



STATE OF UTAH - DEPARTMENT OF ADMINISTRATIVE SERVICES
Division of Facilities Construction and Management

DFCM

Request for Proposals for Energy Performance Contracting Services

SINGLE-STAGE COMPETITION

Value Based Selection Method

September 25, 2008

WEBER STATE UNIVERSITY OGDEN, UTAH

DFCM Project No. 08304810

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Current copies of the following documents are hereby made part of this Request for Proposals for qualified Energy Services Companies (ESCOs). These documents are available on the DFCM web site at dfcm.utah.gov/const_reference or are available upon request from DFCM.

1. CADD Criteria dated August 1, 2001
2. DFCM Design Criteria dated March 15, 2006
3. General Conditions dated May 25, 2005
4. Supplemental General Conditions dated July 15, 2008
5. Building Board Policy Regarding Enhanced Accessibility to State Facilities

In addition, the following documents, available on the Weber State University (WSU) web site at www.weber.edu/facilities or upon request from WSU Facilities Management, are also made part of this Request for Proposals.

6. WSU Construction Standards for Architects, Engineers and Contractors dated August 2004

The Supplemental General Conditions (4) supersede General Conditions (3) in the event of conflict. DFCM Design criteria (2) supersede WSU Construction Standards for Architects, Engineers and Contractors (6) in the event of conflict.

Notwithstanding any of the above, the most stringent provision of any of these documents shall apply.

NOTICE TO ENERGY SERVICE COMPANIES (ESCOs) VALUE BASED COMPETITION

Weber State University (WSU) with the assistance of the State of Utah - Division of Facilities Construction and Management (DFCM) intends to contract with an Energy Service Company (ESCO) to perform energy performance contracting services at WSU under the State's value based selection system.

WSU and DFCM are seeking services of interested Energy Service Companies (ESCOs) to provide comprehensive Energy Performance Contracting (EPC) services, as described in this Request for Proposals (RFP), to identify and implement capital improvements that reduce energy and related costs such that annual cost savings are applied against project financing costs and other annual payments for improvements at WSU's facilities.

Proposal documents, including the selection requirements and the selection schedule, will be available on Thursday, September 25, 2008 in DFCM's office located at State Office Building Room 4110, PO Box 141160, Salt Lake City, Utah 84114-1160, telephone (801) 538-3018 and on the DFCM web page at <http://dfcm.utah.gov>. For questions regarding this project, please contact John Harrington at (801)538-1477. No others are to be contacted regarding this project.

The procurement shall be under the Value Based Selection RFP method. All firms must attend the MANDATORY pre-proposal meeting and site visit. The MANDATORY pre-proposal meeting and site visit will be held at: Weber State University Facilities Management Building, Room 101, on Tuesday, October 7, 2008 at 9:00 AM

Proposal documents, and all submittals required by this Request for Proposals, must be submitted by 4:00 PM on October 30, 2008 to DFCM at State Office Building Room 4110, PO Box 141160 Salt Lake City, Utah 84114-1160. Note: Submittals must be received by the specified time. Late submittals will not be accepted.

Bonds will be required for this project at contract execution. In order to be considered for selection, firms must document capability of obtaining payment and performance bonds from a bonding company acceptable to DFCM.

The Division of Facilities Construction & Management reserves the right to reject any or all proposals or to waive any formality or technicality in any proposal in the interest of the State.

**DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
MARLA WORKMAN, CONTRACT COORDINATOR
State Office Bldg. Room 4110, PO Box 141160 Salt Lake City, Utah 84114-1160
Telephone: (801) 538-3260**

**REQUEST FOR PROPOSALS
FOR
ENERGY PERFORMANCE CONTRACTING SERVICES**

Developed by:



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**REQUEST FOR PROPOSALS
FOR
ENERGY PERFORMANCE CONTRACTING SERVICES**
State of Utah
Division of Administrative Services
Division of Facilities Construction and Management
In conjunction with
Weber State University

I. INTRODUCTION

The State of Utah, Department of Administrative Services, Division of Facilities Construction and Management (DFCM) in conjunction with Weber State University (WSU) seeks proposals from interested Energy Services Companies (ESCOs), for providing comprehensive Energy Performance Contracting services, as described in this Request for Proposals (RFP), to identify and implement capital improvements that reduce energy and water use and related costs such that annual cost savings are applied against project financing costs and other annual payments for improvements at Weber State University's facilities. These services shall be in accordance with all applicable laws, codes and standards customary in the industry.

Weber State University with the assistance of DFCM intends to contract with an Energy Services Company (ESCO) to perform energy performance contracting services at Weber State University under the State's value based selection system.

All contract work performed and financed by ESCOs must comply with all provisions contained in Utah Code related to the State Building Energy Efficiency Program.

Proposals submitted in response to this Request for Proposals will be evaluated and an ESCo will be selected to conduct an Investment Grade Audit and provide Project Development and documentation for potential implementation of energy and water efficiency measures under a subsequent Energy Performance Contract (EPC). Additional details describing the process, scope of work, deliverables, and roles and responsibilities of DFCM, WSU, and the selected ESCo are described in the Investment Grade Audit and Project Development Contract and Energy Performance Contract documents that are included as Attachments to this RFP.

An ESCo will be selected using the Value Based Selection method consisting of the following:

- A. Review responses to this RFP:** The Selection Committee will review the qualifications of each ESCo based on the criteria described in this RFP.

B. Oral Interviews: Each qualifying firm will be interviewed to provide an opportunity for the Selection Committee to query the proposal, qualifications, implementation methodologies, financing options, and other pertinent elements related to an Energy Performance Contract. Each interview may be recorded.

The interview provides an opportunity for the ESCo to address questions and fully describe how the approach to this project satisfies the selection criteria. ESCo representatives at the interview should include individuals who will be responsible for contract negotiation, engineering and design, construction management and Performance Period services. These items will include, but not be limited to the following topics:

1. An expanded evaluation of each firm's qualifications;
2. A review of each firm's ability to provide/assist with financing;
3. Documentation of the firm's ability to provide Payment and Performance bonds to ensure that the work will be performed and completed per the terms and conditions of the performance contract;
4. An assessment of each firm's proposed maximum "markups" for, overhead, and profit and maximum fees for, construction and performance period services as shown in the tables included in this Request for Proposals;
5. An examination of each firm's management plan describing in detail how the firm will implement Energy Conservation Measures (ECMs) and minimize risks to DFCM and WSU.

C. Contracts: Contracts originating from this procurement will be executed with DFCM and Weber State University. DFCM will retain oversight, project management and monitoring responsibilities. Weber State University has engaged an independent consultant to provide assistance and support with the EPC process and to review information and data supplied by the ESCo.

II. OVERVIEW

DFCM and WSU seek to maximize energy, water and other cost savings in order to pay for facility upgrades and services.

It is intended that capital improvements will be financed through an Energy Performance Contract (EPC) which:

- Incurs no initial capital costs (with option for WSU to provide initial capital for work that cannot be financed under the energy contract if desired).
- Achieves significant long-term cost savings.
- Provides a guarantee for energy and cost savings throughout the term of the contract. (WSU retains the option to eliminate the guarantee at any time during the Performance Period).
- Maintains or improves consistent and reasonable levels of occupant comfort.

- Maintains consistent levels of building functionality.
- Creates no extraordinary maintenance needs.
- Captures additional benefits that may directly result from energy and water conservation related services and capital improvements, such as environmental protection, hazardous materials disposal or recycling, improved occupant comfort, reduced maintenance needs, improved indoor air quality, additional building improvements, etc.

For consideration, each responding ESCo must have the technical capability to address a broad range of systems including, but not limited to:

- Mechanical Systems. Heating, ventilating and air conditioning (HVAC) systems, energy management and control systems, domestic hot water systems, distribution systems, etc.
- Plants. Distribution systems, cogeneration systems, etc.
- Lighting systems. Indoor and outdoor lighting systems, lighting controls, day-lighting strategies.
- Building envelope systems. Windows, insulation, weatherization, etc.
- Specialty Systems. Laundry equipment, kitchen equipment, pool systems, renewable energy systems.
- Water and Sewage Systems. Automatic controls, low-flow faucet aerators, low-flow toilets, cooling tower modifications, pool covers, and irrigation system controls or modifications.
- Investment Grade Audit. To provide full consideration of cost effective energy and water conservation opportunities.

III. BUILDINGS AND FACILITIES

Facilities identified for this work are the Weber State University Ogden and Davis Campuses. WSU reserves the right to expand or reduce the scope of work, or conduct work in phases. Additional buildings and facilities may also be included in the future under the same contract.

IV. RFP, CONTRACTING, AND IMPLEMENTATION PHASES

This Energy Performance Contract process will have four general phases as described in the paragraphs that follow.

A. RFP Phase:

Selection will be under a Value Based Selection Process as described in this Request for Proposals. Each prospective ESCo shall submit a written proposal. A selection committee will evaluate the written proposals based on the criteria identified in Attachment D: Selection Criteria. ESCos will be interviewed by the selection committee and ranked. The selection committee will recommend to DFCM and WSU that the firm achieving the highest total score

above eighty five (85) points be selected to perform the Investment Grade Audit and Project Development for potential implementation of an Energy Performance Contract. Final reference checks will be conducted for the top-ranked ESCo prior to making the final selection. Award will be made to the selected ESCo subject to successful contract negotiations.

B. Investment Grade Audit and Project Development Phase:

The selected ESCo will execute an Investment Grade Audit and Project Development Contract with DFCM and WSU. This contract shall be in the form shown in Attachment E to this Request for Proposals and will set specific expectations, provide a detailed process for the ESCo, DFCM and WSU, and define the audit deliverables. Note that the document included in Attachment E is still undergoing legal review by the State and there may be some changes based upon that review.

The selected ESCo will complete a detailed Investment Grade Audit of WSU's facilities that identifies and evaluates energy, water, and other savings opportunities, describes current use base-lines, and defines the proposed project scope, cost, savings and cash-flow over the proposed financing term. A project proposal will be developed by the ESCo to present aggregated measures that can be financed through guaranteed savings and establish the basis for an Energy Performance Contract to follow.

C. Construction/Implementation/Financing Phase:

Upon satisfactory completion of the Investment Grade Audit, DFCM and WSU will have the option to negotiate and execute an Energy Performance Contract (EPC) to implement the recommended project. If an Energy Performance Contract is not entered into after completion of the Investment Grade Audit, the ESCo will be compensated for costs incurred during the Investment Grade Audit in accordance with the terms of the Investment Grade Audit and Project Development Contract.

The EPC shall be in the form shown in Attachment F to this Request for Proposals and will define the final agreed upon scope of work and all its associated costs and responsibilities between the ESCo, DFCM and WSU. Details regarding the exact improvement measures, their associated equipment and labor costs, and all guaranteed energy cost savings will be provided. A separate financing agreement will be developed including ESCo payment schedules and lender financing terms and schedules. Note that the document included in Attachment F is still undergoing legal review by the State and there may be some changes based upon that review.

Upon execution of the Energy Performance Contract, the ESCo will proceed to final design, construction, and commissioning of the improvement measures. Services may include but are not limited to the following:

1. Design services.
2. Equipment procurement and purchasing.
3. Construction management.
4. Hazardous waste disposal or recycling.
5. Commissioning of installed equipment and systems.
6. Financing capability or ability to arrange financing.
7. Retro-commissioning services.
8. Capture of utility financial incentives.

D. Performance Period:

The Energy Performance Contract Performance Period commences upon construction completion and acceptance by DFCM and WSU. The Energy Performance Contract will include a number of negotiated services the ESCo will provide until the end of the contract including but not limited to measurement and verification of savings persistence, the savings guarantee, staff training, and, possibly, contract maintenance services. Services may include but are not limited to the following:

1. On-going operations and maintenance for all improvements.
2. Staff training on routine maintenance and operation of systems.
3. Training of occupants.
4. Performance and cost guarantee of savings.
5. Monitoring and verification for measurement and reporting of the performance and savings from improvements.
6. Analysis and application for Energy Star Label.
7. Monitoring and reporting of emissions reductions.
8. Maintaining long-term, high-efficiency performance of buildings.

V. RFP AND PROCUREMENT PROCESS

Weber State University, with the assistance of DFCM intends to enter into a contract with the selected ESCo to provide services as described above. The selection of the ESCo will be made using a Value Based Selection system. The Request for Proposals Schedule in **Attachment B** lists the important events, dates, times and locations of meetings and submittals. The terms of the Request for Proposals Schedule are hereby incorporated by reference and must be met by the responding firm.

A. Request for Proposals Documents for ESCo Team

The Request for Proposals (RFP) for ESCo services consists of all of the documents listed in the Table of Contents and all said documents are incorporated in this RFP by reference. The RFP will be available at DFCM per the attached schedule and on the DFCM web site at dfcm.utah.gov.

B. Communications Regarding this Request for Proposals

All communications with regard to this Request for Proposals will be coordinated through DFCM. All requests for procurement information pertaining to this project shall be in writing and directed to:

John Harrington
Division of Facilities Construction and Management
State Office Building Room 4110
PO Box 141160
Salt Lake City, Utah 84114-1160
Email: Jharrington@utah.gov
Phone: 801-538-1477

DFCM will provide all questions or requests for clarifications submitted, along with responses by posting on the DFCM website no later than close of business on the date listed on the Request for Proposals Schedule in **Attachment B**.

Failure to notify DFCM of any conflicts or ambiguities in this Request for Proposals shall result in items being resolved in the best interests of DFCM and WSU. Only written communications from RFP holders shall be considered. Any modifications to this Request for Proposals shall be made by DFCM via written addendum posted on the DFCM website.

Communications with regard to this RFP shall only be to John Harrington. Communication with other State officials, the Selection Committee, or others associated with WSU with regard to this Request for Proposals is prohibited and may result in the rejection of any or all proposals.

C. Mandatory Pre-proposal Conference

A mandatory Pre-proposal Conference will be held on the date and time and at the location listed on the Request for Proposals Schedule in **Attachment B**. The purpose of the Pre-proposal Conference will be to review the requirements of this RFP and answer questions from ESCOs in attendance. DFCM will issue a conference attendee list and other information on issues discussed at the conference. A representative who will be responsible for preparation of the response to this Request for Proposals from each interested ESCo is required to attend. During the meeting, a presentation will be made to describe the overall scope of work and intended schedule. Interested firms may ask questions and request clarification about the project and the procurement process.

D. Last Day to Submit Questions

All questions must be received at the office of DFCM no later than the time and date listed in the Request for Proposals Schedule in **Attachment B**. Questions must be submitted in writing to John Harrington at DFCM.

E. Submittal Due Dates and Times

All required submittals must be delivered to, and be received by, the Division of Facilities Construction and Management previous to the date and time indicated in the The Request for Proposals Schedule in **Attachment B**. Submittals received after the specified time will not be accepted. Please allow adequate time for delivery. If using a courier service, the submitting firm is responsible for ensuring that delivery will be made directly to the required location.

