

**1. GENERAL QUALIFICATIONS**

McKinstry Essention, Inc. is a Washington corporation authorized to do business in the state of Oregon. Essention, Inc. was incorporated in 2000 and became McKinstry Essention, Inc. in January 2006 after a merger with McKinstry Energy, LLC. McKinstry Essention, Inc.'s gross revenue for 2008 exceeded \$100 million. McKinstry Essention, Inc. is headquartered in Seattle, Washington and maintains offices in both Portland and Salem, Oregon. McKinstry Essention, Inc., at times, contracts with McKinstry Co., LLC, a separate company, for specialized services.

**a. PERSONNEL INFORMATION**

- FULL TIME PERSONNEL** - The McKinstry team is broad, scalable and flexible; with a composition that can easily be varied depending upon the type of project and the specific project needs of our client. We employ 675 staff personnel, of which 65 are located in our Portland and Salem offices. In addition to our staff, we employ approximately 750 Union craftsmen.
- QUALIFICATIONS AND EXPERIENCE OF PROJECT PERSONNEL** - From our Energy Services business units based in Portland and Salem, we will assign dedicated resources with the required skill set to effectively deliver our client's Energy Savings Performance Contract (ESPC). While other ESCO's have national resources they draw upon, McKinstry has more local resources than all the other ESCO's combined. The following table outlines the major tasks for the State of Oregon ESPC process, along with team member responsibility identification for each task. For more details of team roles and responsibilities, relevant experience, and a list of projects each individual has worked on, please see the attached resumes in Appendix A.

PROJECT PHASE	ESPC PROCESS TASK	PRIMARY RESPONSIBILITY	SECONDARY RESPONSIBILITY	ADDITIONAL SUPPORT
Phase I TEA	Utility Data Analysis	Lead Energy Engineer	Sr. Program Manager	Energy Engineer
Phase I TEA	Preliminary Walk-through	Lead Energy Engineer	Energy Engineer	Sr. Program Manager
Phase I TEA	Master Facility Improvement List	Sr. Program Manager	Project Director	Lead Energy Engineer
Phase I TEA	Final TEA Report	Sr. Program Manager	Lead Energy Engineer	Project Director
Phase I TEA	Scope, Budget, Schedule	Sr. Program Manager	Project Director	Construction Manager
Phase I TEA	Oversight	Project Director	Account Manager	Operations Manager
Phase I PDP	Directed Engineering Study	Sr. Program Manager	Lead Energy Engineer	Energy Engineer -
Phase I PDP	Site visit & data logging	Lead Energy Engineer	Energy Engineer	Sr. Program Manager
Phase I PDP	Financial Analysis	Account Manager	Project Director	Sr. Program Manager
Phase I PDP	Project Development Plan - Performance Assurance Plan	Sr. Program Manager	Lead Energy Engineer	Performance Assurance Specialist (M&V)
Phase I PDP	Project Development Plan Final Report	Sr. Program Manager	Lead Energy Engineer	Project Director
Phase II Design	Facility Improvement Measure Design	Senior Design Engineer	Lighting Program Manager	Lead Energy Engineer
Phase II Construction	Implementation	Construction Manager	Site Supervisor	Sr. Program Manager
Phase II Construction	Commissioning, Programming, O&M	Commissioning Agent	Construction Manager	Site Supervisor
Phase II Training	Construction Manager	Site Supervisor	McKinstry Trade Foremen	McKinstry Subcontractors



Phase III M&V	Performance Assurance	Performance Assurance Specialist (M&V)	Project Director	Sr. Program Manager
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3. AREAS OF EXPERTISE - McKinstry 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 develops many innovative solutions that meet our clients' financial and technical criteria. Our detailed and comprehensive approach to analyzing existing systems provides the basis for "real" energy savings project implementation utilizing innovative, but proven, technologies. For both remodel and new construction projects, McKinstry provides energy and utility conservation solutions that leverage utility rebates, grants, financing solutions, 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, resulting in annual energy and utility savings, which McKinstry has guaranteed. Our customers have consistently provided us with feedback that the projects we have implemented have exceeded 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.

McKinstry's Local Experience - Currently, McKinstry is evaluating, implementing, or commissioning over 1500 buildings, in excess of 125 million square feet with over 100 clients with systems ranging from packaged rooftop units to large central steam, cooling plants, and renewable projects such as solar, biomass, wind, etc. McKinstry has worked or is working with over 180 higher education and K-12 clients, over 125 municipal projects (including cities, public district hospitals, etc.), and 450 commercial and industrial projects in various stages of development of energy services work. Our auditing staff consists of Energy Engineers, Commissioning Engineers, and Energy Auditors whose combined experience total over hundreds of years in direct auditing and field experience of existing facilities. With the extent of our staff's experience, our clients feel confident that we have the necessary expertise to identify potential energy savings opportunities and ensure all potential opportunities and needs are identified.

Specialized Areas of Expertise - McKinstry specializes in a wide range of technical services to assist our clients in investigating, uncovering, and implementing energy efficiency measures. These technical services include (but are not limited to):

- |  |  |
|--|--|
| - Energy Use Modeling  | - Cost Justification Analysis  |
| - Construction Grade Estimates   | - Utility Benchmarking   |
| - Life Cycle Cost Analysis   | - Master Planning and Budgeting  |
| - Equipment and Installation Specifications Development                | - Self-performed installation of mechanical, electrical, and plumbing trades.                              |
| - Vendor Neutral Energy Management Control System Design and Selection | - Complete boiler plant analysis, design, service, and installation  |
| - Project & Construction Management                                    | - Renewable System Analysis such as Biomass Boilers, PV, & Cogen   |
| - Automated Monitoring and Reporting of Energy Performance             | - Leadership In Energy and Environmental Design (LEED)   |
| - Bid Solicitation/Evaluation  | - Cad/As-Built Drawings  |
| - Programming  | - Systems Maintenance Service  |
| - Commissioning  | - Integrated Technology Services such as fire /Life Safety, Security, HVAC controls, and Lighting Controls |
| - O&M Manuals and Training   |  |
| - Facility Management Services   |  |

The energy systems that McKinstry has audited, installed, and serviced include:

- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| - HVAC Packaged Equipment            | - Maintenance & Operation Procedures |
| - Heating Distribution Systems       | - Chilled Water Systems              |
| - Motors (Fans and Pumps)            | - Lighting Systems                   |
| - Energy Management Controls Systems | - Domestic Hot Water Systems         |
| - Air Distributions Systems          | - Heat Recovery Systems              |
| - Building Envelope                  | - Weatherization                     |



- Waste Systems
- Geo-thermal Systems
- Photovoltaic Power Generation
- Water Conservation Measures
- VAV/CAV Systems
- Boiler Systems (Hydronic and Steam)
- Biomass Boiler Installations
- Water Deduct Meters

**Professional and Skilled Trades** - McKinstry will leverage our in-house construction knowledge to help develop, engineer, and budget various initiatives to suit our clients' needs. Although McKinstry does have the capability internally, we **DO NOT REQUIRE** self-perform of the measure installation. We can use local contracting firms as directed by our clients. In the event that we are asked to self-perform, we treat our internal construction group as a subcontractor with one major benefit for the client, Sole Source Responsibility.

***Mechanical:*** McKinstry was built on the ability to perform mechanical, plumbing, and pipefitting services and we have installed virtually every kind of system utilized in the area ranging from basic plumbing services to some of the most specialized HVAC systems. Employing 750 highly trained field staff, we have the right people for our clients' project.

***Fire Protection:*** McKinstry has been involved in the fire protection division of mechanical construction since 1981. Our fire protection crews specialize in complex projects where space allocations are critical, system function is mandated, and schedule control and acceleration are required. We can estimate and design the fire protection system for our projects in concert with the mechanical systems to insure the overall budget control is maintained while a fully coordinated approach is developed. McKinstry utilizes the entire implementation team, as well as, the most sophisticated 3D modeling and collision identification software available to ensure the system installation is flawless.

***Electrical:*** With the seasoned experience of our electrical staff, McKinstry is able to design, estimate, and install all types of electrical projects. Recent projects range from small-scale service projects to complex data centers. In addition to traditional line voltage work, we also have a robust data and cabling group to address all of our client's needs.

***Commissioning:*** McKinstry assumes complete responsibility for the start up and commissioning of the mechanical systems. All of our technicians are trained on all the most current building performance standards. We perform commissioning on all of our projects to insure the completed project functions as designed.

4. **CONTRACT NEGOTIATIONS PERSONNEL**—Contract negotiations will be managed by Tom Konicke (Operations Manager) and Cameron Hamilton (Business Development Manager). The primary office location for both Tom and Cameron is: 12021 NE Airport Way, Suite G, Portland, Oregon 97220.
5. **SUBCONTRACTORS**—McKinstry is in a unique position to self-perform all services required for our clients. However, we also recognize that our clients may have established relationships with existing preferred contractors. McKinstry is flexible and can hire subcontractors our clients recommend or those that reside in the local area. If multiple subcontractors have been used in the past, McKinstry can competitively bid the areas of work implemented under the ESPC. In fact, the majority of our Oregon clients have chosen to use contractors with existing relationships for some aspects of project installation.

In addition, we have successfully subcontracted to, partnered with, and mentored many emerging firms. McKinstry 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. For more than 49 years, McKinstry has participated in countless public projects where goals have been created to encourage the inclusion and development of small, disadvantaged, and minority or women enterprises. McKinstry further certifies that we have not discriminated and will not discriminate against minority, women, or emerging small business enterprises in obtaining any required subcontracts.

