases, tools, plus the experience of over 45 years of real-world construction expertise. These resources and our rigorous approach allow us to guarantee project costs that are not overly inflated to counter risk. This discipline to project estimating helps reduce project costs and financial risk. Our clients also benefit because they are not committing financial resources to a project with excessive costs required to cover risk.

In addition to a guaranteed maximum project cost, McKinstry Essention will provide the client with all construction labor and material cost savings based on the cost reconciliation process established for the projects. McKinstry Essention will work with the State GA and the client to establish a construction cost substantiation process that will provide the client with confidence in the actual construction costs for the project. This typically will be handled by providing copies of actual subcontractor and equipment invoices as back up for progress billings and for the final closeout of the project.



REMEDIES WHEN PROJECT COSTS EXCEED ESTIMATES

McKinstry Essention will establish, via reconciliation, the overall cost of the project at completion. At this time, if the total project costs are in excess of the GMAX for the agreed-upon scope of work and services, *McKinstry Essention will assume the responsibility of the additional costs at no expense to the client.* It is our commitment we make when we enter into an ESPC with you. To date, McKinstry Essention has been successful in returning construction savings to the client on many of our projects.

To ensure maximum construction cost savings are provided back to the client, it is imperative that McKinstry Essention manage the cost of subcontractors and major equipment at procurement, during the implementation, and at the final reconciliation of the project. In order to minimize project cost creep, we rely heavily on the relationships we have established with our subcontracting and supplier partners. If industry pricing is over our declared budget, we work diligently in collaboration with the vendor(s) to isolate and successfully remedy the area(s) of inflation, all the while not jeopardizing quality and/or performance.



O. Provide the Proposer's equipment performance guarantee policies and procedures, including information on the Proposer's warranty enforcement role and the Proposer's responsibility, if any, when there is an equipment failure beyond the warranty period and when the agency or school has financed the project and assumed ownership of the installed equipment;

Key Points:

- In or out of warranty, McKinstry Essention will be there to respond to all of your equipment issues.
- Our priority is Comfort, Safety, and Health—*then* Energy.
- Single point of contact for long-term accountability.

McKinstry Essention's guarantee of equipment performance allows us to commit to our clients that at the project's end, the equipment and systems that have been installed will meet or exceed the performance standards that have been established.

PRIORITY IS FOCUSED ON COMFORT, SAFETY, AND HEALTH

McKinstry Essention's first priority will be to make certain that all newly installed and upgraded equipment will operate to ensure occupant comfort, safety, and health. The second priority will be to reduce operational and utility costs for the client. If the client has maintained the equipment based on manufacturer's guidelines, yet it does not meet either the primary or the secondary requirements, McKinstry Essention will take the necessary steps to correct or improve equipment performance. If it is determined that the newly installed equipment has failed, we will come to a final resolution on repair or we will replace it.

McKinstry Essention offers more options due to our network of buying power and our relationships with local equipment providers. We are able to reduce the initial cost of equipment, in addition to being able to arrange for extensions to the warranty period of the equipment. This combination of strong buying power and extended warranties gives us a value-added advantage that has proven beneficial to many of our clients.

WARRANTY ENFORCEMENT ROLE

While our clients are not required to utilize our service department, McKinstry Essention Service offers a wide range of services including 24-hour emergency service, as well as maintenance and operation programs that include system repair and remote monitoring. With 220 fully equipped service vehicles throughout the Pacific Northwest, we can offer our client's peace of mind knowing that we can offer expedited remedies even if the equipment was not installed as a part of our project.

McKinstry Essention will guarantee equipment performance as follows:

- We look at this as a long-term partnership and as such, we will support the client with coordination of resolutions to equipment and system issues after the warranty period expires.
- We will commission each project to ensure all equipment and systems installed will meet or exceed performance standards.
- We will guarantee its installation and workmanship for one year against defects.