F. Submittal Delivery Address

Proposals and any supporting material must be in a clearly marked sealed envelope and delivered to the following address prior to the deadline for submission:

Division of Facilities Construction and Management
State Office Building Room 4110
PO Box 141160
Salt Lake City, Utah 84114-1160
ATTN: John Harrington

Proposals delivered via telephone, facsimile, or electronically (e.g. email) are not acceptable for this Request for Proposals.

G. Proposal Instructions

- 1. Quantity of Proposals:** Submit one (1) Proposal clearly marked “Original” and five (5) copies. Submit (1) Sample Energy Audit under separate cover. The required quantity of copies must be submitted for a proposal to be considered responsive to this Request for Proposals.
- 2. Preparation of Proposals:** ESCo proposals shall contain concise responses to satisfy the requirements of this RFP with an emphasis on completeness and clarity. Proposals shall follow the same sequence and outline as the RFP. Prepare proposals to respond to the items in **Attachment C: Request for Proposals Format for ESCo Response**. *Each paragraph or question including associated number shall be restated followed by the company’s response to that item.*
- 3. Pricing and cost data:** All price and cost data shall be entered in the formats provided in this Request for Proposals. By submitting a proposal, the responding

company certifies that its pricing was developed independently and without collusion, communication, consultation, or agreement related to pricing in any manner with other vendors, competitors or public employees. The responding company certifies that its pricing for the Investment Grade Audit and Project Development Phase incorporates all of the processes, scope, requirements, and deliverables of the Investment Grade Audit and Project Development Contract included as Attachment E to this Request for Proposals.

- 4. Proposal Signatures:** Each proposal shall include the complete mailing address of the responding company and shall be signed by an authorized representative of the responding company by original signature with the signer's name and legal title typed below the signature line. Each proposal shall include the responding company's Federal Employer's Identification Number or Social Security Number as applicable.
- 5. Addenda:** All responses to questions and requests for clarification will be in writing and issued as addenda to the RFP. Addenda will be provided to every ESCo. The addenda or notice of the addendum will be posted on DFCM's web site. Any addenda issued prior to the submittal deadline shall become part of the RFP and any information required shall be included in the ESCo proposal. All responding companies shall acknowledge receipt of any addenda to this Request for Proposals. Failure to acknowledge receipt of any addenda may render the proposal to be non-responsive. Changes to this Request for Proposals shall be issued only by DFCM in writing.
- 6. Modification of Proposals:** A responding company may modify a proposal by letter or by FAX transmission at any time prior to the closing date and time for receipt of proposals.
- 7. Withdrawal of Proposals:** A responding company may withdraw its proposal on written request from the responding company to DFCM prior to the closing date and time for receipt of proposals.
- 8. Utah Governmental Records Access and Management Act (GRAMA):** State Procurement Rule R-33-3, as well as the Governmental Records Access and Management Act, Section 63-2-101 et seq., Utah Code Ann. (1953), as amended ("GRAMA") provides that **all** proposals may be disclosed to the public after notice of selection of the successful offeror(s) and after receipt of a GRAMA request. Any person (supplier) who believes that a record should be protected as outlined in R-33-3-204.1, should complete the "Claim of Business Confidentiality" form included in Attachment A to this Request for Proposals. Failure to complete this form will result in disclosure of the firm's proposal if a GRAMA request is received. All material contained in and/or submitted with the proposal becomes the property of DFCM and WSU and may be returned only at the option of DFCM and/or WSU.

H. Statement of Termination or Disbarment Certifications

Each ESCo must submit a certification that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction (contract) by any governmental department or agency. Each ESCo must also certify that neither the firm nor its principals have been terminated during the performance of a contract. If the firm cannot certify these two statements the firm shall attach a written explanation of the circumstances to the firm's reference submittal for review by DFCM.

I. Past Performance Rating & References

DFCM provides performance ratings on each state project. As each DFCM project is completed, DFCM, and contractors evaluate each other and are also evaluated by the using agency/institution. It is the intent of DFCM that this process will be the major source for evaluating past performance. Past performance and reference information shall be submitted in response to this request for Proposals.

J. Agreement to Use Contract Documents

Weber State University, with the assistance of DFCM intends to select an ESCo for project development, implementation, and performance period services associated with an Energy Performance Contract project at WSU. The successful company will be required to enter into a written Investment Grade Audit and Project Development Contract. Upon satisfactory completion of the Investment Grade Audit, DFCM and WSU will have the option to negotiate and execute an Energy Performance Contract (EPC) with the selected ESCo.

Included as **Attachments E** and **F** to this RFP are the forms of the Investment Grade Audit and Project Development Contract and the Energy Performance Contract documents. These documents shall be used for subsequent contracts that will follow the selection of a preferred and most qualified ESCo. Note that the documents included in Attachment E and F are still undergoing legal review by the State and there may be some changes based upon that review.

By submitting the proposal, ESCo agrees to use the Investment Grade Audit and Project Development Contract (**Attachment E**) and the Energy Performance Contract (**Attachment F**) as the documents for these contracts.

Note on **Attachment F**: The final Energy Performance Contract will be developed after the Investment Grade Audit is completed. The scope of work and other project specific information identified in the Investment Grade Audit will be incorporated into the final Energy Performance Contract.

K. Selection Committee

The Selection Committee may be composed of individuals from DFCM, Weber State University and others deemed appropriate by DFCM and WSU.

L. Selection Criteria

In order to have consistency in evaluation of responses to this Request for Proposals and to assure critical elements for WSU are satisfied the Selection Committee has established criteria to be used for evaluation. Criteria and scoring procedures to be used by the Selection Committee in evaluating respondents are listed below. Full descriptions of these criteria are included in **Attachment D** to this RFP.

- 1. Experience and Financial Stability (20 points).**
- 2. Technical Ability and Scope of Services Offered (20 points).**
- 3. Management Approach (15 points).**
- 4. Team Qualifications (30 points).**
- 5. Price/Cost Proposal (15 points).**

Upon review and scoring of proposals from responding companies based on the evaluation criteria in **Attachment D**, and completion of any oral interviews and any adjustments to the initial scoring, the Selection Committee will select a preferred firm. DFCM will advise the preferred firm of its selection and advise firms that weren't selected of the reasons for non-selection.

M. Acceptance or Rejection

The selection committee will recommend to DFCM and WSU that the firm achieving the highest total score above eighty five (85) points be selected to perform the Investment Grade Audit and Project Development for potential implementation of an Energy Performance Contract. DFCM will notify the firm of its selection.

DFCM and WSU reserve the right to accept or reject any or all proposals or part of a proposal; to waive any informalities or technicalities; clarify any ambiguities in proposals; modify any criteria in this Request for Proposals; and unless otherwise specified, to accept any item in a proposal.

N. Design Criteria

DFCM design criteria are located at dfcm.utah.gov or available upon request from DFCM. In addition, WSU Construction Standards for Architects, Engineers and Contractors are available on the Weber State University (WSU) web site at www.weber.edu/facilities or upon request from WSU Facilities Management. ESCo's are to identify instances in which their proposals depart significantly from DFCM or WSU design criteria.

O. Licensure

The ESCo shall comply with and require all of its consultants, sub-consultants, and subcontractors to comply with the license laws as required by the State of Utah.

P. Financial Responsibility of Contractors and Subcontractors

ESCos shall respond promptly to any inquiry in writing by DFCM to any concern of financial responsibility of the contractor or subcontractor.

Q. Time is of the Essence

Time is of the essence in regard to all the requirements of the contact documents.

ATTACHMENT A
IMPORTANT INSTRUCTIONS
TO CLAIM BUSINESS CONFIDENTIALITY

Provided with this Attachment is the Claim of Business Confidentiality Form. To claim business confidentiality, this form must be submitted with the proposal or any other submitted documents. This explanation should be made for each provision, paragraph or section that meets the requirements for a Claim of Business Confidentiality.

Some of the statutory references of the Utah Governmental Records Access and Management Act (GRAMA) have also been provided.

Examples of what may qualify for a Claim of Business Confidentiality: Client lists, non-public financial statements and certain reference information.

Example of what does not qualify for a Claim of Business Confidentiality: the amount of each offeror's cost proposal shall be disclosed after the contract is awarded. [Utah Administrative Code R23-1-15 (9)(b)].

Firms will be notified if there is a concern about a submitted Claim of Business Confidentiality, prior to any public release of such claimed information.

STATUTORY REFERENCES FOR CONFIDENTIALITY CLAIM:

GRAMA, Utah Code Ann., Subsection 63-2-304, provides in part that the following records are protected if properly classified by a government entity:

UCA 63-2-304. Protected records.

(1) **trade secrets** as defined in Section 13-24-2 if the person submitting the trade secret has provided the governmental entity with the information specified in Section 63-2-308 (Business Confidentiality Claims) [NOTE: Trade Secrets in 13-24-2 is defined as:

"Trade secret" means information, including a formula, pattern, compilation, program, device, method, technique, or process, that:

(a) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use; and
(b) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.];

(2) commercial information or non-individual financial information obtained from a person if:

(a) disclosure of the information could reasonably be expected to result in unfair competitive injury to the person submitting the information or would impair the ability of the governmental entity to obtain necessary information in the future;

(b) the person submitting the information has a greater interest in prohibiting access than the public in obtaining access; and

(c) the person submitting the information has provided the governmental entity with the information specified in Section 63-2-308; . . .

[this statute provides further examples of protected records]

UCA 63-2-308. Confidentiality claims.

(1) (a) (i) Any person who provides to a governmental entity a record that the person believes should be protected under Subsection 63-2-304(1) [**TRADE SECRET**] or (2) [**COMMERCIAL INFORMATION OR NON-INDIVIDUAL FINANCIAL INFORMATION**] or both Subsections 63-2-304(1) and (2) **shall provide with the record:**

(A) a written claim of business confidentiality; and

(B) a concise statement of reasons supporting the claim of business confidentiality. . .

ATTACHMENT B REQUEST FOR PROPOSALS SCHEDULE

The following schedule is the proposed RFP schedule, and may be subject to change.

ACTIVITY	DAY	DATE
RFP Available for Performance Contracting Teams	Thursday	September 25, 2008
Pre-proposal Conference at WSU Weber State University Facilities Management Building Room 101	Tuesday	October 7, 2008 9:00 AM
Last Day to Submit Questions	Tuesday	October 14, 2008
Addendum Deadline by 4:00 PM (Exception for bid delays)	Tuesday	October 21, 2008
Written Proposals Due by 4:00 PM	Thursday	October 30, 2008
ESCo Interviews/Selection (Time and Location TBD)	Tuesday Wednesday	November 18, 2008 November 19, 2008
Investment Grade Audit and Project Development Contract Award	Week of	December 8, 2008

**ATTACHMENT C
REQUEST FOR PROPOSALS FORMAT
FOR ESCO RESPONSE**

Developed by:



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ATTACHMENT C REQUEST FOR PROPOSALS FORMAT FOR ESCO RESPONSE

I. GENERAL INFORMATION

Refer to the Request for Proposals for an overview of the process. For further information, please contact: John Harrington, DFCM, State Office Building Room 4110, PO Box 141160, Salt Lake City, UT 84114-1160. Phone 801-538-1477, Fax 801-538-3762, e-mail: jharrington@utah.gov

A. Due Date:

1. Proposals must be *received* at the office of DFCM indicated above on or before **the date and time indicated on the Request for Proposals Schedule in Attachment B to this Request for Proposals**.
2. Late proposals will not be accepted.

B. Submit Proposal

1. Prepare proposals to respond to the items in this **Attachment C Request for Proposals Format for ESCo Response**.
2. This RFP section is not available in any other format.
3. Proposals shall follow the same sequence and outline as this RFP format.
4. Each subheading or question including associated number shall be restated followed by the company's response to that item.
5. Answer all questions or state "N/A" if not applicable.
6. Use tabs to label and separate sections.
7. Number all pages.
8. Enter Pricing and cost data in the table format provided herein. These table formats must be used for an acceptable response to this RFP.
9. Company's response shall furnish clearly marked appendices for material as requested in this RFP.
10. Clearly mark one proposal as "**ORIGINAL**".
11. Quantity: Original and five (5) copies to DFCM by the dates and times listed in **Attachment B: Request for Proposals Schedule**.
12. The required quantity of copies must be submitted for a proposal to be considered responsive to this RFP.

C. Submit Sample Investment Grade Audit:

1. The company's response to the RFP shall include one (1) copy of a sample audit representative of the type of facility and the type of audit that will be conducted at the facilities described in this RFP. The sample audit submission shall include a brief description of the audit, detailed energy and economic calculations, and verification that the sample audit was conducted by current members of the company's team

proposed for this project. The company shall clearly identify which member(s) of the project team conducted the audit. The above elements must be included for an acceptable response to this RFP.

D. Delivery

1. Proposals and any supporting material must be in a clearly marked sealed envelope and delivered to the following address prior to the deadline for submission:

Division of Facilities Construction and Management
State Office Building Room 4110
PO Box 141160
Salt Lake City, Utah 84114-1160
ATTN: John Harrington

2. Proposals delivered via telephone, facsimile, or electronically (e.g. email) are not acceptable for this Request for Proposals.

II. ESCO PROFILE

In order to provide the information needed to select an ESCo that best meets the qualifications and standards for DFCM and WSU, the responding company must address a number of key areas and provide response to all of the questions or information requested in each of the following sections. Elements to be included for an acceptable response to this RFP shall include each of the following in the order listed.

A. Statement of Qualifications

1. General Company Information

- a. Type of Firm:** Describe whether corporation, partnership, sole proprietorship, joint venture, etc.
- b. Year Firm Established:** Number of years firm has been in business under its present business name.
- c. Parent Company:** If applicable, state name, address, former name if applicable, tax identification number.
- d. Other Firm Names/Owners Since 2000:** Indicate all other names by which the organization has been known and the length of time known by each name. Indicate any transfers of ownership of the branch or division submitting. Indicate if the submitting branch or division is in negotiations to transfer ownership or is for sale.
- e. Participating Division or Branch Offices:** Indicate division or branch offices that will participate in the development of the proposal, in its evaluation process, and/or in the conduct of any services provided (office name, and address).
- f. Local Office:** Provide the name and address for the branch office closest to Salt Lake City or Ogden, Utah.
- g. Principal Contacts:** Provide names, titles and phone numbers of at least two principal contact persons.