***Practices in Assigning Subcontractors*** - We first begin by creating a list of pre-qualified subcontractors from the local community with an emphasis on encouraging small and disadvantaged businesses. We have a standard Statement of Qualifications (SOQ) document for each critical subcontract trade, while with some minor subcontracted work we may not go through a formal SOQ process. This pre-qualification of bidders, with review and approval by the project team, will ensure subcontractors



and vendors selected are acceptable, capable, and fully aware of current standards. The SOQ document will ask for the following information:

- > Confirmation of Financial Strength - A Dunn & Bradstreet (D&B) verification will be completed on every subcontractor to ensure that their financial strength is sufficient to complete the project. We may also review project bonding capability and rates as a sign of financial strength, even if we do not require the subcontractors to bond the project.
- > Review Subcontractor References & Experiences - We request three to ten references, based on the size and scope of services, and contact references randomly from each subcontractor. We request information about any pending litigation, since this may adversely affect the delivery of a project. In addition, we identify all key subcontract trades with input from the client agency that should be pre-qualified to bid.
- > Review Project Staffing - McKinstry is in the unique position of having complete in-house construction estimating capabilities, which allows us to estimate the labor needs of all portions of the project. We can then leverage that knowledge into asking the subcontractor their detailed method of staffing the project to ensure that they can indeed complete the project on-time and on-budget. We also want to know their Project Manager or Foreman's experience.
- > Review Project Scheduling - McKinstry will make sure the subcontractors are aware of and can meet the given time constraints. An up-to-date schedule will be made available to the subcontractors to review throughout the pre-construction phase; yet through this phase, we are interested in knowing if they can meet the general project timeline.
- > Review Past Performance - McKinstry will review subcontractors to determine their past performance. Problem subcontractors will not be invited to submit pricing. Overall attitude of the company, project personnel, and ease of communication all play an important role.
- > Small and/or Disadvantaged Business - We will seek out at least one subcontractor or vendor per trade that is formally considered small and/or disadvantaged businesses. We will then request the appropriate documentation to confirm this status as part of the qualifications review process. Again, McKinstry certifies that we have not discriminated and will not discriminate against minority, women, or emerging small business enterprises in obtaining any required subcontracts

Once we receive and review the Statement of Qualifications, we will create an approved bidders' list that will be submitted to client agency and contracting officer for their review and approval. All subcontractors who meet the minimum qualification requirements will generally be allowed to bid. We would likely be more flexible on the qualifications of a small and disadvantaged business to ensure their participation. As the detailed energy audit, appropriate engineering documents and detailed scope of services is developed, the pre-qualified subcontractors will be provided a full RFP (Request for Proposal) package.

6. **SUB-CONSULTANTS**– McKinstry has in-house capabilities to self-design almost any aspect of an energy project, leading to lower overall project costs and greater project control. We currently have licensed Mechanical and Electrical Engineers on staff that can provide fully implementable design documents for all of the work that will be performed for a client. However, it is not a requirement that our client utilizes these resources. Just as with the subcontractor arrangements previously described, McKinstry has also utilized sub-consultants that have a deep knowledge of the client's facilities. For specialized applications, McKinstry teams with industry leaders. McKinstry has not identified any areas on the ODOE project that we plan to use sub-consultants currently, as it will be on a client-by-client basis.





8. KEY PERSONNEL REFERENCES –Please refer to “Appendix A - Project Team Resumes”.

b. **PROJECT HISTORY** – McKinstry is the largest locally based Pacific Northwest ESPC company. Our Portland and Salem based teams have personally completed the majority (over 70%) of all ESPC work in the State of Oregon done in the past five years. Our projects range from very small projects to \$20 million projects for individual clients. This is only a small sampling of our clients due to document limitations. Our extensive ESPC, energy retrofit, energy auditing, and measurement and verification project list in Oregon and Washington numbers over 250 in the last five years alone. We have the most extensive, local energy retrofit history in the Pacific Northwest from which to draw upon to ensure the most successful and most cost effective project for our clients. Additional case studies and information can be provided upon request.

Project Owner	George Fox University	Design Personnel	Cam Hamilton, Project Director
Type of Project	University		Pete Felzien, Const. Mgr
Location	Newburg, OR		Tom Konicke, Project Director
Project Dates	05/05 - 01/07		Rick Huddle, Program Manager
Project Size	3 Bldgs, 200k sq ft		Bill Goerlich, Engineer
Project Dollar Amount	\$322,398		Matt Ophardt, M&V
Source of Funds	Owner, BETC, ETO, Energy Savings		List of Improvements:
Contract Terms	Performance Contract		
Project Schedule	On Schedule		

George Fox University selected McKinstry for Energy Performance Contracting Services. This project focused on expansion of the control system to three buildings, retro-commissioning of a LEED Silver building that had not operated properly since construction, and sub metering of gas and electric to the buildings. The University is in session year round, with occupation and schedules impacting the work plan. McKinstry developed a solution that worked around classroom schedules and a full time work environment to implement the measures. Tight coordination with facilities staff and sub-contractors allowed the project to happen without any impact to the students and staff.

Projected Average Annual Savings	Guaranteed Annual Savings	Actual Annual Savings				
		Year #1	Year #2	Year #3	Year #4	Year #5
kWh: 482,528	kWh: 434,276	482,528	The university did not have measurement and verification past the first year of the project.			
\$31,945	\$28,751	\$31,945				
Therms: 8,590	Therms: 7,731	8,590				
\$8,144	\$ 7,330	\$8,144				
kW: 366	kW: 329	366				
\$1,808	\$1,627	\$1,808				
Gal:	Gal:					

Project Owner	Coos Bay Public Schools	Design Personnel	Cam Hamilton, Account Mgr
Type of Project	School District		Trey Scavone, Const. Mgr
Location	Coos Bay, OR		Roger Huggins, Energy Engr
Project Dates	05/07 - 04/08		Scott Kenaston, Program Mgr
Project Size	11 Schools, 690k sq ft		Antonio Giacobbe, Lighting
Project Dollar Amount	\$1,691,055		Matt Ophardt, M&V
Source of Funds	QZAB, SB1149, Energy Savings, BETC, ETO Incentives, GMAX		Jon Eicher, Energy Auditor
Contract Terms	Performance Contract	Bill Goerlich, Design Engr	
Project Schedule	On Schedule	Darren Goody, Commissioning	
		List of Improvements:	Matt Ophardt, M&V
			Lighting upgrades, DOC controls, Trash compaction

This is a single-phase project with energy efficiency and facility improvement measures being implemented in every school in the district. The project consists of lighting retrofits and PCB remediation for all the schools; convert the heating system from a boiler system at the High School, demand control ventilation for the high school auditorium, local HVAC controls, network energy PC saver for computer systems, waste management improvements at an elementary site, and a trash compactor installation at the middle school. The district wide lighting retrofits will eliminate all the metal halide fixtures in the gymnasiums and upgrade over 90% of the lighting in the remaining schools. The district’s main goal of becoming 100% PCB free will be accomplished, as well as taking care of some major deferred maintenance issues that have plagued the district for years. The



project has delivered enough construction cost savings, as well as energy savings, that the district will be able to implement a much needed boiler upgrade to their high school that was not part of the original project mix.

Projected Average Annual Savings	Guaranteed Annual Savings	Actual Annual Savings				
		Year #1	Year #2	Year #3	Year #4	Year #5
kWh: 1,128,474	kWh:1,128,474	1,150,778				
\$52,019	\$52,019	\$53,047				
Therms: 2,688	Therms: 2,688	2,703				
\$3,567	\$ 3,567	\$3,586				
kW:4,159	kW: 4,159	4,300				
\$18,880	\$18,880	\$19,520				
Gal: 8,460	Gal: 8,460	8,460				

Project Owner	Roseburg Public Schools	Design Personnel	Cam Hamilton, Account Mgr
Type of Project	School District		Trey Scavone, Const. Mgr
Location	Roseburg, OR		Scott Kenaston, Program Mgr
Project Dates	05/07 - 07/08		Jon Eicher, Energy Auditor
Project Size	12 Schools, 843k sq ft		Antonio Giacobbe, Lighting
Project Dollar Amount	\$1,625,459		Matt Ophardt, M&V
Source of Funds	QZAB, SB1149, Energy Savings, BETC, ETO Incentives		Bill Goerlich, Design Engr
			Joe Fuetsch, Site Supervisor
Contract Terms	Performance Contract, GMAX		Ken Abbott, Commissioning
Project Schedule	On Schedule		Matt Ophardt, M&V
		List of Improvements:	Lighting Retrofits, Boiler Burner Replacements, Boiler Tuning, Controls Enhancements, & Mech Pipe Insulation

This project includes the installation of energy efficient lighting systems in gymnasiums (to replace HID Lights), boiler tune-ups, the installation of new energy management control systems district wide, insulation projects, and various mechanical projects through the school district. This project is also receiving Avista Utility rebates in addition to Senate Bill 1149 funds and Business Energy Tax Credits. Roseburg Public Schools leveraged their Senate Bill 1149 funds with Business Energy Tax Credits to implement much needed infrastructure upgrades. McKinstry was able to secure over \$107,000 in utility incentives from Avista for gas measures outside of what was promised in the original cash flows put together for the school district, and likely over \$135,000 in additional Business Energy Tax Credit funding as well. The Chief Operating Officer at the district, Lance Colley, wanted to deliver energy savings to the board to support the hiring of new teaching staff. By the time we are completed, Lance will be able to hire at least one more teacher and not impact his general fund dollars.