- Equipment typically carries the manufacturer's warranties, yet based on our relationships with vendors, we will extend warranties at no or low cost.
- Warranty time period starts at date of substantial completion or occupancy. If equipment is used for temporary service, its warranty date typically will start when it is put into service.

COMMITMENT TO LONG-TERM PARTNERSHIP

McKinstry Essention is very experienced in equipment performance and warranty concerns. We understand the value of equipment performing as intended. We routinely complete services, at no additional cost to the customer, after the original warranty expires to ensure our clients are satisfied and that the system operates as intended. Our network of buying power, and our relationships with subcontractors and local equipment providers, makes it possible for us to reduce the initial cost of equipment, in addition to being able to arrange for extensions to the warranty period of the equipment, at times, by years. This combination of strong buying power and extended warranties gives us a value-added advantage that has proven beneficial to many of our clients.

McKinstry Essention provides the client with a single point of contact for long-term accountability regarding maintenance and training on all new equipment installed as part of any project. Our Service and Commissioning departments, the largest of any ESCO in the Northwest, are staffed with qualified technicians and certified journeyman mechanics trained to handle final system testing, adjusting and balancing, as well as ongoing maintenance of your equipment. When new equipment is installed, we will include factory start-ups along with customer training by a certified factory representative.



P. Describe the risks associated with this type of project, whether financial, technical, legal, political, etc. and whether associated with the owner, ESCO, equipment vendors, sub-consultants or others, and how the ESCO will identify and mitigate those risks.

Key Points:

- It is generally recognized that there are fewer risks in an ESPC versus the traditional Design/Bid/Build process for the client.
- Minimizing risk goes well beyond guaranteeing costs and energy savings.
- McKinstry Essention is your first line of defense against any and all risks.
- Some risk is shared with the ESCO and client.
- Single point of accountability means *all fingers point to us*.

ESCOs will typically talk about minimizing the risk to the client in terms of GMAX pricing and guaranteed energy savings, and assume that this will satisfy the risk avoidance requirements of the client. McKinstry Essention believes that full disclosure of all the risks is just as important as the project itself—after all, what difference does guaranteed maximum pricing and energy savings mean if our recommendations do not meet or exceed your expectations for a clean installation, performance requirements, and receiving the best total solution?

Furthermore, this is a true partnership—as over-used as this term may be, McKinstry Essention’s client-centric philosophy drives our teams to constantly be thinking about how best to protect you from all types of risk (financial, technical, legal, political, etc.).

We view the management of risk throughout the entire ESPC process, from impacts to occupants to the commissioning of the installed measures and measurement and verification of the energy savings. Risk can be minimized by open communication, a strong team that is focused on the best total solution for the client, and the ESCO’s experience. When items come up that present risk to the client, they will be disclosed to the client and viable solutions will be presented to negate or minimize the risk.

Risk also comes in many forms, ineffective design engineering, poor construction management, and poor communication to building occupants and users, installed measures that are not properly commissioned, and so on. McKinstry Essention has processes and procedures that are specifically designed for risk mitigation, thereby greatly reducing the risk to the client entering into an ESPC with us.

Appendix E: Risk Management Matrix provides some more examples of the risks in a performance contract. This matrix explains the risk and how it is managed. It should be noted that even though the risks are brought up in this matrix, there are far fewer risks during an ESPC versus a traditional Design/Bid/Build process since the ESCO is true your single-point of accountability. Simply put, *all fingers point to us*.



SUBCONTRACTING PLAN

Q. Explain approach the Proposer intends to use for installation, specifically in regards to subcontracting, that achieves the objective of the City to maximize subcontracting opportunities for women and minority subcontractors. In general terms, describe the work that is intended for subcontracting, and intended outreach and recruitment efforts. The City will also review and consider the Outreach Plan (submitted within the Vendor Questionnaire), to determine the responsibility, commitment and comprehensiveness that the Vendor displays within the Outreach Plan.