- h. State Qualifications:** Identify all states in which the firm is legally qualified to do business.
 - i. Lawsuit Involvement:** Describe the particulars if the company, or any employee of the company, is currently in litigation or under suspension or debarment.
 - j. OSHA-Type Proceedings:** State if the firm, or any employee of the firm, has been involved in any lawsuits, administrative proceedings or hearings initiated by the Occupational Safety and Health Administration or a similar state or federal agency during the past five (5) years regarding the safety of one of the firm's projects. If it has, identify the nature of the claim and the ultimate resolution of the proceeding.
- 2. Company Experience**
- a. Years in Energy Business:** State the number of years the firm has been involved in the energy-efficiency related business. State the number of years the firm has offered energy performance contracting services.
 - b. Number and Value of Contracts:** Indicate the number of energy savings performance contracts actually implemented by the firm, each year for the past 5 years. Indicate the associated dollar value. (NOTE: If this response is submitted by a branch office or division of a parent company, also indicate the number of projects that have been managed directly by the specific branch or division.)
 - c. Full-Time Personnel:** Indicate the number of full-time personnel employed by the firm.
 - d. Accreditation and other Pre-Qualifiers:** Provide information on any accreditations by industry organizations the company has, such as the National Association of Energy Service Companies (NAESCO). Additional prequalifiers for the company, such as work through the US Departments of Energy or Defense for Federal projects should also be described. Describe the relevance or importance of any other accreditations or pre-qualifications you have that may pertain to this project.
- 3. Company Financial Strength**
- a. Financial Soundness:** Provide a description of the financial soundness and expected stability of the company.
 - b. Profitability:** Provide a description of the company's profitability with supporting documentation covering the past three years.
 - c. Financial Reports:** Provide the company's most recent 12-month audited financials including, at a minimum: Balance Sheet, Income Statement, Statement of Cash Flow, and Statement of Financial Conditions. The name, address, and telephone number of the preparer shall also be included.
 - d. Standard and Poor's Rating:** Document the firm's current rating with Standard and Poor's.
 - e. Bonding:** Provide the firms' capacity and capability for bonding of the project that would be developed including responses to the following:
 - i. Current bonding rating.
 - ii. Current bonding capacity.

- iii. Amount or percentage of bonding capacity currently obligated.
 - iv. Current bonding rate.
 - v. Confirmation that the company is bondable for 100% of a payment bond on a project.
 - vi. Confirmation that the company is bondable for 100% of a performance bond on a project.
- f. Letter from Surety:** Provide a letter from a licensed surety documenting the firm's ability to be bonded for this project under 3.e above and identifying if any claims have been made against the firm's bonds in the last five years.

4. Company Capability

Provide information on the company's capability and expertise in building energy systems, energy auditing, design engineering, construction, measurement and verification of savings, and other aspects of Energy Performance Contracting. Acceptable responses to this section of the RFP will provide detailed information in the following areas.

- a. Scope of Services Offered:** Provide a brief comment (25 words or less is preferred) for each of the items listed below to illustrate the scope of services available from your firm.
- i. Energy auditing (identifying potential energy and water saving measures, making savings projections based on standard energy engineering principles. estimating project costs; presenting package of viable measures).
 - ii. System design engineering (mechanical, electrical, etc.).
 - iii. Energy modeling and life cycle cost analysis.
 - iv. Procurement, bidding.
 - v. Construction.
 - vi. Commissioning of projects and retro-commissioning of existing buildings.
 - vii. Measurement and verification of savings.
 - viii. Identification of asbestos and other hazardous materials and abatement, recycling or disposal as applicable.
- b. Technical Ability:** Each ESCo must have proven technical capability. Document the firm's experience and ability to address a full range of building energy systems such as the following:
- i. Mechanical Systems: Heating, ventilating and air conditioning (HVAC) systems, energy management and control systems, domestic hot water systems, distribution systems, etc.
 - ii. Physical Plants: Distribution systems, cogeneration systems, etc.
 - iii. Lighting systems: Indoor and outdoor lighting systems, lighting controls, day lighting strategies.
 - iv. Building envelope systems: Windows, insulation, weatherization, etc.
 - v. Specialty Systems: Laundry equipment, kitchen equipment, pool systems, renewable or alternative energy systems.

- vi. Water and Sewage Systems: Automatic controls, low-flow faucet aerators, low-flow toilets, cooling tower modifications, pool covers, and irrigation system controls or modifications.
 - vii. Indoor air quality.
 - viii. Distributed Generation Systems: Micro turbines, etc.
- c. Provision of Financing:** Describe the company's general ability and approach to financing Energy Performance Contract projects and how WSU will be assured of receiving competitive market rates.
- i. Note that financing the project may be provided directly by WSU or through a third party financier under a separate agreement between WSU and a financing company.
 - ii. For this Request for Proposals the company shall identify three (3) financing companies that it recommends as qualified to provide municipal tax-exempt financing for projects and provide letters of qualifications and references from each firm.
- d. Other Services:** Document the firm's ability to provide the following services:
- i. Commissioning of installed Energy Conservation Measures.
 - ii. Providing continuing operations and maintenance for all improvements.
 - iii. Training staff on routine maintenance and operation of systems.
 - iv. Training occupants and behavior modification programs.
 - v. Providing performance and cost guarantee of savings for every year of the financing term.
 - vi. Providing Measurement and Verification for reporting the performance and savings from improvements.
 - vii. Calculation and reporting of emissions reductions.
 - ix. Maintaining long-term, high-efficiency performance of buildings.
 - x. Providing equipment warranties.
 - xi. Maintaining insurance per contract requirements.
 - xii. Assisting with application for an Energy Star Label and LEED EB certification.
- e. Qualifications and Experience of Personnel:** Describe the organization and proposed personnel for developing and implementing this project including information on qualifications of the personnel to be assigned and their responsibilities.
- i. Qualifications and Experience:
 - 1. Describe the number and qualifications of current company staff and identify each individual who will have primary responsibility for each task and phase of the project.
 - 2. Provide an organization chart (by name as available) for developing and implementing the project including the relationships and responsibilities of each individual shown and the lines of authority within the overall organization. Identify portions of the effort, if any, that are proposed to be subcontracted and provide the same information for subcontractor organization and personnel. Address

- tasks and phases to include technical analysis, engineering design, construction management, construction, training, post-construction measurement and verification, and other services.
3. Include name, title, intended role and responsibilities for the duration of the contract, educational background, specific qualifications related to role and responsibilities, past relevant experience, number of years of relevant experience, supervisory responsibilities if relevant, list of projects individual was associated with during the last five years including type of project and project.
 4. Provide resumes for personnel proposed for work on this project. Resumes should be furnished in a clearly marked appendix to the company's response to this RFP.
- ii. **Areas of Expertise:** List all areas of expertise related to potential energy and water improvements in facilities. Also describe the professional and skill training provided to your employees. Describe the professional and skilled trades work that your firm customarily performs with its own employees.
 - iii. **Added Qualifications and Experience:** Describe any added expertise and capability of staff available through the parent company, other subcontracts, etc., that the company proposes to use to provide back-up strengths in technical analysis, engineering design, architectural design (if applicable), construction management, construction, training and post-contract monitoring, etc.
 - iv. **Team:** If a team approach is proposed for this project, identify other firms that are part of the proposed team. Provide the following information about the team:
 1. List all members of the team, identify the name of the firm and discuss why they were selected as part of the team.
 2. Provide an organization chart indicating the relationships and responsibilities of each firm (by name as available) for developing and implementing the project.
 3. List the number and type of projects the team has completed in the past.
 4. Provide references (names, addresses, phone numbers, etc.) for the last three EPC projects the team has performed. Note: if the team has not functioned together in the past, provide last three EPC project references for each key team member.

B. Company Project History

Briefly describe significant energy performance contracts or related projects that the firm has managed within the last five (5) years. Include projects that have been managed by individuals who will be assigned to these projects. Project information provided should illustrate the firm's general approach to Energy Performance Contracting. If projects/contracts managed

by team members or subcontractors or by the firm’s employees while employed by other firms, *clearly indicate* the name of the company that was responsible for the project. The following must be included for an acceptable response to this Request for Proposals:

1. **Overview:** Provide a brief summary of project histories to highlight the firm’s strengths and the relevance of its past work to this project. Experience similar in terms of size, scope, facility type; experience with different types of retrofits; and approach to smaller size projects should be included.
2. **Project Summary:** List all Energy Performance Contracting projects developed and implemented by the firm or its personnel within the past five years. These projects should be only those where the work was directly conducted by the responding company. If the company believes it is relevant to list projects performed under contract to another firm, it should clearly identify the firm with overall responsibility for that project and the project’s relevance to this RFP response.

Provide a breakout of facility types, sizes by dollar value, and square footage in the format of the table below.

Project Name	Facility Type	City & State	Project Size (Dollars)	Project Size (Square Feet)	Year Completed

3. **Project References:** Provide detailed information on Energy Performance Contracting projects the company has performed that can be used for references. Expand on the information provided in the previous section to give details on individual projects. Furnish this material in a clearly marked appendix to the company’s response to this RFP. For an acceptable response to this Request for Proposals the following information on each project shall be included as a minimum:
 - a. **Project Identification:** Name of project owner, type of project (hospital, K-12 school, university, office building, etc.), location (city, state).
 - b. **Contact Information:** Names and contact information of owner(s) representatives who can serve as references.
 - c. **Project Type:** Energy Performance Contract or other type.
 - d. **Project Size:** Number of buildings and total project square footage.
 - e. **Project Dollar Amount:** Total contract amount and the total project capital expenditure amount.
 - f. **Source of Funding:** A description of the source of funding used for the project and the company’s role (if any) in securing that funding.
 - g. **Project Dates:** Actual dates of audit start and acceptance; Actual construction starting and ending dates.

- h. Contract terms:** A description of the type of contract, financing arrangement, and contract term.
- i. Project Personnel:** A list of the name(s) of individuals involved in the project, their role(s) and if these personnel will be assigned to the WSU project.
- j. Project Schedule:** Indicate if project was completed on schedule and an explanation if not.
- k. List of Improvements:** The types of retrofits and operational improvements implemented related to energy, water and other cost savings.
- l. Project Performance:** The amounts of projected annual savings, guaranteed annual savings, and actual annual savings for each project in a table as shown below.

Units	Projected Annual Energy Savings	Guaranteed Annual Energy Savings	Actual Energy Savings Year 1	Actual Energy Savings Year 2	Actual Energy Savings Year 3	Actual Energy Savings Year 4	Actual Energy Savings Year 5
kWh							
kW							
MMBTU							
Gallons							
(Other)							

- m. Measurement and Verification:** A brief description of the M&V approach for each project including which savings were stipulated, if any.
 - n. Performance Guarantee:** A description of the savings guarantee for each project and, if the guaranteed savings were not achieved, how the company compensated the facility owner for any annual shortfall (e.g. pay funds to meet the guarantee, etc.).
 - o. Additional Comments:** Comments by the company on any special features, services, conditions, creative approaches, special needs of customer, etc. that it believes may be relevant to the WSU project
- 4. DFCM Past Project Performance and References:** As each DFCM project is completed, DFCM, and contractors evaluate each other and are also evaluated by the using agency/institution. It is the intent of DFCM that this process will be one of the major sources for evaluating past performance. For all DFCM projects completed in the last five years identify the project by name, number and DFCM project manager.

III. ESCO APPROACH TO PROJECT

A. Technical Approach

1. General Approach to Performance Contracting

- a. Describe the company's general approach to Energy Performance Contracting, including its typical phases for a project and ability to support each phase. This is intended to be a brief (1-5 pages) overview of the company's approach and should include references to the following:
 - i. Project Development.
 - ii. Energy Auditing.
 - iii. Design.
 - iv. Financing.
 - v. Construction.
 - vi. Commissioning.
 - vii. Performance (Savings) Guarantee.
 - viii. Measurement and Verification.
 - ix. Client Staff/Occupant Training.
 - x. Post-construction Maintenance Support.

2. Investment Grade Audit

- a. Provide a description of the process the company uses for a typical audit in the types of facilities that are included in this project.
- b. Describe how the company will engage WSU in decision-making regarding project scope, equipment specifications, ongoing operational and maintenance strategies, etc., and how WSU's needs will be incorporated into project development.
- c. The company's response to the RFP shall include a copy of a sample audit representative of these types of facilities. The sample audit submission shall include a brief description of the audit, detailed energy and economic calculations, and verification that the sample audit was conducted by current members of the company's team proposed for the WSU project.

3. Design

- a. Describe the approach the company proposes for the technical design element of this project.
- b. Describe how the company will engage WSU during the design process and how WSU's needs will be incorporated into project design.
- c. Describe standards of comfort and functionality that are generally used for light levels, space temperatures, ventilation rates, etc. in the project facilities.

4. Engineering Analysis

- a. Describe in detail the company's approach to an Energy Performance Contract project by providing a response for each of the following in the order listed.
 - i. **Baseline Calculation Methodology:** Describe in detail the methodology used by the company to compute the baseline of energy and water use and

performance for a facility. Include a discussion of how WSU will be engaged for development of and agreement on the baseline.

- ii. **Adjustment to Baseline Methodology:** Provide a discussion of typical factors that can impact the calculated baseline and the company's general approach to adjusting the calculated baseline if one or more of these factors are present. Include how WSU will be involved for agreement on any adjustments.
- iii. **Escalation Factor:** Describe the company's approach to determining escalation factors for calculation of costs and savings over the term of the contract.
- iv. **Energy Savings Calculations:** Describe typical procedures, formulas and methodologies which the company will use to calculate energy, and O&M savings. Include assumptions made in the calculations.
- v. **Dollar Cost Savings Calculations:** Describe the procedure the company will use to assign dollar values to the savings.
- vi. **Performance (Savings) Guarantee:** Describe the following with regard to the Performance (Savings) Guarantee:
 1. What procedures and schedule the firm uses for measuring financial performance of projects.
 2. How the company's performance guarantee is provided and the value of that approach.
 3. How the guarantee provisions work in the event that project results vary from projections.
 4. How the company provides disclosure of any guarantee costs in its open book pricing. Note that fees charged to WSU for providing the performance guarantee (including third-party insurance expenses) are not allowable.
 5. How excess savings can be documented.
- vii. **Guarantee Factor:** Provide a discussion of any factors used by the company for establishing guaranteed savings of less than 100% for measures implemented in an Energy Performance Contract project and the rationale for those factors.

5. Construction Issues

- a. **Planned Service Interruptions.** Describe how the company proposes to handle any utility services that may need to be discontinued temporarily to perform work including how such interruptions can be indicated on the project installation schedule.
- b. **Standards of Comfort:** Describe standards of comfort and functionality that the company would propose for light levels, space temperatures, ventilation rates, etc. in the intended facilities. Also describe how those standards will be maintained throughout the contract term.
- c. **Environmental Liability:** State the firm's position with respect to the acceptance of liability for any hazardous materials encountered during the course of the project.

If the firm is willing to accept any level of environmental liability, state the level and provide a cost analysis.