Projected Average Annual Savings	Guaranteed Annual Savings	Actual Annual Savings				
		Year #1	Year #2	Year #3	Year #4	Year #5
kWh: 456,276	kWh: 421,389	456,174 kWh				
\$19,659	\$18,156	\$19,653				
Therms: 49,247	Therms: 44,322	48,983 Therms				
\$61,001	\$ 54,900	\$60,674				
kW: 730	kW: 695	731 kW				
\$3,394	\$3,232	\$3,399				
Gal:	Gal:					

Project Owner	Parkrose School District	Design Personnel	Cam Hamilton, Account Mgr
Type of Project	School District		Ryan Haggerty, Const. Mgr
Location	Parkrose, OR		Scott Kenaston, Program Mgr
Project Dates	04/08 - 07/09		Jon Eicher, Energy Auditor
Project Size	12 Bldgs, 820k sq ft		Antonio Giacobbe, Lighting
Project Dollar Amount	\$2,119,622		Matt Ophardt, M&V
Source of Funds	QZAB, SB1149, Energy		Bill Goerlich, Design Engr



	Savings, BETC, ETO Incentives		Ken Abbott, Commissioning
Contract Terms	Performance Contract, GMAX		Matt Ophardt, M&V
Project Schedule	On Schedule		
		List of Improvements:	Lighting upgrades, controls upgrades, boiler replacements, new pool air handler, window replacement, HVAC upgrades

This project includes the installation of new lighting systems in gymnasiums and the Parkrose High School Natatorium (to replace HID Lights), an extensive HVAC system replacement at the Parkrose High School Pool Natatorium including the pool boiler replacement and a pool dehumidification system, the installation of new energy management control systems in Shaver Elementary School and Parkrose Middle School, Retro-commissioning district wide, and various windows projects through the school district. The Parkrose High School Natatorium project is estimated to reduce the energy use by 75% versus the baseline energy use. Controls systems were updated and installed at all locations the most extensive of which was the Middle School. This was a full pneumatics demolition and replace with new DDC controls. Finally windows at all of the elementary schools were replaced from single pane aluminum to double pane vinyl windows. Parkrose School District is using an Energy Savings Performance Contract to install projects that focus primarily on comfort enhancements and then generate energy savings. The district's projects are accomplishing upgrades that would normally not be performed unless they went for bond. The projects are expected to generate \$108,000 in energy savings, and will receive Energy Trust of Oregon incentives of \$62,000 (above their Senate Bill 1149 funds) and a \$163,000 Business Energy Tax Credit. Parkrose School District is currently adding more energy efficiency measures to their project mix based on their positive experience working with McKinstry.

Projected Average Annual Savings	Guaranteed Annual Savings	Actual Annual Savings				
		Year #1	Year #2	Year #3	Year #4	Year #5
kWh: 482,528	kWh: 434,276	482,528				
\$31,945	\$28,751	\$31,945				
Therms: 8,590	Therms: 7,731	8,590				
\$8,144	\$ 7,330	\$8,144				
kW: 366	kW: 329	366				
\$1,808	\$1,627	\$1,808				
Gal:	Gal:					

Project Owner	Lane County	Design Personnel	Craig Volz, Project Director
Type of Project	Municipal Government		Trey Scavone, Construction Mgr
Location	Eugene, Oregon		Chris Bristow, Account Manager
Project Dates	Design 11/08 - In Progress		Laura Ward, Program Manager
Project Size	3 Bldgs, 407k sq ft		Dennis Oberto, Energy Engineer
Project Dollar Amount	\$3,100,000		Ron Shoff, Lighting
Source of Funds	Municipal Lease, EWEB Incentive, Energy Savings, BETC		Anne Goerlich, M&V
Contract Terms	Performance Contract, GMAX		
Project Schedule	TEA Completed, PDP in Development		
		List of Improvements:	Condensing Hot Water Boiler Plant, HVAC controls, Web based controls interface, demand controlled ventilation, high efficiency motors, electronic lighting systems, and photovoltaic power generation

Lane County has been under severe budget pressures ever since the reduction of Federal timber revenues. The Adult Corrections Center was in need of HVAC system upgrades; however, funding was not available. Further urgency for HVAC system upgrades was placed on the County by the fact that the local utility, Eugene Water and Electric Board (EWEB), planned a transition of the downtown Eugene core off of the utility provided steam



system. Not only were steam costs rising at a dramatic rate, but the County was faced with eventual plant closer without a backup heating system. his project provided a unique challenge in that there was no pre-existing heating plant located at the Adult Corrections Center and no space within the facility for a boiler plant addition. In the TEA stage, McKinstry was able to demonstrate significant financial savings through the addition of a new, natural gas fired, and condensing boiler plant consisting of six new boilers coupled with a new facility. This solution, when coupled with lighting retrofits, VFD demand control on the existing 150 hp fans, new high efficiency motors, and a steam to electric conversion at the Courthouse PSB facilities will result in an entirely self-funded program that will not encroach on the County's general fund. Because of the success of McKinstry's preliminary solution, the County has awarded McKinstry the PDP for the above facilities as well as expressed desires to expand the ESPC contract to include all County facilities and renewable photovoltaic power generation County-wide as well.

Projected Average Annual Savings	Guaranteed Annual Savings	Actual Annual Savings				
		Year #1	Year #2	Year #3	Year #4	Year #5
kWh: 512,107	kWh: NA*	This project is currently in the energy audit phase and projects have not been fully developed. This project will increase the gas usage, as it is on EWEB's central steam system in downtown Eugene, however the total btu's for heating are being reduced.				
\$17,908	\$NA*					
Therms:77,708 (Increase due to new, gas boiler plant)	Therms: NA*					
(\$90,384)	\$ NA*					
kW: 107	kW:					
\$6,379	\$					
Klbs Steam:8,044	Gal: NA*					

\* Project is in PDP stage. Above savings numbers are from the TEA. No guarantee in place until PDP finalized.

Project Owner	Enterprise School District	Design Personnel	Cam Hamilton, Account Mgr
Type of Project	School District		Trey Scavone, Const. Mgr
Location	Enterprise, OR		Rick Huddle, Program Mgr
Project Dates	09/07 - 09/08		Felix Kersting, Energy Engineer
Project Size	3 Bldgs, 101k Sq Ft		Antonio Giacobbe, Lighting
Project Dollar Amount	\$1,942,125		Matt Ophardt, M&V
Source of Funds	QZAB, SB1149, Energy Savings, BETC		Bill Goerlich, Design Engr
			Geremy Wolff, Commissioning
Contract Terms	Performance Contract, GMAX		Matt Ophardt, M&V
Project Schedule	Complete	List of Improvements:	Lighting retrofits, Biomass Boiler Installation, Domestic Hot Water Upgrades, Controls Upgrades

Enterprise School District issued an RFP in late 2006 for an ESPC that focused on the installation of a Biomass Boiler System. All the responding companies told the district that a biomass boiler would not have an adequate economic return, except McKinstry. The District's vision for the biomass boiler became our vision. McKinstry was able to make a cash-flow positive project, which had the biomass boiler, along with other measures, installed by September 2008. McKinstry worked with the district, the Oregon Department of Forestry, and Willowa County to secure outside funding and wood chips to make this project a success. Enterprise School District, located approximately 60 miles from La Grande School District, and is the first biomass boiler installation in a K-12 school district in Oregon in years. Enterprise School District will benefit from a new Renewable Business Energy Tax Credit and lower fuel costs to run their boiler. The district will also become 100% PCB free and will upgrade a substantial portion of their steam piping as part of this project.

Projected Average Annual Savings	Guaranteed Annual Savings	Actual Annual Savings				
		Year #1	Year #2	Year #3	Year #4	Year #5
kWh: 105,437	kWh: 100,165	This project is currently in the first year of operation and the measurement and verification report will be generated in September, 2009.				
\$: 7,381	\$: 7,012					
Oil Gal: 38,049	Oil Gal: 34,244					
\$: 86,544	\$: 77,889					
kW: 0	kW: 0					
\$: 0	\$: 0					
Gal:	Gal:					



Project Owner	Crook County SD	Design Personnel	Cam Hamilton, Account Mgr
Type of Project	School District		Trey Scavone, Const. Mgr
Location	Prineville, OR		Roger Huggins, Energy Engr
Project Dates	06/05 - 05/06		Scott Kenaston, Program Mgr
Project Size	10 Schools, 510k sq ft		Matt Ophardt, M&V
Project Dollar Amount	\$1,243,024		Jon Eicher, Energy Auditor
Source of Funds	QZAB, SB1149, Energy Savings, BETC, ETO Incentives,		Bill Goerlich, Design Engr
			Darren Goody, Commissioning
Contract Terms	Performance Contract w/GMAX		Matt Ophardt, M&V
Project Schedule	On Schedule	List of Improvements:	Lighting upgrades, retro-commissioning, heat pump replacement, boiler tune ups, network PC energy software

Crook County School District is a single phase project with energy efficiency and facility improvement measures being implemented in every school in the district. This project includes the installation of a new lighting system for six schools and three support buildings, boiler tune-ups at five school locations, and furnace replacements in one school, maintenance office, and IT support building. Project also includes attic insulation at two locations, installation of condensing domestic hot water heaters, and installation of heat pumps on six modular buildings for more energy savings. Also included in this project is a retro-commissioning phase at Crook County High School that helped resolve specific heating issues and reduce equipment operating hours. This phase produces significant savings by upgrading outside air economizers and resolving morning warm-up issues utilizing boiler scheduling. The district also became 100% PCB free as part of the extensive lighting retrofit/fixture replacement performed throughout the project.

Projected Average Annual Savings	Guaranteed Annual Savings	Actual Annual Savings				
		Year #1	Year #2	Year #3	Year #4	Year #5
kWh: 629,145	kWh: 629,145	Kwh:671,448	The district elected to only do measurement and verification for the first year of the project.			
\$26,796	\$26,796	\$28,745				
Therms: 16,540	Therms: 16,540	Therms:27,019				
\$ 13,314	\$ 13,314	\$21,748				
kW: 1,890	kW: 1,890	kW: 1,930				
\$5,821	\$5,821	\$5,944				
Gal: 349 ccf	Gal: 349 ccf	349 ccf				

Project Owner	Umpqua CC	Design Personnel	Chris Bristow, Account Mgr
Type of Project	Higher Education		Trey Scavone, Const. Mgr
Location	Roseburg, Oregon		Felix Kersting, Energy Engr
Project Dates	06/08 - 11/08		Scott Kenaston, Program Mgr
Project Size	9 Bldg, 256k sq ft		Antonio Giacobbe, Lighting
Project Dollar Amount	\$560,000		Anne Goerlich, M&V
Source of Funds	Municipal Lease, Energy Savings, ETO Incentives, BETC		Aaron Wozniak, Design Engr
			Ron Shoff, Lighting
Contract Terms	Performance Contract, GMAX	List of Improvements:	Lighting Upgrades, Security Lighting Upgrade, Exterior Lighting Controls, Campus Fountain Controls, Decentralized HVAC for Office at Auditorium, Demand Control Ventilation, DDC Controls Upgrade, Primary Secondary HVAC Loop
Project Schedule	TEA Completed on Schedule		

Umpqua Community College partnered with McKinstry and the Energy Trust of Oregon (ETO) to provide an energy audit under the ETO Existing Building program. The results of the audit were successful, which led to UCC selecting McKinstry for ESPC services after an RFP selection process. UCC has an excellent facilities staff, which has maintained existing HVAC systems and other energy using systems in as good a condition as possible given their budgets. Chillers had recently been replaced with new chillers, and a comprehensive retro-commissioning effort of the HVAC DDC controls had also been recently implemented. Despite its own efforts to improve



efficiency, UCC wanted to become as efficient as possible. In addition, most all of the facilities are currently supplied by one electric meter, which negated the ability for the maintenance staff to be able to view how current and future resource conservation efforts are affecting individual facilities. Recognizing UCC's goals, McKinstry applied for and successfully garnered a \$36,000 grant from the ETO Existing Building Program to perform a facility energy audit, which uncovered further lighting, DDC controls, utility sub-metering and water conservation measures that could be self-funded. The College was excited about these opportunities and selected McKinstry to perform these projects under an ESPC contract. Currently, UCC is in budget negotiations and the project has been tabled until this process is completed.