Key Points:

- McKinstry Essention is committed to diversity in our industry and our community.
- We will endeavor to go beyond encouraging the participation of WMBE firms.
- We seek to create opportunities that are beyond the industry typical use of WMBE.
- Please see attached letter from Ramsey Plumbing & Heating (WBE).

McKinstry Essention supports and encourages Women and Minority Owned Business Enterprise (WMBE) participation in our projects. We will promote WMBE involvement on all projects by subcontracting or sub-consulting portions of the work based on the desires of the client and goals established. Since the ESCO projects have yet to be defined and developed, at this point in time it is difficult to identify specific firms that would be utilized as contractors on projects.

However, as projects are developed and the energy conservation measures are defined, we will package the scopes of work such that they provide maximum opportunity for WMBE firms to participate in the subcontractor procurement process. In order to do so, McKinstry Essention will actively participate in MWBE discussions in order to determine what contractors may be available to engage in the projects. With their input, we will then finalize the packages of work tailored to fit the capabilities of MWBE firms, while still maintaining financial discipline for the overall project.

In general, we expect to subcontract some or all of the work on all projects, including mechanical, electrical, controls, deconstruction/demolition, structural, painting, and other miscellaneous general construction work. ESCO projects typically contain one or more of the above items. Should a specific package of work (i.e. mechanical) not fit the capabilities of the available pool of MWBE firms, we will endeavor to break out the package into multiple smaller packages of work that would allow for maximum participation from the MWBE community.

A typical procedure is to seek out accredited firms to participate in the contractor procurement process based on their capabilities and experience for the applicable area of the project. McKinstry Essention stands ready to go beyond industry-accepted standard procedures. The following paragraphs describe McKinstry Essention's unique approach and commitment to diversity in our industry, and our community to create opportunities in many different arenas.



STATEMENT OF POSITION

McKinstry Essention is committed to diversity in our industry and our community. It is our intent to do our part to support diversity with the inclusion of all peoples, specifically women, minority, and disadvantaged people in our business activities. Our industry's history in these matters has primarily dealt with compliance to specific levels of participation or mandated goals. That system produced mixed results and became the centerpiece for debate on how to best realize true diversity and ensure a level playing field. While McKinstry Essention has utilized many WMBE partners over the years, complying with federal and state statutes, we feel there is a much broader opportunity to engage women and minority people fairly and solidly in our industry. With that in mind, the following is a Menu of Opportunities that can be explored.

MENU OF OPPORTUNITIES

1. Participation

- **Subcontracting:** McKinstry Essention maintains relationships with a wide range of WMBEs and can subcontract portions of project scope or complete sections to meet team goals. In addition, we will actively schedule and participate in contractor awareness meetings for the City of Seattle in order to notify the MWBE community of upcoming projects in order to maximize participation.
- **Consultants/Outsourced Services:** McKinstry Essention utilizes a wide range of consulting services in the areas of project management, accounting, contract administration, engineering, and marketing that are available to WMBEs. The Rushing Group has been included as part of our development team, and we will actively pursue other MWBE consultants for applicable components of the project.
- **Suppliers:** McKinstry Essention has the ability to procure products and materials from a wide range of suppliers from WMBE enterprises.
- **Manufacturers:** McKinstry Essention remains available to seek out manufacturers of equipment and fabricated materials offered by WMBE enterprises.

2. WMBE Firm Development

- **Mentoring:** McKinstry Essention mentoring programs include such issues as: business consultancy, loaned employees programs, staff-to-staff networking, shadow activity, and business development advice and support.
- **Skills Development/Education:** McKinstry Essention offers access to educational curricula, benchmarking, job site interaction, training, and others.
- **Work Acquisition Training:** McKinstry Essention advises in such areas as pricing strategies, sales and marketing planning, etc.
- **Industry/Trade Association Programs:** McKinstry Essention provides access to industry trade association activities such as training, networking, and client development.