6. Performance Period Services

- a. **Measurement and Verification (M&V):** Provide a discussion of the company's general approach to development of an M&V plan and the methodology used for M&V of savings persistence during the contract period including frequency of efforts and reporting. Note that the *International Performance Measurement and Verification Protocol* (IPMVP) must be used.
- b. **Warranty Service:** Provide a description of how warranty service is provided, who it is provided by (contractor, manufacturer, etc.) and the value of the company's approach.
- c. **Operations, Maintenance, Repair and Replacement:**
 - i. Provide the company's proposed organization structure and approach for performance of the operations, maintenance and repair and replacement requirements of energy and water conservation measures. This description shall include long-term servicing of equipment and systems when required and the location of the responding company nearest servicing office.
 - ii. Describe the types of services that can be included in a maintenance contract. Comment on whether WSU's Facilities Management staff can perform some of these duties if desired. Note that the Performance (Savings) Guarantee shall not be contingent upon purchase of a maintenance agreement by WSU.
 - iii. Describe any major changes in operations or maintenance of the facilities that the company foresees based on the information provided. Briefly describe the maintenance responsibilities of the company and WSU.
- d. **Training Provisions:** Describe the firm's capabilities in providing technical training for facility personnel and experience on past projects including how the firm would provide appropriate training in operations and maintenance of installed improvements. Describe the firm's involvement in developing training manuals for facility staff.
- e. **Energy Star Label and/or LEED EB Certification:** Describe the firm's willingness experience and capability to provide services and prepare an application to achieve the Energy Star Label and or LEED EB certification on retrofitted buildings.
- f. **Emissions Reductions Reporting:** Describe the firm's willingness and experience, capability, and proposed methodologies to calculate and report emissions reductions.

B. Site-Specific Approach

1. Types of Services

Summarize the scope of services (auditing, design, construction, monitoring, operations, maintenance, training, financing, etc.) offered for this project.

2. Potential Energy, Water and other Conservation Measures

Based upon a careful review of the information provided in **Attachment G WSU Site Data Package**, describe any energy, water, and other conservation measures at WSU's facilities that the firm would recommend for consideration as a part of this project.

- a.** Develop a preliminary list of potential energy, water and other saving measures.
 - b.** Consider technologies in a comprehensive approach including, but not limited to: lighting systems, heating/ventilating/air conditioning equipment and distribution systems, controls systems, building envelope, motors, kitchen equipment, pools, renewable energy systems, other special equipment, irrigation systems, and water saving devices. Address energy, water, operation and maintenance, and other savings opportunities.
 - c.** List all potential opportunities, whether cost-effective or not and then identify measures which appear likely to be cost effective and therefore warrant detailed analysis.
 - d.** For each measure, prepare a preliminary estimate of energy, water, or other cost savings and implementation costs including description of analysis methodology, calculations and assumptions proposed to be used to estimate savings.
 - e.** Describe the methodology proposed for ongoing monitoring Measurement and Verification of each recommended measure's performance, including the frequency of such efforts. Identify which IPMVP Option would likely be proposed be used for each measure.
 - f.** Describe any special features, renewable technologies, or advanced technologies that might be applicable. Describe any special features or services associated with the proposed improvements that would add value to WSU.
 - g.** Discuss the firm's approach to achieve compatibility (such as open systems) and/or standardization of equipment in the facilities to be addressed.
- 3. Approach to Financing.** Describe the firm's preferred approach to providing or arranging financing for the proposed project. Describe the mechanics of the financing arrangement, including equipment ownership, responsibilities/liabilities of each party, security interest required and any special terms and conditions that may be associated with the financing this project. Please comment on how the company would work with WSU to utilize tax-exempt financing if appropriate, or other methods to keep financing costs to a minimum.

C. Management Approach

Provide detailed information on the company's approach to managing the development and implementation of an Energy Performance Contracting project at Weber State University. Elements to be included for an acceptable response to this RFP shall include each of the following in the order listed.

1. Management and Staffing

- a.** Confirm that the organization and proposed personnel described in the company's response to Section II.A.4.e of this Request for Proposals will be used for developing and implementing the project at WSU.
- b. Personnel Availability and Location:** List the office location (city and state) for personnel proposed for this project and the percent of time each person is available to work on the WSU project.
- c. Local Staffing and Support:** Describe the company's extent of local staffing and support for the project. Basic job descriptions and capabilities of the local staff shall be included. Discuss the relevance or importance of local presence with regard to the project.

2. Approach to Subcontracting

- a.** Describe the types of services (both professional and construction services) that the company offers in-house and services offered through subcontractors. Include discussion of the strategy behind in-house vs. subcontractor use. The following shall be included in the company's discussion of approach to subcontracting:
 - i. Describe which work is proposed to be completed by the company or by a subcontractor.
 - ii. Describe how subcontractors are selected and the company's ability to competitively select subcontractors.
 - iii. Provide information on the company's business relationships with any particular subcontractors proposed for this project.
 - iv. Identify any subcontractors the company has already selected.

3. Project Schedule

- a.** Discuss the company's approach to project scheduling, including development of milestones, responsibilities of personnel, typical factors that can impact the schedule, and how delays are mitigated or addressed.

4. Construction Management

- a.** Describe the company's proposed approach to project management when work is being performed at WSU by the company and/or its subcontractors.
- b.** Discuss how the company will work with WSU Facilities Management personnel in order to coordinate construction and avoid conflicts with operation and use of the buildings. Flexibility and/or any limitations regarding other possible WSU activities such as management of additional energy and water projects, and integration of other projects which may or may not contain energy and water saving opportunities should be included.

5. Coordination with DFCM and WSU

- a.** Describe the company's approach to involving DFCM and WSU in project development, construction, and post-construction activities.

IV. ESCO Cost Proposal

A. Cost of Audit

1. The cost of the Investment Grade Audit shall be stated in terms of total cost and cost per square foot as follows: “The cost of the audit shall be a sum not to exceed Dollar Amount in Words (\$ dollar amount) based on a maximum of (square footage to be audited) gross square feet at (cost per square foot).
2. This cost will be evaluated on the basis of reasonableness. An unrealistically high or low cost will be devalued in the evaluation process and shall result in disqualification by the Selection Committee. Final audit costs are subject to negotiation prior to executing the Investment Grade Audit and Project Development Contract.
3. WSU shall only pay for square-footage actually audited subject to the following:
 - a. If WSU accepts the final audit report developed from an Investment Grade Audit and Project Development Contract, and enters into an Energy Performance Contract with the ESCo to implement the energy, water, and other cost saving measures in accordance with the terms of that Investment Grade Audit and Project Development Contract, the audit fee shall be incorporated into the Energy Performance Contract project costs.
 - b. If WSU accepts the final audit report but fails to enter into an Energy Performance Contract with the ESCo to implement the energy and water saving measures in accordance with the terms of that Investment Grade Audit and Project Development Contract, WSU shall pay the ESCo the audit fee without any further liability.
 - c. WSU shall have no payment obligations under this Contract in the event that the ESCo's final audit report developed from an Investment Grade Audit and Project Development Contract does not contain a package of energy and water saving measures which, if implemented, will provide WSU with cash savings sufficient to fund WSU's payments of all costs and fees associated with the Energy Performance Contract, including:
 - i. The fee associated with the Investment Grade Audit.
 - ii. All payments on an agreement to finance the measures.
 - iii. Any annual fees for Performance Phase as described in the Energy Performance Contract.
4. By submitting this cost proposal the company agrees the proposed fee for Investment Grade Audit and Project Development on the WSU project shall incorporate the company's responsibility to adhere to and complete the full scope of work as presented in **Attachment E: Investment Grade Audit and Project Development Contract**.

B. Markup Costs and Fees

WSU with the assistance of DFCM intends to establish acceptable maximum markups, and fees for the subsequent Energy Performance Contract project. These will be the maximums that may be applied in the Investment Grade Audit and Project Development Contract or Energy Performance Contract developed and executed under this project. Each responding company shall provide its proposed maximum cost for performing an Investment Grade Audit as well as schedules illustrating proposed maximum project markups and fees for pre-defined categories.

1. Markups

- a. Provide the company’s proposed maximum allowable markups in the schedule below for each category listed on the schedule. This schedule format shall be the only format acceptable and must be completed in its entirety to be considered responsive.

MARK-UPS		
<i>CATEGORY OF MARK-UP</i>	<i>MARK-UP APPLICATION</i>	<i>% MARK-UP</i>
Overhead		
Profit		
Equipment Purchased		
Materials Purchased		
Subcontract Labor		
Subcontract Material		

- b. Markups shall be calculated as a percentage added to the base cost for the project. The use of margins in lieu of markups is not acceptable. Categories not included in the schedule below are not allowable for use in the project. Ranges for markups are not acceptable.
- c. Note that the actual markups for the project are subject to negotiation.
- d. Responding companies shall clearly describe how self-performed work will be charged (billed hourly, billed as a markup of equipment and labor costs, etc.). If self-performed work will be billed hourly, markups proposed to be applied to the hourly rate shall be included in the schedule.
- e. If a proposal is from a joint venture partnership, proposed maximum allowable markups in the schedule format above for each participating company shall be provided.

2. Fees

- a. Provide the company’s proposed maximum allowable fees in the schedule below for each category listed on the schedule. This schedule format shall be the only format acceptable and must be completed in its entirety to be considered responsive.

- b. For each fee category listed on the schedule describe the maximum fee proposed, how that fee is determined, how the fee is charged to the project, and when it is applied. Note that the actual fees for the project shall be developed based upon the company’s anticipated effort and cost in each category and are subject to negotiation. Fees shall not be added to items on which markups are applied as listed in the table in IV.B.1.a above. In no case shall these fees exceed the maximums established for the project. Markups on fees are not allowable.

FEES		
<i>CATEGORY OF FEE</i>	<i>HOW DETERMINED AND USED</i>	<i>YEARS APPLIED (One-time, Annual, etc.)</i>
Investment Grade Audit and Project Development	\$ _____ per Square Foot	One time
Solicit & Evaluate Project Financing Proposals		
Design	Per State of Utah Table of Design Fees	One time
Contingency		
Permits		
Performance Bond		
Project Management		
Commissioning		
Training		
Measurement and Verification		
Warranty Service		
Maintenance on Installed Measures		

- c. Categories not included in the schedule above are not allowable for use in the WSU project. Ranges for fees are not acceptable. If a proposal is from a joint venture partnership, provide proposed maximum allowable fees in the schedule format below for each participating company.

C. Other Costs

1. Describe other costs such as maintenance and monitoring agreements and describe how they may be applied. Also point out if these are annual costs and if they are required each year of the contract.

D. Contingency

1. Describe the company's typical level of contingency budget for lighting, electrical, mechanical, controls, and other projects and how it proposes to apply contingency to cover changes in work scope and subcontractor change orders. Note that all unused contingency funds will revert to WSU or be applied to additional work scope through a change order approved by WSU.

E. Cost Competition

1. Describe the company's process to purchase equipment and materials directly or to solicit bids on equipment/labor or to ensure cost competition and the best value for WSU.

F. Open Book Pricing

1. Open book pricing is full disclosure by the contractor to the Facility Owner of all costs and markups for materials, labor, and services received during the project development, implementation, and performance period phases.
2. Open book pricing will be required such that all costs, including all costs of subcontractors, vendors, and ESCo internal costs are fully disclosed.
3. Describe the company's approach and experience in providing open book pricing and its method for maintaining cost accounting records on authorized work performed under actual costs for labor and material, or other basis, requiring accounting records.

G. Best Value

1. Describe how the company's approach to performance contracting delivers best value for the investment. This is an opportunity to point out how the company may be able to deliver a more cost-effective overall project due to corporate structure, relationships with vendors, depth of experience and expertise, local relationships and experience, experience in similar types of facilities, knowledge of particular retrofits, etc.
2. Describe any utility rebates or other incentives that the company can potentially provide and/or facilitate.

ATTACHMENT D EVALUATION CRITERIA

The criteria listed below will be used to evaluate written proposals and the subsequent interviews. The scoring weight is listed for each criterion.

These criteria will be applied and interpreted solely at the discretion of DFCM and WSU. Proposals should include all necessary information that is pertinent to these evaluation criteria. Additional information required for proper assessment of proposals may be requested from the ESCo at the discretion of WSU or DFCM.

- 1. Experience and Financial Stability (20 points):** The Selection Committee will evaluate the background and financial information provided by each responding company to assess its experience in successfully performing energy saving performance contracts; and its anticipated financial viability. The Selection Committee will evaluate the background, scope, and results of past ESPC contracts performed by the respondent, review project history and reference information, and the financial strength of the company, its anticipated financial viability, evidence of bonding capacity and capability, and other financial indicators. References from owners on projects completed within the past five (5) years shall carry greater weight.
- 2. Technical Ability and Scope of Services Offered (20 points):** The selection committee will evaluate the responding company's description of its general approach to Energy Performance Contracting and examine the technical ability and expertise that would be provided for this project, including specific experience with various systems, methodologies, and operational procedures that could result in energy savings for WSU. The extent of services offered and their applicability to this project along with the ability of the respondent to assist WSU with the arrangement of project financing will also be considered. Of particular interest will be the construction and implementation services, and the measurement and verification services and methodologies that are proposed to be employed by the respondent firms to execute this project.
- 3. Management Approach (15 points):** The selection committee will evaluate each respondent for their approach in managing and executing an energy savings performance contract, including staff levels, qualifications, location and percentage of time available for the WSU project; construction management; in-house versus sub-contracted work items; schedule compliance; coordination and interaction with WSU personnel; post implementation support; WSU staff training, measurement and verification procedures, and dispute resolution methodologies.

4. **Team Qualifications (30 points):** The selection committee will evaluate the depth and scope of experience and understanding of key team members, and how much of the work will be done by respondent firms staff or by subcontractors. For subcontractor work items, the method of selecting which subcontractors will be used will be evaluated, as well as the strength of subcontractors who may already be known.

5. **Price/Cost Proposal (15 points):** The selection committee will evaluate completeness and reasonableness of the respondent's pricing structure, willingness and ability to work within a structure of maximums established by WSU and DFCM, how contingency funds are proposed to be applied and managed, the proposed process to solicit and evaluate bids on equipment and subcontractors, and approach to open book pricing.

TOTAL POINTS POSSIBLE = 100 POINTS

ATTACHMENT E

FORM OF CONTRACT FOR INVESTMENT GRADE AUDIT AND PROJECT DEVELOPMENT

Developed by:



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Englewood, CO 80155-4595
TEL: 303-478-3729 FAX: 303-850-7281
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INVESTMENT GRADE AUDIT and PROJECT DEVELOPMENT CONTRACT

This Investment Grade Audit and Project Development Contract ("Contract") is made and entered into as of (Date), between (Energy Services Company Name), having its principal offices at (Energy Services Company Address), hereinafter referred to as "ESCO" and (Owner Name), (Owner Address), hereinafter referred to as "Owner".