Projected Average Annual Savings	Guaranteed Annual Savings	Actual Annual Savings				
		Year #1	Year #2	Year #3	Year #4	Year #5
kWh: 403,834		Project is currently awaiting approval from the college to start the design and construction of measures.				
\$19,504						
Therms: 11,536						
\$11,572						
kW: 31.5						
\$1,244						
Gal:						

REFERENCES - The following references have had direct contact and involvement with the projects identified:

Reference Name	Address	Telephone	Project	Type
Salem Keizer PS David Furr	3630 State Street Salem OR 97301	503-399-336	Salem Keizer PS	Owner
City of Vancouver Dan Norfleet	4711 E. Fourth Plain Blvd Vancouver WA 98668	360-619-1285	City of Vancouver	Owner
Yamhill Carlton SD Steve Chiovaro	120 N. Larch Place Yamhill OR 97148	503-852-6980	Yamhill Carlton SD	Owner
CTA Tom Dietrich	1185 Grove Street, Boise ID 83702	208-577-5608	Enterprise SD	Sub-contractor
SolaGen Francis Shannon	150 Port Avenue, St. Helens, OR 97051	503-366-4210	Enterprise SD	Sub-contractor
Southtown Glass Carl Harbaugh	2324 12 <sup>th</sup> Street Salem OR 97302	503-581-5001	Salem Keizer SD	Sub-contractor

## 2. PERFORMANCE CONTRACTING APPROACH

- a. **PROJECT SUMMARY** - McKinstry provides a full range of ESCO services for our clients. Our Cycle of Services is a continuum of facility offerings that commences with system design and development and continues through to facility management. Our integrated delivery of services is designed to offer the best solutions for our clients. This approach to projects is truly the essence of performance-based contracting. McKinstry's ESCO scope and range of energy and utility management services that are available to our clients include the following:

*Facility Auditing:* Facility auditing consists of several steps designed to strategically focus on initiatives that have a high probability of energy savings success; minimizing audit costs, maximizing energy savings, and maximizing outside funding for our clients. McKinstry can provide these services with our **in-house** and **local** team.

*Project and Plan Design Development:* McKinstry possesses the in-house capability to design and stamp all aspects of energy and utility conservation system designs. 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 throughout the plan and design development stage. McKinstry can provide these services with our **in-house** and **local** team.

*Construction Expertise:* Calling upon more than 49 years of experience in construction, McKinstry's experience enables our ESCO teams to successfully complete projects for our clients. Our construction managers all have multi-discipline construction experience in all trades. McKinstry can provide these services with our **in-house** and **local** team.

*Monitoring and Performance Assurance:* McKinstry has a dedicated Measurement and Verification



team that uses the latest remote monitoring technologies and web-based services to enable the flow of data and information from and to our clients. Dependent on our client needs, we provide the equipment and training as part of our ESPC projects to the owner and staff so that they can carry out an ongoing program with their own resources. McKinstry can provide these services with our **in-house** and **local** team.

*Operations and Maintenance:* Since our formation in 1960, McKinstry has positioned its service and maintenance capability as one of its key components in its integrated delivery platform. Our Service and Maintenance group ensures that our client's facilities are well maintained and that the systems operate efficiently "for the life of their buildings". McKinstry Service offers a wide range of services including 24-hour emergency service, maintenance and operation programs, remote monitoring and site engineering options. We are capable of supporting owners O&M needs at all levels. McKinstry can provide these services with our **in-house** and **local** team.

*Commissioning:* One of the most critical areas of focus for installed ECMS falls into the area of start up and commissioning. The best of installations and construction processes can often fall short of meeting the clients' objectives unless a thorough and well-managed commissioning process is implemented. McKinstry can provide these services with our **in-house** and **local** team.

*Owner Training:* Well-trained facilities staff has a direct correlation on insuring that annual savings are achieved, occupant comfort is maintained, and equipment life extended. We provide full training capabilities to help accentuate your staff's knowledge. McKinstry employs highly skilled tradesmen with successful and established track records of providing training services throughout the state. McKinstry can provide these services with our **in-house** and **local** team.

*Financing:* For our clients, McKinstry can fully fund all of the resulting energy and utility measures to be installed by tailoring the best financing options. These financing capabilities can be summarized as follows:

- **Internal ESCO Financing:** We are prepared to absorb the cost of delayed billing associated with the technical energy-auditing phase of the project. These costs can be quite significant, however McKinstry possesses the financial strength to fund these development efforts until project implementation begins or is completed.
- **Outside ESCO Financing:** In the event that a project requires long-term financing, we can collaborate with our local banking partners such as Key Bank, Bank of America, or enlist the support of other third party financing companies like GE Capital. In any event, our goal is to support our client with the most fiscally responsible financing program.
- **SELP Financing:** McKinstry also has experience with assisting our customer's with the State of Oregon's "Small Scale Energy Loan Program".
- **Utility Incentives:** We work with many utilities outside of the large investor owned utilities to bring all potential energy incentives to the project.
- **Business Energy Tax Credits (BETC):** McKinstry has worked with the Oregon Department of Energy to secure more BETC tax credits for Oregon clients than all other performance contracting entities combined.
- **Utility and Energy Trust of Oregon Funding:** Seeking and securing utility incentives for a customer site is a critical part of the financing ability an ESCO brings to a performance contract. McKinstry has the experience, expertise, and resources to secure these funds better than any other entity in Oregon.

McKinstry has secured financing for our clients as low as 0% in Oregon. Although this particular funding is not available for a State based project, securing these funds requires significant financial knowledge and an extensive application process. We will bring this knowledge and dedication to find the best source of funding support for our clients. Because of our knowledge of the Oregon energy marketplace, we know when application fees are due for BETC, utility rebate funding, financing, and other applicable fees. We will include ALL fees that the client will encounter in our cash flows. We know when the rebates and BETC funds will arrive, and include those funds in the project cash flow analysis, ensuring that all stakeholders know exactly when the funding will be realized. We strive to never overpromise, but rather use slightly conservative assumptions and deliver more utility rebate and BETC funding than what was included in our analysis.

**Practical, Sustainable Design:** McKinstry has more than 46 LEED Accredited Professionals on-staff with practical experience in providing sustainable design concepts for new construction and renovation projects. Our staff members are experts at fixing, adjusting, re-designing, and correcting existing LEED Accredited facilities, which were using significantly more energy than the design anticipated. This



experience with correcting poorly executed LEED projects has given our staff another perspective to insuring that up-front design objectives are incorporated.

We recognize that the State Energy Efficiency Design (SEED) program is a critical component to the State's sustainability goals. We have a long track record of designing and implementing energy efficiency projects that routinely exceed twenty percent energy savings as compared to existing baseline conditions or code requirements. We are confident that our energy services model will dovetail nicely with the SEED program. For example, life cycle cost analysis (LCA) is a fundamental component to all of our ESPC projects. We use LCA to ensure that our clients are implementing the most cost effective projects with the best potential to produce long-term savings. Additionally we are experienced in performing hourly energy use simulations to analyze and design interactive energy efficiency improvements. McKinstry understands that the success of any SEED project depends largely on close, collaborative partnership between the project team and Oregon Department of Energy. We will work closely with the Oregon Department of Energy through all phases of the development, design and implementation of our projects to ensure that the SEED projects are reported, and the guidelines are initiated, followed, and achieved.

The goal of all our Sustainable Building projects and Energy Savings Performance Contracts is to "Establish Sustainability Philosophy, Strategy, and a Plan for implementing procedures that insure realization". This philosophy is strictly adhered to during all phases of our project from the technical audit through commissioning of the project. The issues that we tackle in all of these projects are: energy efficiency and renewable energy, direct and indirect environmental impact, resource conservation and recycling, indoor environmental quality, and community issues.

**Approach to Management:** McKinstry is not owned by a national concern which allows us to remain vendor and product neutral. This approach gives us the ability to truly seek out the best solutions for our clients without corporate pressure to sell a product or service like some of our competitors. Our organizational structure and management approach is simply committed to ensuring that the most successful development and installation of projects deliver high system performance, improved operations, enhanced standards of comfort, on-going performance assurance, and guaranteed occupant satisfaction.

**Project Management Approach:** McKinstry has managed the installation of over \$2 billion worth of building systems. This experience is a tremendous asset to delivering projects on time, within scope, and on budget. McKinstry uses a combination of people and processes to manage every project. Our first priority is to have the right people assigned to the project. These include tenured and experienced staff that can use their experience to minimize any impacts to the key performance indicators of the project. McKinstry strongly believes that a successful ESPC project requires specific skills and that not every Project Manager can successfully manage this process. The roles and responsibilities of our staff are designed to match the flow of the ESPC process. This staffing model begins with a Project Director, a Program Manager, and a Construction Manager. These managers all play a significant role in the proper management of the process.