3. People Development

- **Shadow Programs:** McKinstry Essention provides shadow opportunities, where individuals follow alongside staff observing and learning specific attributes of various careers such as project management, engineering, sales, etc.
- **Internships:** McKinstry Essention accepts internships in many areas throughout the firm.
- **Individual Mentoring:** McKinstry Essention offers personalized opportunities to mentor with individual staff members for career counseling, training, and advisory.
- **Apprenticeship:** McKinstry Essention offers support to those who can benefit from apprenticeship training by facilitating access and preparation.
- **Vocational Training:** McKinstry Essention offers sponsorships in vocational training programs throughout the region and in a wide range of skills.

4. Student/Future Workforce Outreach

- **Internships:** McKinstry Essention works in cooperation with several high schools and colleges/universities to place interns in a wide range of positions.
- **Job Site Educational Curriculum:** McKinstry Essention offers onsite classroom training, combining orientation to the construction industry with specific information on the many sectors involved in the building process.
- **Classroom Volunteerism:** McKinstry Essention staff participates in classroom teaching and training for several institutions.
- **Scholarships:** McKinstry Essention participates in many scholarship-based school programs and contests.
- **Vocational Training:** McKinstry Essention participates in attracting students to vocational training.
- **Apprenticeship Program Involvement:** McKinstry Essention facilitates introduction and access to apprenticeship programs.

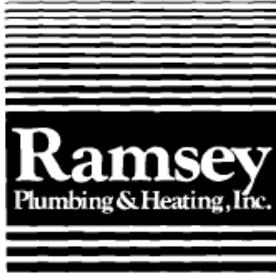
5. Community Outreach

- **Employment Opportunity:** McKinstry Essention is an equal opportunity employer and maintains opportunities to women, people of color, and disadvantaged individuals.
- **Sponsorships:** McKinstry Essention sets aside a specific budget for charitable contributions, sponsorships, and event underwriting.
- **Charitable Advocacy:** McKinstry Essention executives and staff participate on numerous community boards, committees, and event planning groups.
- **In-Kind Services:** McKinstry Essention mobilizes its construction services for many retrofit and service projects on an in-kind basis.



McKinstry Essention, Inc.
October 6, 2006

Energy Savings Performance Contracting
City of Seattle
Request for Proposal - #FFD-1791



October 4, 2006

McKinstry Essention
5005 3rd Avenue South
Seattle, WA 98124

Attention: ESCO RFP Review Committee

Regarding: Letter of Reference – McKinstry Essention

Ramsey Plumbing & Heating has been the mechanical contractor for many of McKinstry Essention's projects. We have appreciated our relationship with McKinstry Essention and look forward to a continued long term beneficial relationship between our two organizations.

As the ESCO, McKinstry Essention consistently develops, manages, and executes their projects successfully. As a subcontractor, we are in a unique position to evaluate the ESCOs that we work with. Some of the key characteristics of working with McKinstry Essention include:

- Accurate scheduling and management of work
- Detailed bid packages (drawings, specifications, other information)
- Clear communication throughout project
- Coordination of trades (mechanical, electrical, controls, etc.)
- Prompt response to questions during construction
- Timely execution of contracts, invoices, and other paperwork
- Positive attitude of McKinstry Essention team members

The above key points allow us to price our projects to McKinstry Essention extremely competitively, knowing that our risk has been minimized during the bid process and the project will be delivered in a professional and successful manner.

If you would like to discuss our relationship with McKinstry Essention in more detail, please do not hesitate to call me when you get the opportunity at 509-482-2775.

Regards,
Ramsey Plumbing & Heating

Wendy Ramsey
President

4023 E. Central Avenue
Spokane, Washington 99217-6585
(509) 482-2775 • FAX (509) 482-2765
e-mail ramsey@ramseyph.com

WBE#W2F2004874



FEE SCHEDULE

R. Submit with your proposal the hourly rate structure that will be charged for these services should they be used for an ESCO project with the City. Describe your mark-up and fee structure, commission and overhead. Please identify how project costs are reconciled at the end of the project. Specifically include rates for:

- a. Engineering**
- b. Energy Analysis**
- c. CAD Drafting**
- d. Testing, Adjusting and Balancing**
- e. Mechanical & Electrical Trades**
- f. Other Trades**
- g. Control Technician**

Key Points:

- McKinstry Essention's overhead & profit structure is lower than national ESCO firms.
- The same fee structure currently in place at other cities and municipalities has been proposed for the City of Seattle.
- Pricing and mark-ups are represented in a straightforward manner that is 100% open book.
- At project completion, all costs are reconciled with the client with 100% of construction savings returned to the client.