W I T N E S S E T H

WHEREAS, ESCo is a company with experience and technical and management capabilities to provide for the discovery, engineering, packaging, procurement, installation, financing, maintenance and measurement and verification of energy and other cost saving measures including water saving at facilities similar in size, function and system type to Owner's facilities; and

WHEREAS, ESCo has submitted a response to Owner's Request for Proposals (RFP) pertaining to the discovery, engineering, packaging, procurement, installation, financing, maintenance and measurement and verification of energy and other cost saving measures including water saving at Owner's facilities; and

WHEREAS, Owner has selected ESCo to provide the services described herein; and

WHEREAS, Owner desires to enter into a Contract to have ESCo perform an Investment Grade Audit and develop a Project Proposal to determine the feasibility of entering into an Energy Performance Contract to provide for installation and implementation of energy and other cost saving measures including water saving at Owner's facilities; and

WHEREAS, if energy and water saving measures are determined to be feasible, and if the amount of energy and water savings can be reasonably sufficient to cover all costs, or a substantial amount of the costs as defined by Owner, associated with an energy performance contracting project, the parties intend to negotiate an Energy Performance Contract under which ESCo will design, procure, install, implement, maintain and provide measurement and verification of such energy saving measures. However, this intent does not commit Owner to entering into such Energy Performance Contract. Exclusive of the energy saving measures and their associated energy cost savings, the Owner reserves the right to separately fund other cost saving measures including water saving measures.

THEREFORE, the parties agree as follows:

1.0 CONTRACT FOR INVESTMENT GRADE AUDIT AND PROJECT DEVELOPMENT

- 1.1** ESCo agrees to perform an Investment Grade Audit in accordance with the Scope of Work described below. ESCo agrees to complete the Investment Grade Audit and present to Owner a final Investment Grade Audit Report and Project Proposal within [REDACTED] calendar days from the execution of this Contract.
- 1.2** Owner agrees to assist ESCo in performing the Investment Grade Audit in accordance with the Scope of Work described below. Owner agrees to work diligently to provide full and accurate information. ESCo agrees to work diligently to assess validity of information provided and to confirm or correct the information as needed.
- 1.3** The parties contemplate that this will be an interactive and iterative process and that Owner will have a reasonable amount of time to review and determine acceptance before issuing the Notice of Acceptance of Investment Grade Audit Report (Attachment E).
- 1.4** ESCo agrees to offer an Energy Performance Contract Project Proposal with a package of energy and water saving measures with details as specified in the Scope of Work below.
- 1.5** Upon satisfactory completion of the Investment Grade Audit, Owner will have the option to negotiate and execute an Energy Performance Contract (EPC) with ESCo to implement the recommended project. The EPC will define the final agreed upon scope of work and all its associated costs and mutual responsibilities between ESCo and Owner.

2.0 CONTRACT ADMINISTRATION

2.1 Contract Documents

The documents for this Contract shall consist of this Contract and Attachments A through E inclusive.

2.2 Documents Incorporated by Reference

Current copies of the following documents shall be incorporated by reference into this Investment Grade Audit and Project Development Contract:

- 2.2.1** DFCM CADD Standards dated August 1, 2001
- 2.2.2** DFCM Design Criteria dated March 15, 2006
- 2.2.3** General Conditions dated May 25, 2005
- 2.2.4** Supplemental General Conditions dated July 15, 2008
- 2.2.5** Building Board Policy Regarding Enhanced Accessibility to State Facilities
- 2.2.6** WSU Construction Standards for Architects, Engineers and Contractors dated August, 2004

2.3 Modifications to the Contract

No changes, modifications, revisions or amendments to this Contract shall be made unless mutually agreed upon by the parties to this Contract. Any such changes, modifications, revisions or amendments shall be incorporated by written instrument, executed and signed by all parties to this Contract.

2.4 Entire Agreement

This Contract represents the entire and integrated agreement between Owner and ESCo and supersedes all prior negotiations, representations or agreement, either written or oral.

2.5 Notices

All notices required to be given by one party to the other shall be effective only when sent in writing, addressed as follows.

2.5.1 For Owner:

Weber State University
Purchasing Department
1013 University Circle
Ogden, UT, 84408
ATTN: Nancy Emenger

With Copy To:

DFCM
ATTN: Mr. John Harrington
State Office Building Room 4110
PO Box 141160
Salt Lake City, UT 84114-1160

2.5.2 For ESCo:

(ESCo Name)
ATTN: _____
(ESCo Address)
(ESCo City, State, Zip)

2.6 Order of Precedence

In the event of conflict or inconsistency between this Contract and its exhibits or attachments, such conflicts or inconsistencies shall be resolved by reference to the documents in the following order of priority:

2.6.1 This Investment Grade Audit and Project Development Contract including the Attachments and documents incorporated by reference described in 2.2 above.

2.6.2 ESCo response to the Request for Proposals dated [REDACTED].

2.6.3 Request for Proposals dated [REDACTED].

- 2.6.4** The Supplemental General Conditions (2.2.4) supersede General Conditions (2.2.3) in the event of conflict. DFCM Design criteria (2.2.2) supersede WSU Construction Standards for Architects, Engineers and Contractors (2.2.6) in the event of conflict.
- 2.6.5** Notwithstanding any of the above, the most stringent provision of any of these documents shall apply.

2.7 Contract Term

The term of this Contract will become effective upon approval by Owner. The term shall end thirty (30) days after signing of the Notice of Acceptance of Investment Grade Audit Report (Attachment E) by Owner.

3.0 COMPENSATION TO ESCO

Except as provided for in Subsections 3.1, 3.2, or 3.3, below, within [redacted] calendar days after Owner's acceptance of the final audit report developed from this Investment Grade Audit and Project Development Contract, Owner shall compensate ESCo for performance of the Audit by payment to ESCo of a sum not to exceed Dollar Amount in Words (\$ dollar amount) based on a maximum of (square footage to be audited) gross square feet at cost per square foot. Owner shall only pay for square-footage actually audited.

- 3.1** Owner shall have no payment obligations at the time of execution of this Contract, but acknowledges that the fee indicated above shall be incorporated into ESCo's project costs in the event Owner accepts the final audit report developed from this Investment Grade Audit and Project Development Contract and enters into an Energy Performance Contract with ESCo within [redacted] calendar days after issuance of the Notice of Acceptance of Investment Grade Audit Report (Attachment E) to implement the energy, water, and other operating cost saving measures.
- 3.2** If Owner accepts the Investment Grade Audit but fails to enter into an Energy Performance Contract with ESCo to implement the energy and water saving measures within [redacted] calendar days, Owner shall pay ESCo the amount indicated in 3.0 above and the agreement will terminate without any further liability to either party.
- 3.3** Owner shall have no payment obligations under this Contract in the event that ESCo's final audit report developed from this Investment Grade Audit and Project Development Contract does not contain a package of energy and water saving measures which, if implemented, will provide Owner with cash savings- sufficient to fund Owner's payments of all costs and fees associated with the Energy Performance Contract, including:
- 3.3.1** The fee associated with the Investment Grade Audit.
- 3.3.2** All payments on an agreement to finance the measures.

- 3.3.3 Any annual fees to ESCo for the Performance Phase as described in the Energy Performance Contract.
 - 3.3.4 Analysis will be based on ESCo's proposed financing terms including a fully amortizing lease-purchase agreement not to exceed the term set out in Section 8.1.1 with a fixed rate of interest actually available to Owner.
- 3.4 Compensation for termination of the Contract shall be as set forth in Section 4.0 of this Contract.

4.0 TERMINATION

4.1 Termination by Owner

Owner may terminate this Contract at any time as described in the sections below.

4.1.1 Termination for Cause or Default

4.1.1.1 Failure to Perform

Owner may terminate this Contract upon ESCo's failure to fulfill the terms of the Contract. If ESCo fails to timely perform any of the provisions of this Contract, with such diligence as will ensure its completion within the time specified in this Contract, Owner may notify ESCo in writing of the non-performance, and if not promptly corrected within the time specified, Owner may terminate ESCo's right to proceed with the Contract or such part of the Contract as to which there has been delay or a failure to properly perform. ESCo shall continue performance of the Contract to the extent it is not terminated and shall be liable for excess costs incurred in procuring similar goods or services elsewhere. Termination shall be effective 14 days from receipt of written notice if conditions of default are not first corrected.

4.1.1.2 Protection of Owner Property

Notwithstanding termination of the Contract and subject to any directions from Owner, ESCo shall take timely, reasonable and necessary action to protect and preserve property in the possession of ESCo in which Owner has an interest.

4.1.1.3 Compensation for Termination

Payment for completed supplies delivered and accepted by Owner shall be at the Contract price and in accordance with Section 3.0 of this Contract. Owner may withhold amounts due to ESCo as Owner deems to be necessary to protect Owner against loss because of outstanding liens or claims of former lien holders and to reimburse

Owner for the excess costs incurred in procuring similar goods and services.

4.1.1.4 Excuse for Nonperformance or Delays in Performance

ESCo shall not be in default by reason of any failure in performance of this Contract in accordance with its terms if such failure arises out of acts of God; acts of the public enemy; acts of the State and any governmental entity in its sovereign or contractual capacity; fires; floods; epidemics; quarantine restrictions; strikes or other labor disputes; freight embargoes; or unusually severe weather. Upon request of ESCo, Owner shall ascertain the facts and extent of such failure, and, if Owner determines that any failure to perform was occasioned by any one or more of the excusable causes, and that, but for the excusable cause, ESCo's progress and performance would have met the terms of the Contract, the delivery schedule shall be revised accordingly, subject to the rights of Owner.

4.1.1.5 Erroneous Termination for Default

If after notice of termination of ESCo's right to proceed under the provisions of this clause, it is determined for any reason that ESCo was not in default under the provisions of this clause, or that the delay was excusable, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to the termination for convenience clause.

4.1.2 Termination for Convenience

4.1.2.1 Termination

Owner may, when the interests of Owner so require, and with 30 days written notice, terminate this Contract in whole or in part, for the convenience of Owner. Owner shall give written notice of the termination to ESCo specifying the part of the Contract terminated and when termination becomes effective. This shall in no way imply that Owner has breached the Contract by exercise of the Termination for Convenience Clause.

4.1.2.2 ESCo's Obligations

ESCo shall incur no further obligations in connection with the terminated work and on the date set in the notice of termination ESCo will stop work to the extent specified. ESCo shall also terminate outstanding orders and subcontracts as they relate to the terminated work. ESCo shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated work. Owner may direct ESCo to assign ESCo's right,

title, and interest under terminated orders or subcontracts to Owner. ESCo must still complete and deliver to Owner the work not terminated by the Notice of Termination and may incur obligations as are necessary to do so.

4.1.2.3 Compensation for Termination

- a.** Upon notice of Termination for Convenience by Owner, ESCo shall submit a termination claim specifying the amounts due because of the termination for convenience together with cost or pricing data bearing on such claim. If ESCo fails to file a termination claim within 45 days from the effective date of termination, Owner may pay ESCo, if at all, an amount set in accordance with subparagraph **4.1.2.3.c** of this Section.
- b.** Owner and ESCo may agree to a settlement provided ESCo has filed a termination claim supported by cost or pricing data and that the settlement does not exceed the total Contract price plus settlement costs, reduced by payments previously made by Owner, the proceeds of any sales of supplies and manufactured materials made under agreement, and the Contract price of the work not terminated.
- c.** Absent complete agreement, under subparagraph **4.1.2.3.b**, Owner shall pay ESCo the following amounts, provided the payments agreed to under subparagraph **4.1.2.3.b** shall not duplicate payments under this subparagraph:
 - 1.** Contract prices for supplies or services accepted under the Contract.
 - 2.** Costs incurred in preparing to perform the terminated portion of the work plus a fair and reasonable profit on such portion of the work (such profit shall not exceed the markup and fee schedules in the Cost and Pricing Elements Attachment B, nor include anticipatory profit or consequential damages) less amounts paid to or to be paid for accepted supplies or services; provided, however, that if it appears that ESCo would have been sustained a loss if the entire Contract would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss.
 - 3.** Costs of settling and paying claims arising out of the termination of subcontracts or orders pursuant to ESCo's obligations paragraph of this clause. These costs must not include costs paid in accordance with subparagraph **4.1.2.3.b**.
 - 4.** The reasonable settlement costs of ESCo including accounting, legal, clerical, and other expenses reasonably necessary for the preparation of settlement claims and

supporting data with respect to the terminated portion of the Contract and for the termination and settlement of subcontracts thereunder, together with reasonable storage, transportation, and other costs incurred in connection with the terminated portion of this Contract.

5. The total sum to be paid ESCo under this subparagraph **4.1.2.3.c** shall not exceed the total Contract price plus settlement costs, reduced by the amount of payments otherwise made, the proceeds of any sales of supplies and manufacturing materials under subparagraph **4.1.2.3.b**, and the Contract price of work not terminated.
- d. ESCo shall be entitled to no other payments in case of termination for convenience.

4.1.3 Termination for Loss of Funding

Each payment obligation of Owner is conditioned upon the availability of government funds that are appropriated or allocated for the payment of this obligation.

4.2 Termination by ESCo

ESCo may terminate this Contract at any time as described below.

4.2.1 Non-viable Project

Should ESCo determine any time during the Investment Grade Audit that savings cannot be attained to meet Owner's terms, the Investment Grade Audit will be terminated by written notice from ESCo to Owner. In this event this Contract shall be cancelled and Owner shall have no obligation to pay, in whole or in part, the amount specified.

5.0 INSURANCE REQUIREMENTS

To protect against liability, loss and/or expense in connection with the performance of services described under this agreement, ESCo shall obtain and maintain in force during the entire period of this Contract without interruption, at its own expense, insurance as listed below from insurance companies authorized to do business in the State of Utah. Before commencing any work under this Contract, ESCo shall file with Owner certificates of insurance evidencing at a minimum the coverage specified below. ESCo shall submit a Certificate of Insurance at the signing of this Contract and also any notices of Renewal of said Policy as they occur.

The carrying of insurance required by this Contract shall not be interpreted as relieving ESCo of any other responsibility or liability under this agreement or any applicable law, statute, rule, regulation or order.

5.1 Commercial General Liability Insurance

Commercial General Liability Insurance shall be on an “occurrence basis” and shall include insurance for premises and operations, independent contractors, projects/completed operations, and contractual liability coverage with limits not less than listed below. The State of Utah and Owner shall be named as an insured party, as primary coverage and not contributing, and the policy shall be endorsed to include a waiver of subrogation in favor of the State of Utah and Owner.

\$2,000,000	General Aggregate
\$2,000,000	Products-Completed Operations Aggregate
\$1,000,000	Personal and Advertising Injury
\$1,000,000	Each Occurrence

5.2 Professional Liability or Errors and Omissions Liability Insurance

ESCo shall provide proof of professional liability insurance or errors and omissions liability insurance to protect Owner from any and all claims arising from ESCo’s alleged or real professional errors, omissions or mistakes in the performance of professional duties in an amount not less than \$500,000.00.

5.3 Automobile Liability

Minimum coverage required shall be combined single limit of \$600,000.