All of our project development and construction management staff utilizes industry-standard scheduling tools (i.e., Microsoft Project) to formulate schedules. McKinstry will develop a construction work plan that details 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. Updates to the construction schedule and budget are done weekly and reviewed with the client to ensure the project is tracking to the planned path. Any deviations are noted and a plan is devised to minimize project impact. Every ESPC project we have worked on in Oregon has incorporated this process and all have come in under budget, without major scope changes. Please see Appendix B for a Sample Project Schedule.

**General Coordination of Work:** The vast majority of ESPC projects McKinstry has completed are performed in occupied buildings, often in congested urban areas. Work on projects of this nature requires special consideration when construction begins. Prior to mobilization to site, we have a Pre-Construction meeting to discuss safety, mobilization, construction staging, site access, vehicular circulation, pedestrian circulation, noise, and other similar concerns. The results of this meeting are then incorporated into our construction work plans and site-specific safety plans. Our construction process for typical ESPC measures often requires little to no lay down area and is designed around a simple goal of minimizing impact to the ultimate end user, the building occupant. McKinstry's long history of performing complex construction projects coupled with our maxim of "Taking Responsibility"



will insure a seamless construction project for the client.

Risk Mitigation: McKinstry starts every ESPC project with a kick-off meeting that outlines the process steps, the deliverables, and the risks that are associated with ESPC. Areas that will be addressed thoroughly with our customers include: energy savings calculations using a holistic approach that recognizes the interactive effect of measures being installed, utility rebates and outside funding sources, the GMAX pricing structure, McKinstry's open book pricing format, consequences if energy savings are not achieved, financing the ESPC project, maintenance requirements, labor cost concerns of correctional facilities, use of contingency funds, the M&V process, and commissioning of the project. Ensuring that all of the client's requirements with the above items are addressed up front minimizes risk for the remainder of the project.

**b. ENGINEERING DESIGN**– Our effort during design is focused on providing the necessary evaluation and information needed for the in-house design staff to make timely and correct decisions around sustainable and energy efficient scenarios. McKinstry provides significant engineering knowledge related to designing utility and energy conservation measures. This knowledge can be leveraged to lead the integrated design team and is powered by our depth of highly skilled engineering staff and by our unique position in the ESCO industry as a 49-year-old full service “Design and Build and Operate” company. The following outlines basic elements of the design services McKinstry incorporates throughout our internal process:

1. **Scope Control** - In order to control the design scope for the project, we use a team approach consisting of an Engineer, Estimator, and Construction Manager. At the beginning of the schematic design process, we produce a flowchart describing the decision process for all design issues. This flowchart, which includes client and other shareholders input, then becomes a weekly design-scheduling tool.
2. **Design Criteria** - The schematic design process requires investigation of not only the applicable system options, but also a wide range of information about each option. We will provide the client with the following information in order to make the correct system choice: Design on applicable system options, IAQ Assessment, Structural Impacts and Trade-Offs, General Construction Considerations, Installation Cost (\$/s.f.), and Annual O&M and Utility Expense (\$/s.f.).
3. **Pre-Construction** - At McKinstry, we have a corporate commitment to provide quality professional design and pre-construction services. The goal in our efforts is to provide the analysis required to deliver clear and concise value driven options to our clients in order to achieve the best possible results for their construction dollars. To ensure maximization on each of our projects, we develop a pre-construction flowchart with the milestones for decisions laid out before the start of design.
4. **Quality Control** - McKinstry has spent nearly 50 years earning a reputation of taking pride in the final construction product and the design and pre-construction services offered early in the project. Our engineering group has built in checks and balances through a detailed review process that includes the Senior Design Engineer and the Director of Engineering. The Director of Engineering approves every project prior to receiving a stamp for construction.
5. **Document Control** - Our Senior Engineer assigned to the project works closely with the client and Construction Manager to coordinate milestone dates for the documents. In this way, there is continuity of drawing dates and revisions up through and including the issuance of 100% complete construction drawings. Prior to issuing final drawings, the client and jurisdictional agency will review and approve.
6. **Construction Administration** - The design team maintains a successful working relationship with our client by being a strong part of the quality control effort. While we have an intimate knowledge of the construction effort through contact with the McKinstry Construction Manager, the design team performs field inspections providing a formal report to all stakeholders.
7. **Constructability Review** – Our design team will provide regular input to the project team on issues relating to the constructability of various aspects of the design. This effort will enhance the design process and allow the finished product to maximize the value and utility of the installed systems for the client.
8. **Coordination Between Trades** - Our team will take responsibility to inform and update the other contractor team members regarding system selections and other issues that will affect the budgeting of their discipline.
9. **Codes and Permits** - McKinstry will work with the project team to determine the impact of the various code issues. Our local experience in the region with projects of every type makes us a valuable contributor to the code compliance aspects of the project.
10. **Major Equipment Procurement** - Throughout the design development process, McKinstry will monitor the major long-lead equipment evaluation procedures. While coordinating with the



engineer, we will provide manufacturers' data regarding first cost, operating characteristics, lead-time information, size, weight, electrical data, options, etc. This assures the maintenance of the critical path scheduling and the proper equipment selections are obtained.

**C. TECHNICAL ENERGY AUDIT / PROJECT DEVELOPMENT PLAN**—The following matrix outlines our **in-house approach** to developing and auditing a facility from the Technical Energy Audit through the Project Development Plan. Please see Appendix C and D for the sample Technical Energy Audit and Project Development Plan.

ESPC Task	Task Description	Deliverable	McKinstry's ESPC Uniqueness
Utility Data Analysis	<ul style="list-style-type: none"> <li>- Collect several years' worth of utility information</li> <li>- Analyze, correlate weather, and index data to facilities of like usage in same geographic area</li> <li>- This analysis assists in identifying areas of energy use corresponding to demand and weather</li> </ul>	<ul style="list-style-type: none"> <li>- Utility Data Analysis for benchmarking against other facilities.</li> </ul>	<ul style="list-style-type: none"> <li>- McKinstry has extensive Pacific Northwest UDA data.</li> </ul>
Preliminary Walkthrough	<ul style="list-style-type: none"> <li>- Survey building for energy cost savings &amp; other resource conservation initiatives</li> <li>- Focus on staff-identified facility needs. Relevant documentation will be gathered.</li> </ul>	<ul style="list-style-type: none"> <li>- List of areas of facility improvements that provides focus to the auditing team</li> </ul>	<ul style="list-style-type: none"> <li>- We have more locally based resources than any other ESCO in Oregon</li> </ul>
Develop Master Facility Improvement Measures	<ul style="list-style-type: none"> <li>- Develop a list of all the potential initiatives, including lighting, mechanical systems, water resource conservation, electrical systems, renewable systems, rate restructures, envelope initiatives, and operational expenditures</li> <li>- Make contact with utilities and other resources that may be able to provide assistance</li> <li>- Identify which initiatives are financially viable that should be pursued in more detail</li> </ul>	<ul style="list-style-type: none"> <li>- Comprehensive project list with associated benefits and estimated paybacks for review with stakeholders</li> <li>- TEA report content reviewed here</li> </ul>	<ul style="list-style-type: none"> <li>- Our team has extensive depth and experience in identifying all types of measures.</li> <li>- We have negotiated more Oregon specific utility incentives and ODOE BETC's than any of our competitors.</li> </ul>
Final TEA Report	<ul style="list-style-type: none"> <li>- Energy calculations, site walk notes, and all other TEA documentation is finalized and drafted into a standardized report format</li> <li>- The TEA is finalized after feedback is obtained from the State</li> </ul>	<ul style="list-style-type: none"> <li>- Copies of the TEA to the stakeholders &amp; 1 copy for ODOE for review &amp; approval for BETC</li> </ul>	<ul style="list-style-type: none"> <li>- McKinstry has prepared TEA documents for more than 70% of the ESPC projects in Oregon.</li> </ul>
Project Development Plan	<ul style="list-style-type: none"> <li>- Specific initiatives are based on the State's review of the TEA.</li> <li>- Master facility improvement list is narrowed down to those that are to be implemented.</li> </ul>	<ul style="list-style-type: none"> <li>- PDP project plan and schedule for moving forward with work</li> </ul>	<ul style="list-style-type: none"> <li>- Experience with this affords the State the confidence to choose projects with highest value &amp; least risk</li> </ul>
Site Visit & Data Logging	<ul style="list-style-type: none"> <li>- Resources &amp; tools used to gather detail info for accurate savings calcs &amp; cost estimates</li> <li>- Data logging is performed to eliminate TEA assumptions</li> </ul>	<ul style="list-style-type: none"> <li>- Site visit notes &amp; data logger collected information</li> </ul>	<ul style="list-style-type: none"> <li>- Our staff is local, providing local knowledge and reducing costs.</li> </ul>
Financial Analysis	<ul style="list-style-type: none"> <li>- Cost justification analysis (life cycle costing) prepared to determine viability</li> <li>- Funding stream &amp; cash flow analysis prepared to analyze all financial resource options</li> </ul>	<ul style="list-style-type: none"> <li>- Life cycle costing analysis report</li> <li>- Cash flow analysis report</li> </ul>	<ul style="list-style-type: none"> <li>- Have garnered funding as low as 0%</li> <li>- Established track record of securing unique funding sources</li> </ul>
Project Development Plan Final Report	<ul style="list-style-type: none"> <li>- PDP identifies the scope of work &amp; the GMAX pricing for the overall implementation</li> <li>- Site visit, data logs, preliminary design work, &amp; construction cost estimates in one document</li> <li>- Final PDP document becomes the</li> </ul>	<ul style="list-style-type: none"> <li>- Project Development Plan (PDP) with guaranteed energy savings</li> <li>- PDP with GMAX</li> </ul>	<ul style="list-style-type: none"> <li>- Delivered PDPs for more than 70% of projects in Oregon that have executed ESPC work</li> <li>- In-house design &amp;</li> </ul>



	implementation contract	Implementation cost	estimating staff provide real budgets
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**d. BASELINE CALCULATION METHODOLOGY** – McKinstry uses the “International Performance Measurement and Verification Protocol (IPMVP)” standards for setting and adjusting baselines. The IPMVP is the recognized industry standard for all performance based contracting and includes multiple paths to ensure that energy savings are meeting guaranteed levels through a specific measurement protocol. These methods all begin with a proper identification of the “baseline” of energy and/or water consumption. Using the IPMVP to establish the baseline ensures that our customers are receiving independently reviewed and approved procedures that are based on factual information.