McKinstry Essention has a very competitive fee and mark-up structure. Simply put, our business model does not require the same profit targets as national ESCO firms, which allows McKinstry Essention's clients to complete the most project for the lowest cost. *Clients often provide feedback that our fee structure results in total project costs 10-15% lower than our competitors.* Our philosophy has always centered on developing long term partnerships with our great clients. As such, our interest is not focused on developing confusing pricing in order to hide an extra buck. Rather, we believe that fair and open pricing is needed to develop a level of trust that will benefit all parties through a long term relationship.

In order to present clear, concise, and open pricing to our clients, McKinstry Essention has developed a document called Table 4.1 – Budget Summary. The title is nomenclature that reflects the structure of an Energy Services Proposal. The Table 4.1 document is utilized on all of McKinstry Essention's ESPC projects to present the overall cost of the project to clients. In addition to simply representing the dollars for the various categories of work, the Table 4.1 document also visibly details the equations utilized to calculate the cost of the various fees.

For City of Seattle projects, McKinstry Essention is committed to using the same competitive fee structure currently in place at multiple cities, counties, education facilities, and other municipalities. The various overhead, profit, design, and other fees that will apply to any City of Seattle project are all represented on the Table 4.1 document. In order to specifically address the fee and mark-up structure, McKinstry Essention has provided examples of the following documents for the City of Seattle:



- **Fee Schedule**—This document provides the proposed fee structure for the City of Seattle.
- **Labor Rates**—*This document provides the labor rates for in-house staff associated with the project.* All labor rates represent are fully burdened.
- **Table 4.1**—This document shows how the proposed fees and in-house labor rates would apply to a sample project.

At the completion of a project, all costs are reconciled in a 100% open book manner, with all construction savings returned in full to the client. The reconciliation process is completed in an open, communicative environment, with copies of subcontractor invoices, purchase orders, and other information provided as needed to provide full visibility for all construction costs.

In addition to reconciling costs at the end of the project, at any time during the project McKinstry Essention can provide up-to-date information on costs incurred and expected remaining costs. This can help clients know whether construction savings will be available at the end of the project, and if so, the magnitude of the savings. This information can be helpful to clients for planning purposes.



McKinstry Essention Fee Schedule			
A. CONSTRUCTION COSTS	Notes	City of Seattle Max Fee Schedule	Typ % of Total Project Cost
Energy Conservation Measure	Subcontractor or In-house	Contractor Cost	
Commissioning	In-house, 3rd Party, and/or City of Seattle Personnel	Project specific cost	
General Conditions	Permits, site office project costs, M&V set-up equipment, site supervision, bond costs, other GC items	Project specific cost	
B. ESCO FEES			
Directed Engineering Study Fee	For energy audit of the facility	Negotiated	15-20%
Design - Mech/plbg/elect/arch/struct	In-house & 3rd party consultant design costs	12% of non-lighting construction costs	
Design - Lighting	In-house & 3rd party consultant design costs	8% of lighting construction costs	
Construction Management		6% of construction costs	
Overhead		8%	
Fee (Subcontractors)		7%	
Fee (Major Equipment)	For major equipment (i.e. chiller) purchased directly by McKinstry Essention	5%	
C. OTHER COSTS			
Project Contingency		5-10%	5-10%
On-Going M&V	Term of M&V based on direction from City of Seattle	Negotiated, annual fee typically not more than 8% of guaranteed savings	
Construction Period Finance Costs	Applied only if progress billing is not allowed	Negotiated if necessary	
E. NON-GUARANTEED COSTS			
Sales Tax		Per local rate, as applicable	5-10%