5.4 Other Insurance Coverage

ESCo shall maintain the following insurance at levels ESCo determines: Valuable Papers and Records Coverage and Electronic Data Processing (Data and Media) Coverage, and Aircraft Use. Any type of insurance or any increase of limits of liability not described in this agreement which ESCo requires for its own protection or on account of any statute, rule, or regulation shall be its own responsibility and at its own expense.

5.5 Worker’s Compensation Liability

ESCo’s signature affixed herein shall constitute a certification under penalty of perjury under the laws of the State, that ESCo is aware of the provisions which require every employer to be insured against liability for workers’ compensation or to undertake self-insurance in accordance with provisions of that code and agrees to comply with such provisions before commencing the performance of the work of this Contract. Worker’s Compensation Insurance shall cover full liability under the Worker’s Compensation laws of the jurisdiction in which the work is performed at the statutory limits required by said jurisdiction. ESCo shall provide to Owner proof of workers’ compensation and unemployment coverage for all its employees who are to work on the project described in this Contract.

5.6 Employers’ Liability Insurance

Employer’s Liability Insurance shall provide the following limits of liability:

\$100,000 for each accident; \$500,000 for Disease Policy Limit; and \$100,000 for Disease-Each Employee.

5.7 *Payment of Premiums and Notice of Revocation*

All policies required under this Contract shall be in effect for the duration of this Contract and project. All policies shall be primary and not contributory. ESCo shall pay the premiums on all insurance certificates, which must include a clause stating that the insurance may not be revoked, canceled, amended or allowed to lapse until the expiration of at least thirty (30) days advance written notice to Owner. Insurance shall include provisions preventing cancellation without 30 calendar day's prior written notice, by certified mail to Owner.

5.8 *Owner may Insure for ESCo*

In case of the breach for any provision of this Section, Owner may, at Owner's option, purchase and maintain, at the expense of ESCo, such insurance in the name of ESCo, as Owner may deem proper and may deduct the cost of taking out and maintaining such insurance from any sums which may be found to be due or become due to ESCo under this Contract.

5.9 *Subcontractors*

The insurance requirements set forth above apply to all subcontractors. It is ESCo's responsibility to ensure that its subcontractors meet these insurance requirements.

5.10 *Responsibility for Claims*

ESCo shall be responsible for all claims, damages, losses or expenses, including attorney's fees, arising out of or resulting from the performance of the services contemplated in this Contract, provided that any such claim, damage, loss or expense is caused by any neglect act, error or omission of ESCo, any Consultant or associate thereof, or anyone directly or indirectly employed by ESCo.

6.0 *DISPUTES*

Owner and ESCo agree to engage in good faith efforts to resolve any disputes arising from the performance under this Contract and to utilize the dispute resolution process provided by the Division of Facilities Construction and Management, which shall be ESCo's sole remedy.

7.0 *ENERGY PERFORMANCE CONTRACT*

The Parties intend to negotiate an Energy Performance Contract under which ESCo will design, install and implement energy saving measures and provide certain maintenance and monitoring services. However, nothing in this Contract should be construed as an obligation on any of the Parties to execute such a Contract. The terms and provisions of such an Energy Performance Contract will be set forth in a separate Contract.

8.0 SCOPE OF WORK

The Investment Grade Audit shall be performed and the Energy Performance Contract Project Proposal prepared as described in this section. In performing the work under the Investment Grade Audit and Project Development Contract, ESCo shall adhere to the following:

8.1 Scope Guidelines and Requirements

8.1.1 Energy Performance Contract Term

The term for a proposed Energy Performance Contract shall be no greater than twenty (20) years, no greater than the cost-weighted average lifetime of the equipment, with an ROI of ████%.

8.1.2 Annual Guaranteed Energy and Cost Savings

The cost of the Energy Performance Contract project must be covered by the reduced energy and related operation and maintenance cost savings incurred at Owner's facility. Owner may provide additional capital contributions to fund incremental costs above the portion of the project that is funded by savings.

The annual guarantee is required for the entire contract or financing term. Owner reserves the option to eliminate the guarantee at any time. The guarantee is based on cost savings attributable to all energy saving measures, and must equal or exceed all project costs each year during the contract period.

Annual project costs include debt service, ESCo fees, maintenance services, measurement and verification services, and other services as defined in the Energy Performance Contract.

8.1.3 Excess Savings

Annual cost savings beyond the guaranteed minimum savings shall be retained by Owner, and shall not be allocated to shortfalls in other years.

8.1.4 Annual Savings Estimates

The utility savings for all measures must be estimated for each year during the contract period. Reporting average annual savings over the term of the Contract shall not be acceptable. Owner encourages ESCo to propose other cost saving measures such as water and other savings that Owner may fund separately.

8.1.5 Project Financing

Financing for the project may be provided directly by Owner or through a third party financier under a separate agreement between Owner and a

financing company. ESCo may be required to solicit bids for financing on behalf of Owner.

8.1.6 Energy Performance Contract Elements

During the Implementation and Performance Periods, ESCo shall be responsible for providing all labor, material, etc. to complete energy and water conservation measures and provide operations and maintenance as specified in the Contract.

Details regarding the exact improvement measures, the equipment and labor costs associated with them, and all guaranteed energy and maintenance cost savings shall be provided in ESCo's Investment Grade Audit Report and Energy Performance Contract Project Proposal. A separate financing agreement may be developed including payment schedules and lender financing terms and schedules.

In lieu of work proposed to be performed by ESCo or a subcontractor recommended by ESCo, ESCo agrees that Owner may specify that certain energy conservation measure components will be subject to requests for bids to ESCo from one or more contractors acceptable to Owner. ESCo shall provide its specifications for bids for review and comment prior to their release to bidders. ESCo shall provide Owner copies of all bid responses. ESCo must consent to the bidder reasonably recommended by Owner and ESCo warrants that such consent shall not be unreasonably withheld.

8.2 Allowable Costs and Savings.

8.2.1 Savings

The following are allowable savings factors approved to be considered as payment sources for financing purposes. Owner will provide ESCo with sufficient guidance to develop savings estimates.

- Energy and water savings.
- Owner material/commodity savings, including scheduled replacement of parts.
- Outside labor cost savings, including maintenance contracts.

Any savings related to maintenance and operation of the facilities will be rigorously reviewed and shall be limited to those that can be thoroughly documented.

8.2.2 Negotiable Items

The following items may be negotiated:

- Owner in-house labor costs.
- Owner deferred maintenance cost.

- Escalation rates for natural gas, electricity, and other energy sources, water, material/commodity cost savings, and allowable labor savings. These are rates to be used in cash flow projections for project development purposes. Actual rates and a floor rate may be used in a subsequent Energy Performance Contract.
- Interest rates (all types of financing that are available and could be considered for this project).
- Owner equity cash outlay (Owner's option).
- Offset of future Owner capital cost.

8.2.3 Costs

Construction Costs shall include the following:

- Labor (and normal fringe benefits) and travel and overnight accommodations directly attributable to the project paid by ESCo, **exclusive** of labor for design, construction management, monitoring and commissioning.
- Equipment and materials incorporated into the project.
- Subcontract costs including any payments to third parties relating to subcontracted work on the site **exclusive** of costs for design, construction management, monitoring or commissioning.
- Miscellaneous project costs include reasonable expenses for bonds, insurance, job trailers, portable toilets, job vehicles, software licensed to Owner, job site office space, but **excludes** costs (other than subcontractor costs) incurred by ESCo for office supplies and expenses including document reproduction, phone and fax usage; incidental job site expenses such as tools; general office supplies and expenses, including document reproduction, phone and fax usage; meals; sales/management/administrative travel and overnight accommodations.

8.2.4 Markups and fees

Markups and fees shall be as defined in Attachment B, Cost and Pricing Elements. These markups and fees will be used in the Investment Grade Audit and are subject to negotiation again for the subsequent Energy Performance Contract.

8.3 Energy Conservation Measures

8.3.1 Types of Energy Conservation Measures

This Contract requires ESCo to possess the capability to implement Energy Conservation Measures (ECMs) that include one or more of the following energy efficiency or renewable energy technology categories. ESCo shall consider technologies in a comprehensive approach including, but not limited

to measures listed in the following categories. Measures shall be identified in the Investment Grade Audit Report and Energy Performance Contract Project Proposal using these category numbers (e.g. ECM 1.1 - Lighting Retrofit, ECM 1.2 - Lighting Control Improvements, ECM 2.1 - Boiler Plant Improvements, etc.).

8.3.1.1 Lighting Improvements (Category 1)

- a. Interior and exterior lighting upgrades.
- b. Lighting control improvements including occupancy sensors, photocells, etc.
- c. LED exit sign upgrades.
- d. Other LED lighting upgrades.
- e. Daylighting.

8.3.1.2 Boiler Plant Improvements (Category 2)

- a. Boiler Plant improvements (retrofits, replacements).
- b. Boiler control improvements.

8.3.1.3 Chiller Plant Improvements (Category 3)

- a. Chiller Plant improvements (retrofits, replacements).
- b. Chiller control improvements.
- c. Cooling Tower retrofits or replacements.

8.3.1.4 HVAC System Improvements (Category 4)

- a. Packaged air conditioning unit replacements.
- b. Replacement of air conditioning and heating units with heat pumps.
- c. Air side economizer installation.
- d. Indoor air quality improvements.
- e. Fan replacement.
- f. Pump replacement or impeller trimming.
- g. Window air conditioning replacement with high efficiency units.
- h. Variable air volume (VAV) retrofit.

8.3.1.5 Controls and Building Automation System (Category 5)

- a. Upgrade from pneumatics to Direct Digital Control.
- b. Upgrade or replacement of existing BAS systems.
- c. HVAC damper and controller repair or replacement.
- d. Scheduling.
- e. Programmable thermostats.

8.3.1.6 Distribution Systems-Chilled Water, Hot Water, Steam (Category 6)

- a. Leak repairs.

- b. Piping insulation.
- c. Steam trap monitoring, repair and replacement.
- d. Domestic water heater/heat exchanger repair and replacement.
- e. Meters and submeters.

8.3.1.7 Electric Motors and Drives (Category 7)

- a. Replace motors with high efficiency motors.
- b. Variable Speed/Frequency Drives.

8.3.1.8 Water-consuming Systems (Category 8)

- a. Installation of low-flow showerheads.
- b. Installation of other low-flow plumbing equipment.
- c. Installation of water efficient irrigation and control systems.
- d. Water supply system improvements.
- e. Sewage systems improvements.
- f. Meters and submeters.

8.3.1.9 Building Envelope Improvements (Category 9)

- a. Installation of insulation.
- b. Weatherization.
- c. Window replacement.
- d. Window tinting.
- e. Cool roof systems.

8.3.1.10 Renewable Energy Systems (Category 10)

- a. Installation of photovoltaic systems.
- b. Installation of solar hot water systems.
- c. Installation of wind energy systems.
- d. Installation of passive solar heating systems.
- e. Installation of passive geothermal heating systems.

8.3.1.11 Miscellaneous Systems (Category 11)

- a. Refrigeration equipment replacements or improvements.
- b. Kitchen equipment replacements or improvements.
- c. Pool equipment replacements or improvements.
- d. Laundry equipment replacements or improvements.
- e. Laboratory equipment replacements or improvements.
- f. Exhaust and fume hood systems.
- g. Other miscellaneous equipment/systems.

8.3.1.12 Energy Related Process Improvements (Category 12)

- a. Manufacturing/production/shop improvements.

8.3.1.13 Distributed Generation (Category 13)

- a. Co-generation systems installation.
- b. Micro turbines installation.
- c. Fuel cell systems installation.

8.3.1.14 Energy and Utility Distribution Systems (Category 14)

- a. Transformer installation.
- b. Power quality upgrades.
- c. Power factor correction.
- d. Substations.
- e. Meters and submeters.

8.3.1.15 Electrical Peak Shaving/Load Shifting (Category 15)

- a. Thermal energy storage.
- b. Fuel Switching.

8.3.1.16 Energy Cost Reduction Through Rate Adjustments (Category 16)

- a. Recommendations for changing to more favorable rate schedule.
- b. Recommendations for energy service billing and meter auditing.
- c. Other rate adjustment recommendations.

8.3.1.17 Commissioning Services (Category 17)

- a. Retro-commissioning.
- b. Continuous commissioning.

8.3.2 *Restrictions on Energy Conservation Measures*

8.3.2.1 Energy and water conservation measures proposed or installed by ESCo shall not introduce any of the following conditions:

- a. Degraded performance or reliability of existing Owner equipment.
- b. Reduction or elimination of extra capacity that was intentionally included for future growth, mission needs, safety, or emergency back-up.
- c. An adverse effect upon the quality of the human environment or violate any Federal, State, or local environmental protection regulations.
- d. Jeopardized operation or environmental conditions of dedicated computers or computer rooms.
- e. Increased water consumption; e.g., once through fresh water cooling systems (Note: evaporative cooling technologies may be considered where environmentally appropriate).

- f. Violation of current versions of national, State, or local building codes.
- g. Unsafe conditions or otherwise adversely impacted Owner facilities, operations, and/or personnel.

8.4 Standards of Comfort

Energy and water conservation measures proposed or installed by ESCo shall comply with the Standards of Comfort required by Owner. The standards of comfort will be defined during project development meetings between ESCo and Owner and will generally include acceptable temperature and humidity ranges, air quality parameters, lighting levels, and other related factors. Typical standards are described in the paragraphs that follow.

8.4.1 HVAC Systems

8.4.1.1 Occupied Areas:

- a. **Comfort Range:** 65°-78°F dry bulb temperature; 30%-60% relative humidity.
- b. **Setbacks:** For general occupied areas (except computer rooms) the following setbacks may be performed:
 - 1. During unoccupied periods during the heating season, the temperature may be reduced to 55°F dry bulb.
 - 2. During unoccupied periods during the cooling season, the HVAC system may be turned off. However, the system must be designed so that it will restart if the temperatures approach levels that could damage equipment.
 - 3. In any case, temperatures must be restored to the 65°- 78°F dry-bulb range by the start of the next occupied period.
- c. **Outside air** shall not be reduced below the quantities cubic feet per minute (CFM) per person value found in ASHRAE 62-89 (or most current version), "Ventilation for Acceptable Indoor Air Quality".

8.4.1.2 Computer Rooms:

- a. **Operating Range:** 70°-74°F dry bulb temperature; 45%-55% relative humidity.
- b. **Setbacks:** No setbacks may be performed.

8.4.2 Control and Automation Systems

- 8.4.2.1** Designs and specifications for control systems modifications shall ensure that existing systems within the facility are modified to be fully compatible with any new systems installed, particularly with regard to communication protocols.

- 8.4.2.2 Control systems requiring manufacturer-proprietary protocols shall not be considered in the design of retrofit measures.
- 8.4.2.3 All new DDC control system designs shall use the BacNet[®] open communication protocol for control sensors, devices, etc., including those provided by manufacturers of HVAC equipment.
- 8.4.2.4 Thermostatic tolerance must be within plus or minus two degrees Fahrenheit for Occupied Areas and plus or minus one degree Fahrenheit for Computer Rooms.