Employing utility data analysis at the beginning of the project assists in getting a look at the building energy use. All utility data is imported into Utility Manager (UM) Software. More in-depth reports are created by exporting specific pieces of data from the UM database into McKinstry’s utility data analysis spreadsheet 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 with the clients’ utility bill serving as a baseline and check and balance.

McKinstry strives to establish measure specific baselines. We accomplish this by isolating and measuring only the energy related to the specific initiative. In general, the more performance data that can be gathered (i.e. kW, run time, flow rates, etc.) relative to the specific measure, the more accurate the baseline will be. McKinstry focuses their effort in collecting this data with data logging equipment and one-time measurements, where applicable. In addition, McKinstry will also gather information from equipment logs, balancing reports, equipment specifications, and interviews with staff on the operation of the existing system.

**e. ADJUSTMENT TO BASELINE METHODOLOGY** - Our response to the section above, “d - Baseline Calculation Methodology” discusses McKinstry’s measure specific baselining approach. If the baseline is measure specific, then confirming proper performance during Measurement and Verification is somewhat independent of changes to rates, billing cycles, facility size/use changes, and other variables. For instance, if a chiller plant upgrade uses plant efficiency (kW/ton or COP) measure specific guarantee, then facility use changes and weather changes will affect the total energy consumption but will not affect our ability to confirm that the proposed efficiency increase is being delivered. McKinstry usually does not recommend guaranteeing based on bill reductions due to the following reasons:

1. A utility bill reduction does not prove the system is functioning as promised. If optimal system performance is the goal, only a measure specific Measurement and Verification approach can provide enough detail to spot performance issues.
2. Factors such as weather and facility use are not influenced by the project and are beyond the ESCO’s ability to control.
3. The resolution of bill comparisons is much lower than the resolution of measure specific performance indicators.

However, it is often very useful to do a pre vs. post utility bill comparison for reference. When McKinstry does a bill comparison, we use a simple approach that focuses on making adjustments only for major factors. McKinstry provides a non-adjusted comparison as well as an adjusted comparison. For the adjusted comparison, we use a simple linear regression formula to adjust for weather and we normalize to square footage to account for any changes in facility area. Adjustments for changes in operating hours, plug loads, etc. are done on an end use by end use basis and these adjustments are only made if they will have a significant impact on the bills.

During the audit, if the Client already knows of facility use changes, McKinstry can account for these changes in the audit baseline, if directed to do so. For instance, if it is known that the square footage served by a boiler will increase a predictable amount, the boilers baseline gas consumption can be adjusted.

For future energy efficiency projects implemented by the Client outside of the ESPC, McKinstry would work to fully understand the nature of each project as well as its predicted impact on building operations and energy use. Since we adhere to a measure-specific approach to our guaranteed savings, the projects would not impact the performance contract unless they directly impacted the measures installed under the performance contract. In situations where the Client measures impacted the energy savings of performance contracting measures, McKinstry would work with the Client to



quantify the impact, and then work towards a mutually agreeable adjustment to the guaranteed savings.

**f. DOLLAR SAVINGS CALCULATIONS** - McKinstry understands that rates are volatile, and the right rate to apply is not always the current rate. We will work with the Client to determine which rates to apply to minimize the risk and ensure the estimated savings reflect the best estimate of what rates will be during the payback period. There are also some cases where current rates reflect a temporary peak and, in these cases, we will recommend using recent historical average rates rather than the current rate. Ultimately, McKinstry has no control over the rate changes that a particular utility may apply. Subsequently, we will work closely with the client to ensure that all parties are comfortable with the rates applied to assign dollar values to the savings. McKinstry is familiar with the complexities of utility rate schedules and our dollar savings calculations account for these complexities. Here are some considerations that McKinstry takes into account when assigning rates to the savings:

1. Electric rate schedules normally charge a separate demand (kW) charge. It is common practice to blend the kWh and kW rates into a single rate for calculating energy cost savings. McKinstry does not blend kWh and kW unless specifically requested to do so by the customer - our standard practice is to carry kWh and kW savings separately and to apply the appropriate kWh and kW rates.
2. Most utilities use tiered rates for larger customers where the rate varies based on the usage. It is a mistake to average these tiers because energy savings often only affects the top billing tier for each month. To develop the cost savings, McKinstry determines the proper marginal tier based on historical monthly utility consumption history.
3. For seasonal rates where the rate varies based on the season of the year, an average yearly rate is calculated based on the facilities historical monthly usage profile. If an energy savings measure saves energy primarily in one season, the rate will be weighted appropriately for that season.
4. McKinstry accounts for rate complexities such as ratchet charges, power factor, kVAR, kVARh, state and local taxes if they are not built into the rate, monthly meter charges, conservation charges, minimum consumption requirements, critical demand, firm demand, and time of day cost adjustments.
5. Understanding rates allows McKinstry to identify and recommend opportunities to restructure the rates the customer is on to reduce costs. Sometimes an energy conservation measure necessitates a rate switch since the old optimal rate may not be optimal for the new usage profile.

**g. GUARANTEED SAVINGS CALCULATIONS**-McKinstry staff's more than 20 Energy Engineers and Energy Auditors whose sole responsibility is to calculate both pre and post-retrofit energy consumption values for facility improvement measures. Industry standardized practices are used throughout this process and peer review risk review meetings are employed to identify any potential inaccuracies. Additionally, this staff has access to McKinstry's in-house mechanical, plumbing, and electrical designers who provide an early assessment of project viability that assists with substantiating constructability success before preliminary energy savings analysis are completed.

Preliminary energy cost savings are calculated utilizing a baseline energy analysis model with new input variables and logic to reflect the post-retrofit operation of the systems. The post-retrofit input variables are based on the new equipment's performance specifications and the performance criteria that are specified for the revised system conditions. 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.

Once the baseline has been established for a particular initiative, the Energy Engineer will progress the energy savings calculations in methodical steps. The following outlines the typical progression of the energy savings calculations:

1. Preliminary - Early in project conceptual phase the savings estimates are based on a detailed Utility Data analysis on accepted rule of thumb for a particular initiative.
2. ROM (Rough Order of Magnitude) - During ROM stage, the calculations are developed using generally accepted engineering standard calculations and are based on future operating assumptions versus the baseline. At this level, we consider the energy calculation to be within +/- 15% of guaranteed level.
3. Final Calculations - Based on extensive field logging and measurement of equipment operation, detailed weather data, as well as input from owner staff on final sequence of operation that can be achieved.



4. **Guaranteed Calculations** –Based on Final Calculations and the level of control to which we can assure that energy savings can be realized guarantee levels are set.

Specific formulas that are used in energy savings calculations depend on the complexity of the system that is being analyzed. Once an overall project scope of work materializes, McKinstry ensures that a holistic approach of analyzing whole systems in order to ensure that interaction with other systems within the building is accounted for.

McKinstry's Energy Engineers use a combination of commercially available calculation programs such as Trace 700, Watergy, eQUEST, Utility Company VFD and motor calculation tools, as well as many spreadsheet tools that have been developed in-house by McKinstry. Having many calculation tools available allows the energy engineers to choose the right calculation tool for the specific system type, retrofit type, and customer specific requirements being studied. In all cases, assumptions are kept to a minimum for investment grade analysis. For preliminary calculations, assumptions are identified and flagged for further investigation in the final analysis used to determine the guaranteed savings. The tools used to verify and eliminate assumptions include more detailed site visits with additional trend-logging and measure specific detailed collection data sets.

*Trane Trace 700 & DOE Simulation Software (eQUEST)* - In situations where there is extensive interaction between different measures, McKinstry can make utilize modeling software to calculate energy savings.

*Itron and Metrix™ Utility Accounting Software* - We make extensive use of Itron and Metrix™ utility accounting software for correlation of data to weather or other varying parameters that influence energy savings.

*Universal Translator* - The Universal Translator (UT) is software designed for the management and analysis of data from loggers and trends from building management systems. The UT is ideal for large data sets from multiple sources. The software includes time correction features including the ability to synchronize data sets with different recording rates. The UT has data filtering mechanisms and a flexible graphing tool. UT analysis routines have been developed for equipment run-time, zone temperature variation, air-side economizers, and lighting controls. A routine that calculates statistics for each data set is available, and the UT has the ability to export data into other spreadsheet or analysis tools if necessary.

*Custom Worksheets* - Custom worksheets developed in MS Excel are utilized in situations where the energy savings calculation does not warrant simulation software. Two notable spreadsheet tools that McKinstry has developed in-house are our lighting tool and our standard bin calculation.

The energy engineer staff has over \$250K worth of logging equipment to deploy on projects to gather field measurements and trend data. The following provides a summary of some of the tools McKinstry utilizes for collecting and analyzing data:

*Electrical Logging Meters* - Several different meters are available depending on the information to be gathered. Fluke hand held meters are generally used for gathering data such as amps, voltage, wattage on motors and smaller equipment, and lighting circuits. For information on larger loads that are found with chilled equipment and main distribution systems, we utilize Elite loggers made by Pacific Electronics.

*Micro-Data Loggers* - McKinstry will utilize HOBOTM loggers extensively for recording of outside and indoor air temperatures, light levels, humidity levels, and motor on/off states.

*Energy Management Control Systems* - Significant data can be gathered utilizing the trending and storage capabilities of both existing and new energy management systems. Time of day and holiday schedules, temperature and pressure set points and trends, flow measurements, and other dynamic information are usually available through these systems.

*Indoor Air Quality Logging* - CO2 monitoring devices are sometimes used as an indicator of existing indoor air quality levels.

*Ultrasonic Meters* - McKinstry has available ultrasound meters for use in determining flow rates of hydronic equipment. This equipment is often used to detect leaks in systems or diagnosing the operation of steam traps by measuring make-up water supplied to boiler system(s).