McKinstry Essention In-House Labor Rates			
CONSTRUCTION COSTS			
POSITION	HOURLY LABOR RATE	VALID THRU	COMMENTS
Mechanical Tradesman	\$90.00	5/31/07	Applicable only for work completed with in-house personnel.
Electrical Tradesman	\$90.00	6/3/07	Applicable only for work completed with in-house personnel.
Control Technician	N/A	N/A	Not provided with in-house personnel - subcontracted to controls vendor.
Commissioning/TAB Technician	\$80.00	12/31/06	Applicable only for work completed with in-house personnel.
Site Supervisor	\$75.00	12/31/06	Direct job cost.
ESCO FEES - For Reference Only, All Labor Costs Included in Fee Structure			
POSITION	HOURLY LABOR RATE	VALID THRU	COMMENTS
Design Engineer	\$85.00	12/31/06	For reference only, labor costs covered through MEP Design fee.
CAD/Drafting	\$60.00	12/31/06	For reference only, labor costs covered through MEP Design fee.
Energy Engineer/Analysis	\$75.00	12/31/06	For reference only, labor costs included in Directed Engineering Study Fee
Lighting Engineer	\$75.00	12/31/06	For reference only, labor costs covered through Lighting Design fee.
Performance Assurance Specialist	\$60.00	12/31/06	For reference only, labor costs included in on-going M&V fee.



TABLE 4.1 BUDGET SUMMARY						FIM No.	Multiple
Project: City of Seattle						Date:	
Building: Sample Project						Budget Phase	
				M&V Term (Years)	3	Square Feet:	120,000
A. CONSTRUCTION COSTS		Mech	Elec	Major Equip	Lighting	General	TOTAL
1	Energy Conservation Measure #1	\$123,046	\$31,800	\$37,725	\$0	\$19,000	\$211,571
2	Energy Conservation Measure #2	\$0	\$0	\$0	\$133,574	\$0	\$133,574
3	Commissioning					\$4,500	\$4,500
4	General Conditions					\$18,400	\$18,400
TOTAL CONSTRUCTION COST (A Items 1-4) = A		\$123,046	\$31,800	\$37,725	\$133,574	\$41,900	\$368,045
B. ESCO FEES							
1	Directed Engineering Study	\$7,200	Square feet x \$.06 / sf				\$7,200
2	Design - Mech/plbg/elect/arch/struct	7.3%	B2 (%) x A (less lighting and general conditions)				\$15,773
3	Design - Lighting	4.5%	B3 (%) x A (lighting only)				\$6,011
4	Construction Management	5.8%	B4 (%) x A				\$21,347
5	Overhead	9.0%	B5 (%) x A				\$33,124
6	Fee (Subcontractors)	7.0%	B6 (%) x A (less major equipment)				\$13,772
7	Fee (Major Equipment)	5.0%	B8 (%) x A (major equipment only)				\$1,886
TOTAL ESCO FEES (B Items 1-7) = B							\$99,113
C. OTHER COSTS							
1	Project Contingency	0.0%	C1 (%) x A				\$0
2	On-Going M&V	\$6,400	Negotiated, annual cost typically not more than 8% of guaranteed savings				\$6,400
3	Construction Period Finance Costs	\$0	Applied if progress payments not allowed				\$0
TOTAL OTHER COSTS (C Items 1-4) = C							\$6,400
D. TOTAL GUARANTEED CONSTRUCTION & ESCO SERVICES (A+B+C) = D							\$473,558
E. NON-GUARANTEED COSTS							
1	Sales Tax	8.8%	E1 (%) x (A + B)				\$41,110
TOTAL NON-GUARANTEED COSTS = E							\$41,110
TOTAL MAXIMUM PROJECT COST (D+E) = F							\$514,668