8.4.3 *Lighting Systems*

Except where special circumstances exist, illumination levels shall be maintained as near as practical to the Illuminating Engineering Society of North America (IES) recommended illumination level.

8.5 *Measurement and Verification of Performance*

- 8.5.1 ESCo shall prepare and submit a site-specific Measurement & Verification (M&V) Plan with its Energy Performance Contract Project Proposal. The M&V plan shall specify the M&V options(s) and method(s) that will be used for each energy and water conservation measure included in the Energy Performance Contract.
- 8.5.2 The M&V plan shall also include a schedule indicating M&V activities and post-implementation M&V reporting for each energy and water conservation measure. Typical M&V activities include, but are not limited to the following items.
 - 8.5.2.1 **Define pre-implementation baseline including:**
 - a. Equipment/Systems.
 - b. Baseline energy use.
 - c. System performance factors (e.g., lighting levels, temperature setpoints, time clock settings, etc.).
 - d. Actions to determine baseline energy use, which may include site surveys, short term or long term metering, analysis of billing data, and/or engineering calculations.
 - 8.5.2.2 **Define post-implementation conditions including:**
 - a. Equipment/Systems.
 - b. Post installation energy use.
 - c. Actions to determine post-implementation energy use, which may include site surveys, short term or long term metering, analysis of billing data, and/or engineering calculations.

- d. Factors beyond ESCo's control that influence post-installation energy (e.g. building occupancy, plug load creep, etc.).

8.5.2.3 M&V submittals including:

- a. Pre-implementation baseline development (part of Investment Grade Audit and Energy Performance Contract Project Proposal).
- b. Site- and measure-specific M&V plan (part of Investment Grade Audit and Energy Performance Contract Project Proposal).
- c. Post-implementation report verifying that installed ECMs demonstrate the guaranteed annual energy, energy-related, and water cost savings specified in the Energy Performance Contract.
- d. Annual Measurement and Verification Report to Owner including data and calculations that demonstrate that continued performance achieves the guaranteed annual energy, energy-related, and water cost savings as required by the Energy Performance Contract.

8.6 *Investment Grade Audit Process and Deliverables*

Owner and ESCo must have clear understanding with regard to project requirements to ensure development and implementation of the project is consistent with Owner's needs. The process followed for the Investment Grade Audit and Project Development Contract shall be an interactive approach in ESCo's work with Owner. The process steps to be performed and the deliverables expected are described in the sections that follow.

8.6.1 *Investment Grade Audit and Project Development Kickoff Meeting*

Following execution of this Investment Grade Audit and Project Development Contract, ESCo and Owner shall schedule a kickoff meeting to provide the opportunity for everyone who will be involved in the project to meet in a formal setting to discuss interests, plans, problems, etc. related to the facility and its operation and to establish goals and parameters for the Investment Grade Audit and development of the Project Proposal. ESCo shall create the kickoff meeting agenda and submit it to Owner within a reasonable time before the meeting and shall be responsible for the capture and publication of meeting notes to all parties.

8.6.2 *Collect data and background information from Owner*

8.6.2.1 Owner will provide ESCo with information concerning facility operation and energy use for the most recent three years from the effective date of this Contract as follows:

- a. Building square footage.
- b. Construction data of buildings and major additions.

- c. Utility company invoices.
- d. Occupancy and usage information including principal building activity.
- e. Description of all energy-consuming or energy-saving equipment used on the premises, as available.
- f. Description of energy management procedures utilized on the premises.
- g. Description of any energy-related improvements previously made or currently being implemented.
- h. Description of any changes in the structure of the facility or energy-using or water-using equipment.
- i. Description of future plans regarding building modifications or equipment modifications and replacements.
- j. Drawings, as available (may include mechanical, plumbing, electrical, building automation and temperature controls, structural, architectural, modifications and remodels).
- k. Original construction submittals and factory data (specifications, pump curves, etc.), as available.
- l. Operating engineer logs, maintenance work orders, etc., as available.
- m. Records of maintenance expenditures on energy-using equipment, including service contracts.
- n. Prior energy audits or studies, if any.

8.6.2.2 Owner agrees to work diligently to furnish ESCo, upon request, accurate and complete data and information as available. Where information is not available from Owner, ESCo will make a diligent effort to collect such information through the facility inspection, staff interviews, and utility companies. ESCo agrees to work diligently to assess validity of information provided and to confirm or correct the information as needed.

8.6.3 *Perform an Initial Survey*

ESCo shall perform a survey of facilities to identify potential energy and water conservation measure. This work shall include the following items.

- 8.6.3.1** Interview the facility manager, maintenance staff or others regarding facility operation, including, but not limited to the following:
- a. Facility operation and energy management procedures.
 - b. Equipment maintenance problems.
 - c. Equipment reliability issues.
 - d. Comfort problems and requirements.
 - e. Projected equipment needs, etc.

- f. Occupancy and use schedules for the facility and for specific equipment.
- g. Facility improvements (past and planned).

8.6.3.2 Inspect major energy-using equipment including, but not limited to the following:

- a. Lighting (indoor and outdoor).
- b. Heating and heat distribution systems.
- c. Cooling systems and related equipment.
- d. Automatic temperature control systems and equipment.
- e. Air distribution systems and equipment.
- f. Outdoor ventilation systems and equipment.
- g. Exhaust systems and equipment, including fume hoods.
- h. Hot water systems.
- i. Electric motors, transmission and drive systems.
- j. Special systems (kitchen/dining equipment, swimming pools, laundry equipment, etc.).
- k. Renewable energy systems.
- l. Other energy using systems.
- m. Water consuming systems (restroom fixtures, water fountains, irrigation systems, etc.).

8.6.3.3 Perform "late-night" surveys outside of normal business hours or on weekends to confirm building system and occupancy schedules, if deemed necessary.

8.6.3.4 Develop a list of potential energy saving measures and a supplemental list of other cost saving measures including water saving. The following items shall be considered for each system:

- a. Comfort and maintenance problems.
- b. Energy use, loads, proper sizing, efficiencies and hours of operation.
- c. Current operating condition.
- d. Remaining useful life.
- e. Feasibility of system replacement.
- f. Hazardous materials and other environmental concerns.
- g. Owner's future plans for equipment replacement or building renovations.
- h. Facility operation and maintenance procedures that could be affected.
- i. Indoor air quality.

8.6.3.5 Owner will allow ESCo reasonable access to facility staff to ensure understanding of existing systems and opportunities. ESCo agrees to

work diligently to assess validity of information provided and to confirm or correct the information as needed.

8.6.4 *Establish base year consumption and reconcile with end use consumption estimates.*

8.6.4.1 ESCo shall analyze utility bills for the past 3 years and establish base year consumption for electricity, gas, steam, water, etc. in terms of energy units (kWh, kW, ccf, Therms, gallons, or other units used in bills), in terms of dollars, in terms of dollars per square foot and in terms of Btus per square foot. ESCo shall identify the base year and describe the process used to determine the base year (averaging, selecting most representative contiguous 12 months, etc.). ESCo shall consult with facility personnel to account for any anomalous schedule, or operating conditions, or billings that could skew the base year representation. ESCo shall account for periods of time when equipment was broken or malfunctioning in calculating the base year.

8.6.4.2 ESCo shall estimate loading, usage and/or hours of operation for all major end uses of total facility consumption including, but not limited to the following items:

- a. Lighting.
- b. Heating.
- c. Cooling.
- d. HVAC motors (fans and pumps).
- e. Plug loads.
- f. Kitchen equipment.
- g. Other/miscellaneous energy or water using equipment.

8.6.4.3 Where loading or usage are highly uncertain (including variable loads such as cooling), ESCo shall use its best judgment, spot measurements, or short-term monitoring. ESCo shall not assume that equipment run hours equal the operating hours of the building(s) or facility staff estimates.

8.6.4.4 ESCo shall reconcile annual end-use estimated consumption with the annual base year consumption to within five percent (5%) for electricity (kWh), fuels and water. ESCo shall also reconcile electric peak demand (kW) for each end use within five percent (5%). The miscellaneous category can be no greater than five percent. This reconciliation will place reasonable “real-world” limits on potential savings.

8.6.4.5 ESCo shall propose adjustments to the baseline for energy and other cost saving measures including water saving that may be implemented in the future separate from the proposed Energy Performance Contract.

8.6.5 *Develop a preliminary analysis of potential energy and water saving measures.*

8.6.5.1 Preliminary analysis shall be compiled and submitted to Owner within █ calendar days of the execution of this Contract.

8.6.5.2 ESCo shall list all potential opportunities, whether cost-effective or not. Consider technologies in a comprehensive approach including, but not limited to: lighting systems, heating/ventilating/air conditioning equipment and distribution systems, controls systems, building envelope, motors, kitchen equipment, pools, renewable energy systems, other special equipment, irrigation systems, and water saving devices.

8.6.5.3 ESCo shall identify measures which appear likely to be cost effective and therefore warrant detailed analysis.

8.6.5.4 For each measure, ESCo shall prepare a preliminary estimate of energy or water cost savings including description of analysis methodology, supporting calculations and assumptions used to estimate savings.

8.6.5.5 For each measure, ESCo shall prepare a preliminary estimate of implementation costs. Markups and fees shall be as defined in Attachment B, Cost and Pricing Elements.

8.6.6 *Present preliminary analysis to Owner*

8.6.6.1 ESCo shall present results of preliminary analysis including assessment of energy use, savings potential, retrofit opportunities, and potential for developing an energy performance contract. ESCo shall describe how the projected project economics meet Facility Owner's terms for completing the requirements of the audit report.

8.6.6.2 ESCo shall work with Owner to develop a list of measures recommended for detailed analysis. Owner's rejection of calculations of savings, potential savings allowed, or project recommendations shall be at the risk of ESCo.

8.6.7 Analyze each Energy Conservation Measure (ECM)

- 8.6.7.1** For the Investment Grade Audit and Project Development, ESCo shall analyze savings and costs for each energy and other cost saving measure including water saving.
- 8.6.7.2** ESCo shall follow the methodology of ASHRAE or other nationally-recognized authority and the engineering principle(s) identified for each retrofit measure.
- 8.6.7.3** ESCo shall utilize assumptions, projections and baselines which best represent the true value of future energy or operational savings. ESCo shall include accurate marginal costs for each unit of savings at the time the audit is performed, documentation of material and labor cost savings, adjustments to the baseline to reflect current conditions at the facility, and calculations which account for the interactive effects of the recommended measures.
- 8.6.7.4** ESCo shall use best judgment regarding the employment of instrumentation and recording durations so as to achieve an accurate and faithful characterization of energy use.
- 8.6.7.5** ESCo shall use markups and fees provided prior to contract negotiations in all cost estimates. Markups and fees shall be as defined in Attachment B, Cost and Pricing Elements.
- 8.6.7.6** ESCo shall develop a preliminary measurement and verification approach for each measure.
- 8.6.7.7** ESCo shall develop a preliminary training program for Owner's staff on operations and maintenance of each measure.
- 8.6.7.8** ESCo shall identify potential financing arrangements, rebates, incentives, grants, etc.
- 8.6.7.9** ESCo shall include any cost to provide services and complete application for Energy Star Label.
- 8.6.7.10** ESCo shall prepare a detailed report following the additional guidelines for analysis and report preparation described in the **Section 8.6.8** below.

8.6.8 *Project Development Meetings*

Due to the considerable amount of issues that must be covered and the close interaction required, ESCo and Owner shall schedule meetings and focused workshops as required to cover specific elements of the Investment Grade Audit and Project Proposal development. This format allows concentration on specific issues in each workshop. Recommended Workshops shall cover the following proposal elements:

- Energy Conservation Measures
- Energy Baseline and Adjustments to the Baseline
- Measurement and Verification
- Financial
- Construction
- Performance Period Services

ESCo shall create an agenda and submit it to Owner within a reasonable time before each meeting or workshop and shall be responsible for the capture and publication of meeting notes to all parties.

8.6.9 *Prepare a Draft Investment Grade Audit Report and Energy Performance Contract Project Proposal*

The primary purpose of the Investment Grade Audit Report is to provide an engineering and economic basis for negotiating a potential Energy Performance Contract between the Owner and ESCo. A draft version of this report shall be completed within █ calendar days of the date of execution of this Contract. Required information shall include all of the items described in the following sections in the order given.

8.6.9.1 *Overview Section*

This section will be an executive summary of the proposed project and will include the following in the order shown.

- a. Contact information.
- b. Summary tables of recommended energy saving measures and other cost saving measures including water, with itemization for each measure of design and construction cost, annual maintenance costs, the first year cost avoidance (in dollars and energy units), simple payback, return on investment calculations, and equipment service life.
- c. Summary of annual energy and water use by fuel type and costs of existing or base year condition.
- d. Calculation of cost savings expected if all recommended measures are implemented including total percentage savings.
- e. Description of the existing facility, mechanical and electrical systems.

- f. Summary description of measures, including estimated costs and savings for each as detailed above.
- g. Explanation of how savings will be calculated and adjusted if required due to weather (such as heating or cooling degree days), occupancy changes or other factors.
- h. Preliminary analysis of energy performance contract terms to include:
 - 1. Interest rate used in the analysis.
 - 2. Expected contract term (in number of years).
 - 3. Analysis of annual cashflow for Owner during the contract term (Schedule EPC-3).
- i. Description of how the project will be financed including available interest rates and financing terms, based on interest rates likely available to Owner at this time, and based on a 60-day and 90-day lock option.
- j. Discussion of measures considered but not investigated in detail.
- k. Discussion of O&M items recommended for completion by the Owner.
- l. Conclusions and recommendations

8.6.9.2 Base Year Energy Use Section

This section shall contain detailed information on development of the energy baseline and shall include the following in the order shown:

- a. Description and itemization of current billing rates, including schedules and riders.
- b. Summary of all utility bills for all fuel types and water.
- c. Identification and definition of base year consumption and description of how established.
- d. Reconciliation of estimated end use consumption (i.e. lighting, cooling, heating, fans, plug loads, etc) with base year including discussion of any unusual findings.

8.6.9.3 Energy and Water Conservation Measures Section

This section shall contain full written descriptions of each energy and water conservation measure, and savings calculations as described in the following sections and in the order given.

- a. Full written description of each energy or water conserving measure to include:
 - 1. Description of existing conditions.
 - 2. Sequential measure identification using numbering per categories described in Section 8.3.1 (e.g. ECM 1.1 Lighting Improvements, ECM 1.2 Lighting Controls, etc.).
 - 3. Detailed description of measure.