*Flow Measurement* - McKinstry has available air and water flow measuring equipment, which supports our balancing activities. Alnor manufactures the air and water measuring equipment. All tools are calibrated at regular intervals and are certified to meet NITS standards.

*Remote Monitoring Station* - McKinstry has staff dedicated to site information gathering, performance assurance, and commissioning of projects. Our remote monitoring capabilities allow us to dial directly into many Building Automation Systems to collect necessary data.

*Sample Calculations* - Due to page limitations and the complex nature in the calculations McKinstry provides to our clients, the sample calculations can be found in the attached Willamina PDP sample under Appendix C, which will provide detailed calculations for many types of energy conservation measures that we assess.

- h. TRAINING PROVISIONS** - McKinstry has a philosophy that training is a critical component on all projects, large and small. If people do not know how something works, chances are, it will not be operated correctly which could potentially impact energy savings. With the complexity of various systems today, it is important that the operational and maintenance staff have a thorough understanding of all systems. We view training as a comprehensive program providing a pathway from the construction close-out phase of the project to stabilized operation by client staff. This pathway consists of many key deliverables that McKinstry provides throughout the course of a project, which are summarized below:
- **On-Site Training** - McKinstry will host onsite training sessions for all appropriate aspects of the project. McKinstry will lead the training sessions and any related client personnel will be encouraged to attend. At the training sessions, McKinstry will review detailed instructions for operations. Manufacturers training representatives will also attend these training sessions to impart factory knowledge. These training sessions will be recorded in an archive format for future use.
  - **Standard Operating Procedure (SOP)** - McKinstry will develop a formal SOP process to include typical procedures for Mechanical, Electrical, and Controls measures installed under the project. SOP outline will include normal, emergency, and maintenance procedures.
  - **Operations & Maintenance (O&M) Manuals** - McKinstry develops thorough O&M manuals detailing all of the specific equipment installed under the project with information pertinent to the project.
  - **Vendor Information** - For all materials and equipment utilized on the project, McKinstry provides contact information for appropriate vendor representatives.
  - **As-Built** - Detailed as-built drawings are developed for all of the trades on each project and combined into a comprehensive set of record drawings that depict the actual work completed.
  - **Maintenance Planning and Strategy** - As part of the training program, McKinstry provides instruction on a proper maintenance plan and strategy. While operating the system is important, it is equally important to know how to maintain the system.
  - **Warranty Management** - As with any training program, it is essential to archive the critical information in a format that makes information easy to find, access, and use. McKinstry believes the best way to manage this process involves 'hard' copies as well as 'electronic' copies of information. To handle the electronic information, for all projects, McKinstry creates a web-based warranty management database, associated with the equipment database, called "InfoCentre". Through this system, training and close-out documentation is converted to electronic format and placed on a secure network operated by McKinstry for client use. As well as all terms and conditions for each warranty and associated vendors/contact information are uploaded to InfoCentre for easy client access and management.
  - **Communication Protocols** - Setup a communication protocol including procedures for event escalation, notification, response, documentation, and follow-up.
  - **Emergency Planning** - Assist the staff in designing any emergency response processes and procedures impacted by the project.

Prior to the start of any training program, McKinstry develops a complete list of the training activities proposed. This list is reviewed by the client and modified if necessary to incorporate other client specific desires, leading to a final training manual. After the training manual is finalized, McKinstry engages as many staff personnel as appropriate in the actual training activities. Typically, this may include building operators, maintenance personnel, and other staff members. We encourage early involvement so that facility personnel can gain an informal knowledge of the system and operation, prior to formal training activities. This involvement gives them a comfort level with the system, leading to confident operation of the systems in the future.



- i. **M&V METHOD AND SAMPLE** –Much in the same way that commissioning starts at the beginning of the project, so does the implementation of the measurement and verification (M&V) process. As the commissioning plan is critical to the proper application of design intent into the project development, M&V is the critical development and management tool that defines the client agencies’ baseline, verifies the post-installation conditions and energy use, and provides both the client agency and the ESCO the assurance that the savings are being generated as guaranteed.

Our Methodology - The methodologies that have been developed by the Federal Energy Management Program (FEMP) document titled “M&V Guidelines: Measurement and Verification for Federal Energy Projects, Version 2.2” as based on the IPMVP will be applied to the projects identified under this contract to verify savings. The FEMP protocol provides the general approach to M&V for typical Energy Conservation Measures (ECMs). A more specific approach for proposed ECMs at any specific site is determined by the availability of site utility data, utility billing histories, sub-metering data, and the amount of savings to be guaranteed. Taking these site-specific situations into consideration, the detailed M&V approach developed during the Investment Grade Audit (IGA) will be developed in concert with the client agency and McKinstry.

The major areas of concern for any ESPC project can be addressed by the development of the risk/responsibility matrix. The development of this matrix is accomplished in concert with the client agency and serves to ensure proper application of M&V methods, identify areas of risk or concern, and build complete agreement. Understanding and application of the Risk/Responsibility Matrix will allow the development of the M&V Approach (consistent with the FEMP M&V Guidelines) so that the M&V plan for each measure provides:

- Properly defined energy and O&M baseline conditions
- Verifies that the equipment has the potential to perform as guaranteed
- Feedback on short and long term performance of conservation measures
- Identifies activities such as physical assessment of equipment changes

Our standard M&V options and applications are provided in the following table. The M&V options proposed by McKinstry consider the balance between savings risk versus M&V costs to provide optimal return and payback to the agencies.

M&V Option	How Savings Are Calculated
<b>Option A</b> —Based on measured equipment performance, measured or stipulated operational factors, and annual verification of <i>potential to perform</i> .	Engineering calculations with some measured data
<b>Option B</b> —Based on periodic or continuous measurements taken throughout the term of the contract at the device or system level.	Engineering calculations using measured data and comparison of logged data.
<b>Option C</b> —Based on whole facility-level utility meter or sub-metered data adjusted for weather and/or other factors.	Analysis of utility meter data
<b>Option D</b> —Based on computer simulation of building or process; simulation is calibrated with measured data.	Comparison of different calibrated models

Services Required & Staff Responsibility: McKinstry will provide all services needed to measure the agreed upon criteria for substantiating the guaranteed savings for the energy efficiency measures being installed in the scope of work for the project. Typically, these services include logging of installed equipment, trend analysis, updating of utility rates used for energy savings calculations, and confirmation of proper use of equipment. McKinstry will also provide the client a report that will document the actions performed and the results. Please refer to Appendix E for Measurement and Verification Report samples.

- j. The client’s responsibility will be to maintain the installed equipment to the manufacturer’s recommendations. McKinstry does not require that the client only run the equipment to the specified parameters outlined in the Project Development Plan. For example, if a client wants to run their lighting system longer or shorter after an installation, the choice is theirs to make. All McKinstry would require is notification if substantial changes have been made to the agreed upon energy savings criteria during the Measurement and Verification period. Please see Appendix E for our sample Measurement and Verification Reports.



**k. COST SAVINGS GUARANTEE CALCULATIONS** – Our philosophy as a company is built around openness and full transparency to ensure a long-term partnering atmosphere. Due to the fact that our mark-ups are clearly defined and in line with our profit motive, it becomes common practice for us to openly share the project financial performance with our clients on a regular basis. Our project team is equipped with the accounting procedures and tools necessary to provide clear and accurate financial performance at all points in the project. Several key aspects of financial performance procedures are as follows:

1. We establish construction-grade estimates - not engineering estimates. This allows for accurate project costs at the beginning that we will provide as a guaranteed project cost.
2. We establish discrete cost codes for nearly every element of an energy conservation measure and overall project, providing our clients and us the visibility to most all cost elements. This procedure also establishes the baseline cost of a project.
3. At minimum, we expect our project team (lead by our project director) to report financial performance against the established baseline cost on a monthly basis. This meeting is a monthly internal meeting with our CFO and other corporate officers and occurs at the end of every month.
4. The frequency of reporting financial data to our clients is driven by our clients. Normally, we report on a bi-weekly or monthly basis, while some clients only request quarterly updates.
5. More specialized financial reporting on a specific topic is also normal; therefore, we will customize our financial reporting to fit the needs of our clients. For instance, some clients like to track the percentage and dollar amount of work subcontracted to local contractors, while others are more interested in the procurement of major equipment.
6. At the end of a project, we will reconcile all actual project costs against the initial guaranteed project cost and return excess construction savings back to the owner.
7. We retain all financial records for three years, or as directed by the client, for potential third-party financial auditing.

**Guaranteed Cost Provision** - McKinstry 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. We understand that clients are purchasing projects that have a specified minimum return on investment, and therefore the cost to the client cannot increase through the project implementation. If the project scope remains the same, and yet the project cost increases, then McKinstry will bear the burden of those cost increases and shelter the client. If the project cost increases outside the control of McKinstry, 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 guaranteed maximum price.

**Excess Savings Documentation** - Construction savings are returned to the client. Again, using our accounting tools and financial measurement and reporting, we will be able to clearly and accurately report the financial performance of a project to you. We will also provide subcontractor and vendor invoices to further substantiate the project cost that is being reported. At nearly the end of a project, we are able to identify potential excess construction cost savings that would revert back to the client. We will provide a fully substantiated end of project invoice that has all documentation necessary to expose construction costs for review and approval by the client. The contract value is then adjusted to reflect the end of the project cost, with excess savings being retained by the owner in the form of a reduced project cost.

**I. ESCO FEE CALCULATION**–McKinstry has the most competitive mark-up structures in the industry. Our philosophy has always centered on developing long-term partnerships with our clients. As such, our interest is not focused on developing confusing fee or cost models. We believe that fair and open pricing is needed to develop a level of trust and transparency that will benefit all parties through a long-term relationship. McKinstry is also unique in that our fees are flexible and we strive to create value for our clients by adapting our fees to make projects work. We have assessed the needs of clients and lowered our fees to ensure that much needed retrofits can be implemented. Our commitment to our clients is to exhaust all avenues of funding and value engineering before removing a project from the list. The table below shows our fee structure.

Fee	Typical Fee Range	From
Bond	1%-2.5%	Construction Cost
Design— Mechanical/Plumbing/Electrical	6%-12%	Construction Cost
Design—Lighting	4%-8%	Construction Cost
Construction & Project Administration	4%-10%	Construction Cost



Overhead & Profit	17%-20%	Construction Cost
Project Contingency	5%-20%	Construction Cost
Energy Guarantee Fee	0.0%-1%	Construction Cost
Commissioning Fee	1%-5%	Construction Cost
Training Fee	0%-5%	Construction Cost
Measurement and Verification	3%-10%	Energy Savings
BETC Application Fee	0.75%	Construction Cost

Most publicly held ESCO's will charge their fees as a percentage of the overall project, which is called gross profit, and their targets are typically much higher for areas such as overhead and profit than McKinstry's. For instance, our average of 18.5% overhead and profit markup on raw construction costs translates to a gross profit of approximately 12.3%, which is far less than publicly held ESCOs.

Our fees are calculated based first on the scope of work that is being implemented. This is done in an "open book" and transparent fashion. Before we ask our customers to sign a design and implementation contract, we expect that they have a thorough understanding of every fee that is being applied to the project and that it has an appropriate and justifiable task associated with it. We will provide backup documentation for each of these fees in order to gain this trust with our customers. As an example; for the design fee, we will typically have an hourly breakdown estimate of the necessary delivery of the tasks associated with designing the scope of the projects identified. We share this hourly cost analysis breakdown with our clients in order to gain the trust that we are charging appropriately for the task assigned. Additionally, in some cases, we may have actual quotes from vendors that we can show that back up the open-book pricing of our sub-contractors and sub-vendors. We do not hide any fee.

**m. OPEN BOOK PRICING** – McKinstry is not an equipment manufacture company and we do not have an R&D budget associated with product development. Therefore, we do not have to carry the overhead coverage for a national "home" office or product R&D. This allows McKinstry to be one of the most cost effective firms in the region. This fact allows us to be fee flexible and provide an open-book disclosure. Our open-book pricing allows our clients to see and receive all levels of project costs and fees. The following is an outline of our open-book pricing approach:

- Costs Presented in Open-Book Format - The integrated delivery method is designed to ensure that competitive pricing of projects and initiatives is maintained. We will use an "Open-Book" pricing agreement with all projects. This pricing format allows the client to review our actual invoices, direct costs, overheads, mark-ups, discounts, and labor rates.
- Savings Returned to Clients - 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 client. We do not advocate a shared savings agreement because that could artificially influence the GMAX, which is not in the best interest of the client. Our focus is to achieve maximum value for the estimated budget.
- Final Budget with No Changes - When we submit a final proposal, a final budget and project maximum construction cost will be developed with input from all other team members. Once this budget and scope of work has been confirmed and approved, the owner would not expect any change order requests from McKinstry unless there has been a change in scope or client delays that result in documentable cost impacts. Given the in-house estimating experience that McKinstry has, this final budget can be developed and guaranteed at an early state in the process. However, the client can elect to add to the scope of work, at which time scope of work and associated cost estimates will be agreed upon.

**n. BILLING AND INVOICES** – McKinstry's billing procedure is designed to be consistent, clear, accurate, and informative while at the same time remaining concise and scalable. The process begins during the pre-construction phase when the project team agrees on the billing schedule and the breakdown of the estimate. The billing schedule will coincide with the project schedule in order to lay out the framework for all billings through to the completion of the project. This schedule is used to clearly communicate the expectations of all parties involved prior to the start of the project. The breakdown of the estimate ties directly into our open book pricing practice and makes it easy to track cost from the budget phase throughout construction. The basis of McKinstry's billing cycle is typical to the construction industry. The following details our billing process:



1. On the 20th of the month, McKinstry requires that all consultants, sub-contractors and suppliers submit their invoices to our office, forecasting through the end of the month.
2. These subcontractor invoices are then checked for accuracy and incorporated into the project invoice.
3. By the 25th of the month, McKinstry has the invoice prepared and sends a draft to the owner.
4. McKinstry then recommends a short meeting to be held around the first of the month, either in person or via conference call. During this meeting, the team will review the invoice, discuss the status of the project, and promptly answer any billing questions that may arise.
5. Once the client is completely comfortable with the invoice, a final invoice is submitted for processing.

The actual invoice is comprised of four major components, described below:

1. Cover Letter: The first component is the cover letter, which identifies the project, the period included, a brief summary of the work completed during the period as well as the total amount of the request.
2. Invoice: This document summarizes the project's financial billing information, including the invoice for the period. It also includes any relevant information necessary for the client's internal auditing process so costs can be attributed to specific budgets, accounts, etc.
3. Schedule of Values: This document shows the various items that comprise the overall cost of the project. The format details all of the various costs for the project.
4. Supporting Documentation: These documents include any information that supports the invoiced costs, such as invoices that McKinstry has received from our subcontractors. The subcontractor invoices typically also have a schedule of values by trade that provides additional detail for the project.

Our billings are assembled in a consistent format that will make the review and approval of the invoice a quick process. Each subcontract invoice utilizes a standard cover sheet where the total is clearly indicated. This standard cover sheet is also numbered in order to allow the person reviewing the invoice to quickly identify where the subcontractor's total is carried forward onto the schedule of values. Understanding how the client reviews and processes invoices have played a substantial role in how our invoicing procedure was developed and will continue to drive future revisions. Please see Appendix F for a sample invoice.

- O. ECM VENDORS** –McKinstry always considers vendor and product neutrality to be crucial in any ESPC project that we implement. McKinstry does not represent a product line (either HVAC related or energy management control system related) and will always remain vendor and product neutral, which is in our clients' best interest. We do not use energy projects as another outlet to sell our products or services.

McKinstry shows vendor and product neutrality from the earliest stages of any work we perform. We involve our clients in decisions regarding products, vendors, sub-contractors and consultants, and recommend the most logical and cost effective manner to make selections. Many factors are taken into consideration when making recommendations, such as the existing system locations, client preferences for products or vendors, standardization and consistency of products, maintenance of equipment, ease of use, life of equipment, and prior experience with vendors. Where the lack of any existing benchmark is in place for selection, we will make recommendations based on our vast experience with products and vendors, the type of application it will be used for, equipment lifecycle cost analysis and the other factors listed above. However, the final decision of products and vendors will always be our clients.

In the area of energy management control systems, we design and estimate the optimum solution and create open competition among control contractors for products and installations. No expensive ongoing service contracts are required. In the case of mechanical installations, McKinstry Mechanical can perform this work, but we do not require our clients to use us or even have us on their bidder lists. When McKinstry Mechanical has been selected to perform work, McKinstry Mechanical has put certain procedures in place to demonstrate the value of performance to our clients. We will always provide open book pricing for any work that we have been selected to perform, with construction estimates to back up the pricing. This allows the client to see the total costs for the project and leaves no room for doubt or ways to "hide profit". In cases where we have performed the mechanical work ourselves, we have had clients check with independent engineering firms and mechanical contractors to see if they were getting the best value for their money. In each case, it was determined by the client that the work performed by McKinstry Mechanical would have seen the same cost or higher costs from other



mechanical contracting firms. Our self-performed mechanical work in the past has accounted for less than 3% of the overall work done on ESPC projects. Of that 3%, the client's reason to use McKinstry was either to fast track a project installation or through a competitive bid process against other mechanical firms.

McKinstry also has in-house engineering and professional services expertise to provide solutions that will meet the first cost and long-term life cycle operating needs of the client. Additionally, our design 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.

- p. PROVISIONS OF INSURANCE AND PERFORMANCE/PAYMENT BONDS** -McKinstry maintains a unique insurance program specifically tailored to today's design/build risks. Most contractors performing on design/build projects carry insurance limits that range from \$1,000,000 to \$2,000,000 for professional liability. Most of these policies include defense costs within the limit of liability and this does not leave much in the way of limits available to pay claims in the event of a design error. In addition, specialty insurance carriers underwrite most of these policies, often not the same underwriter as on the contractor's general liability policy. Since work performed includes design and construction, this can result in disputes as to which policy and which insurance company should pay when a claim arises. In ESPC work, the distinction between a general liability claim versus a professional liability claim is often blurred creating delays in resolution of the claim. Our carrier has A.M. Best's highest possible rating (A++=Superior) and the largest capacity rating (XV=\$2 Billion plus available capital) insuring they have the financial ability to handle any claim.

Our insurance program is carried by the biggest and best carriers and is specially geared to provide for limits far above those carried by our competitors. Our general liability and professional liability insurance policies are with the same insurance company. If we have a claim arise that potentially is covered by both policies, there is only one insurance company providing coverage, thereby avoiding the question of who pays. In addition, our umbrella policy covers both general liability and professional liability, providing limits far beyond those typically required in contract documents.

*Payment Bonds* - McKinstry can provide a performance bond for our phase of the work, if required. Premium would be based on contract amount. McKinstry works diligently with Traveler's Insurance to maintain a bonding capacity far and above that of our competitors. Currently, our per project capacity is \$40,000,000, with a company maximum total at \$100,000,000.

- q. PROVISION OF WARRANTIES** - McKinstry uses the following points as the minimum of the nature and terms of all warranties:
- McKinstry guarantees its installation and workmanship for 1 year against latent defects.
  - Equipment typically carries the manufacturer's warranties for 1 year, but some equipment may be available for longer periods.
  - Controls carry a warranty for one year and set point adjustments will be provided without charge for a period of thirty days after acceptance.
  - Balancing work will be certified at final acceptance with minor airflow adjustments made, free of charge, for a period of thirty days after acceptance.
  - Arrangement for extended warranties can be accommodated upon request.

- r. SUSTAINABILITY**-McKinstry is committed to sustainable design and construction. We believe in developing and executing a comprehensive waste management plan, and seek 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.

*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 beginning any project, McKinstry identifies all of the material to be removed, the disposal method, and the handling procedure. While most of the materials are typically metal or glass, it is common to 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 system(s).



*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.

*Project Recycling, Jobsite:* McKinstry's cleanup crews will 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.

*Equipment Packaging Strategies:* McKinstry 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.