4. Plan for installing or implementing the recommendation.
 5. Discussion of facility operations and maintenance procedures that will be affected by installation/implementation.
- b. Savings calculations for each energy or water conserving measure including:
1. Base year energy use and cost.
 2. Post-retrofit energy use and cost.
 3. Annual savings estimates including analysis methodology.
The cost savings for all energy saving measures must be estimated for each year during the Contract period. Savings must be achievable each year. Reporting average annual savings over the term of the Contract shall not be acceptable.
 4. Annual energy or water savings for each measure shall be illustrated within each measure description by utilizing tables as shown below (Example shown for Electrical/Gas Savings – Other energy or water shall be similar).

Table (#) Proposed Annual Energy Savings

	Electrical Consumption (kWh)	Electrical Demand (kW)	Nat. Gas Consumption (MMBTU)
Baseline			
Proposed			
Savings			

5. Annual cost savings in dollars for each measure shall be illustrated within each measure description by utilizing tables as shown below (Example shown for Electrical/Gas Savings – Other energy or water shall be similar).

Table (#) Proposed Annual Energy Cost Savings

	Electrical	Nat. Gas	Total
Baseline			
Proposed			
Savings			

6. Savings estimates must be limited to savings allowed by Owner as described in Section 8.2.1 and 8.2.2.
7. Percent cost-avoidance projected.
8. Description and calculations for any proposed rate changes.
9. Explanation of how a savings interaction between retrofit options is accounted for in calculations and how savings duplication or interaction between retrofit options is avoided.

10. Proposed Operations and Maintenance savings, including detailed calculations and description. Maintenance savings shall only be those that can be clearly documented and shall only be applied in the appropriate years and only during the lifetime of the particular equipment.
11. If computer simulation is used, include a short description and state key input data. If requested by Owner, access will be provided to the program and all assumptions and inputs used, and/or printouts shall be provided of all input files and important output files and included in the Investment Grade Audit with documentation that explains how the final savings figures are derived from the simulation program output printouts.
12. If manual calculations are employed, formulas, assumptions and key data shall be stated.
13. Conclusions, observations, caveats.

8.6.9.4 Management Plan Section

The Management Plan shall contain information on how the construction will be managed including items such as security and safety controls, staging areas, delivery routes, crane locations, and interfaces required at the site with the using agency. As part of the management plan the proposed project schedule indicating critical dates and other information in detail shall be submitted. The management plan should be concise and contain all of the items described in the following sections in the order given.

- a. **Approach:** Provide detailed information on ESCo's approach to managing the implementation of the Energy Performance Contracting project. Management, coordination, use of subcontractors, and engagement of the DFCM and Owner in project implementation and post-construction activities must be described.
- b. **Organization:** Provide ESCo's organization chart (by name as available) for implementing and managing the project, to include the responsibilities of each individual element shown and the lines of authority within the overall organization. Also what portions of the effort if any, are to be sub-contracted shall be identified, and the same information for subcontractor organization and personnel shall be provided.
- c. **Subcontractors:** Work that is proposed to be completed by Contractor or by a subcontractor and ESCo's approach to selection and management of subcontractors shall be described. Any subcontractors ESCo has already selected shall be identified and

relationships between ESCo and subcontractors must be discussed.

- d. Construction Management:** Discussion shall include description of how ESCo will work with current Facilities Management personnel in order to coordinate construction and avoid conflicts with operation and use of buildings. Flexibility and/or any limitations regarding other possible Owner activities such as management of additional energy and water projects and integration of other identified capital needs with other projects which may or may not contain energy and water saving opportunities shall be included.
- e. Preliminary Installation Schedule:** The order in which ESCo proposes to perform the work and the dates on which ESCo contemplates starting and completing all major milestones (including acquiring materials, equipment, permits) shall be shown. The schedule shall be in the form of a progress chart of suitable scale to indicate the amount of work scheduled for completion by any given date during the installation period.
- f. Planned Service Interruptions:** Any anticipated utility services that must be discontinued temporarily to perform work, shall be described and indicated on the project installation schedule. The description shall include the length of the interruption, its time (date, day of week, time of day, etc.), and a justification.
- g. Operations, Maintenance, Repair, and Replacement:** The organizational structure for performance of the proposed ECM operations, maintenance and repair and replacement requirements shall be shown and ESCo's proposed approach described. Each ECM will identify the organization(s) (Owner or ESCo/sub-contractor) responsible for operations and maintenance of ESCo-installed equipment. Details of how responsibilities are shared shall be included or reference made where this information is located. Reporting requirements of Owner or ESCo during the performance period shall be identified. Responsibilities and risks of operations shall be briefly defined in the Risk Assessment Matrix.
- h. Training:** A detailed description of how training for each measure will be provided for Owner personnel shall be provided. Training shall be customized to reflect the level of operations and maintenance responsibility to be assumed by Owner personnel.
- i. Risk Assessment Matrix:** ESCo shall complete and submit with its proposal a Risk Assessment Matrix detailing ESCo's proposed approach or method to address each area of potential

risk listed. The format and content of this Risk Assessment Matrix set out in the Risk Assessment Matrix (Attachment C).

8.6.9.5 Price and Cost Proposal Section

ESCo's price proposal will include a detailed scope of the construction work needed and all anticipated costs associated with installation and implementation as described below.

- a) Detailed scope of the construction work needed suitable for independent cost estimating.
- b) Project Cost is the total amount Owner will pay for the project and ESCo's services. A list of services that will be provided as related to each cost shall be included. Cost details must be provided for Owner review. Costs shall include all anticipated costs associated with installation and implementation including:
 1. Engineering, designing, packaging, procuring, installing (from Investment Grade Audit Report results) costs.
 2. Financing (based on interest rates likely available to Owner at this time).
 3. ESCo/vendor estimates for labor, materials, equipment; include special provisions, overtime, etc., as needed to accomplish the work with minimum disruption to the operations of the facilities.
 4. Subcontractor bids and/or proposals.
 5. Permit costs.
 6. Performance/payment bond costs.
 7. Construction management fees.
 8. Commissioning costs.
 9. Maintenance fees.
 10. Measurement and Verification (M&V) fees.
 11. Training fees.
 12. Other costs/fees.
 13. Company overhead/profit.
 14. Legal services.
 15. Environmental costs or benefits (disposal, avoided emissions, handling of hazardous materials, etc.).
 16. Markups and costs used in the cost estimates shall not exceed those disclosed and negotiated as shown on Cost and Pricing Elements (Attachment B).
- c) Description of potential utility rebates or other incentives that may apply to the project.
- d) Proposed financing structure.
- e) Include completed draft versions of EPC Schedules (Attachment D) as follows:

1. Schedule EPC-1 Proposed Implementation Cost by Energy Conservation Measure

- i.** Schedule EPC-1 presents the implementation period investment for each ECM included in a specific Energy Performance Contract project. It reflects the equipment proposed for installation for each ECM indicated along with its implementation price and the calculation of the total estimated implementation price, or investment, for all proposed ECMs for the Energy Performance Contract project.
- ii.** This schedule also presents the first year annual cost savings proposed from the Investment Grade Audit and a simple payback in years for each ECM indicated along with the calculation of the total first year annual cost savings for all proposed ECMs and aggregate simple payback for the Energy Performance Contract project. This information will correlate with the information provided on Schedule EPC-2.
- iii.** Both the ECM and category numbers shall be provided, in accordance with the numbering described in Section 8.3.1 of this Contract. The ECM numbers indicated in this Schedule shall be consistent throughout ESCo's proposal, both technical and price.
- iv.** The total bonded amount on EPC-1 will be used to establish performance and payment bond requirements for the ECM implementation period, if applicable, in accordance with the Energy Performance Contract document.

2. Schedule EPC-2 Proposed First Year Annual Cost Savings

- i.** Schedule EPC-2 shall be submitted to present a summary of the proposed estimated annual cost savings that will be achieved following the installation of the ECMs included in the Energy Performance Contract Project proposal. Both the ECM and category numbers shall be provided, in accordance with the numbering described in Section 8.3.1 of this Contract.
- ii.** The annual cost savings requested for each ECM shall be broken down into energy, water and O&M cost savings. The energy savings shall be presented in the energy type consumed by the equipment as listed in the columns on Schedule EPC-2. Subsequent demand and dollar savings shall be derived from the project site utility rates provided for the Investment Grade Audit.

- iii. The building square footage affected by the project shall be included in the Schedule and total energy savings shall be converted to KBTu's per square foot per year for a project summary.
- iv. ESCo shall provide adequate supporting documentation for the estimated annual cost savings submitted in Schedule EPC-2, to include whatever detail is pertinent to the project.

3. Schedule EPC-3 Proposed Performance Period Cash Flow

- i. Schedule EPC-3 presents the proposed project cash flow for the project. Development of this schedule will require ESCo to coordinate information with the financial services provider. The schedule is divided into three sections as follows:
 - The Project Capitalization section contains the implementation price (which should correlate with Schedule EPC-1), plus any financing procurement costs, less any pre-performance period payments, resulting in the total amount financed.
 - The Term section illustrates the debt service stream on that investment, including any annual capital contribution from Owner.
 - The Performance Period section pertains to the total expenses associated with the services ESCo supplies to manage the project, and maintain and verify ECM performance during the Performance Period of the Contract term.
- ii. ESCo shall propose the estimated cash flows for each year of the proposed Energy Performance Contract project term. The pricing provided in this schedule shall be traceable to the information provided in Schedules EPC-2 and EPC-4.
- iii. ESCo shall specify the Applicable Financial Index used with its source and date, the financing term of the project (in years), the index rate (derived for the project's term from the financial index), any added premium being applied to amortize the investment, and the resultant Project Interest Rate. The date through which the proposed Project Interest Rate is effective through must be identified on the Schedule.
- iv. Additional sheets shall be provided for this Schedule as needed to reflect the actual number of years in the Energy Performance Contract project term. Totals for each row

over the term shall be calculated and shown in the far right column.

4. Schedule EPC-4 Proposed Guaranteed Annual Cost Savings and Annual Payments

- i.** Schedule EPC-4 presents ESCo’s proposed annual cost savings, guaranteed annual energy savings, and the annual financing payments. The values submitted on Schedule EPC-4 are for 12-month periods, beginning after completion by ESCo of the implementation period for all ECMs, and acceptance by Owner. The annual cost savings proposed and ESCo’s guaranteed annual cost savings for each year of the Energy Performance Contract performance period shall be based on the results of the Investment Grade Audit and correlate with the other Schedules required for submission.
- ii.** Schedule EPC-4 shall specify any applicable escalation rates that will be used for utilities during the Energy Performance Contract's period of performance. The estimated annual cost savings shall be based on the specified rates for utilities and any applicable escalation.
- iii.** The total annual financing payments proposed shall be for each year of the proposed performance period after ECM implementation and acceptance by Owner. Payments will be structured based upon the negotiated annual fixed payment schedule and included in the Energy Performance Contract award. This represents the Energy Performance Contract cost and will be supported by the information submitted in the other EPC schedules submitted with the Energy Performance Contract Project Proposal.

5. Schedule EPC-5 Proposed Annual Termination Ceiling

- i.** Schedule EPC-5 shall be submitted for the Energy Performance Contract Project Proposal. Development of this schedule will require ESCo to coordinate information with the financial services provider.
- ii.** The column headed “Total Termination Ceiling,” is a presentation of proposed, and later negotiated, annual cancellation ceilings to establish the maximum termination liability in the event of Contract cancellation or termination. Actual termination charges will be negotiated as part of any cancellation or termination settlement, per established State of Utah requirements..
- iii.** The column headed “Outstanding Capital Investment,” is a fixed subset of the Total Termination Ceiling. It

constitutes the remaining unamortized principal on Total Amount Financed for each time period specified in the Schedule EPC-5, plus any prepayment charges as negotiated and included in the pricing (including financing) of the project.

8.6.9.6 Other information to be provided

ESCO's Draft Investment Grade Audit Report and Project Proposal shall also include the following:

- a) Description of proposed savings guarantee (in energy units and dollars).
- b) Estimate of average useful service life of equipment proposed.
- c) Preliminary commissioning plan for equipment/systems to be installed.
- d) Preliminary Measurement and Verification Plan, following the International Performance Measurement and Verification Protocol (IPMVP), explaining how savings from each measure is to be measured and verified (stipulated by Contract, utility bill analysis, end-use measurement and calculation, etc.).
- e) Discussion of impacts that facility would incur after Contract ends. Consider operation and maintenance impacts, staffing impacts, budget impacts, etc., and identify responsibilities for maintenance of installed measures.
- f) Discussion of compatibility with existing systems (e.g. Controls/BAS upgrades or replacements must be compatible with controls systems that are to remain).

8.6.9.7 Appendix Material

Complete Appendix material that documents the data and assumptions used to prepare the analyses and describes how data was collected shall be provided with the Draft Investment Grade Audit Report and Project Proposal. At a minimum this material shall include:

- a) Description of data collection methodology.
- b) Supporting calculations and assumptions used for developing savings estimates for **each** proposed measure.
- c) Specifications and manufacturer cut sheets for major mechanical components.
- d) Detailed lighting and plumbing fixture counts.
- e) Subcontractor bids/cost proposals.
- f) Electronic copies of computer modeling data.

8.6.10 Meet with Owner to Review Draft Investment Grade Audit Report and Energy Performance Contract Project Proposal

ESCO shall meet with Owner to review the recommendations, savings calculations and impact of the measures on the operations of the facility to develop mutual agreement on final energy and water savings measures to be included, energy baseline, implementation plan, savings guarantee, measurement and verification approach, and project financials.

8.6.11 Prepare Final Investment Grade Audit Report and Energy Performance Contract Project Proposal

The Final Investment Grade Audit Report and Energy Performance Contract Project Proposal shall be completed within █ calendar days of the date of execution of this Contract as follows:

8.6.11.1 Update and finalize the Draft Investment Grade Audit Report and Energy Performance Contract Project Proposal based upon the results of the review described in Section 8.6.10 above. ESCo shall make all changes in the draft document as reviewed and requested by the Owner.

8.6.11.2 Incorporate energy and water savings measures, baseline, implementation plan, savings guarantee, measurement and verification approach, project financials, capital contributions by Owner and other items mutual agreed upon.

8.6.11.3 Final Investment Grade Audit Report and Energy Performance Contract Project Proposal shall include final iterations of all elements described in **Section 8.6.9** above.

8.6.11.4 Prepare material for the Energy Performance Contract documents. Include updated Schedules EPC-1 through EPC-5 as described in Section 8.6.9.5.e above (Attachment D) and other Attachment materials in editable format (Word, Excel, etc.) for creation of the Energy Performance Contract documents by Owner.

9.0 OWNER REVIEW OF FINAL INVESTMENT GRADE AUDIT REPORT AND ENERGY PERFORMANCE CONTRACT PROPOSAL

Owner shall carefully review the Final Investment Grade Audit Report and Energy Performance Contract Project Proposal. If the Investment Grade Audit Report is acceptable, Owner shall issue a Notice of Acceptance of Investment Grade Audit (Attachment E). This represents acceptance of the report only. Acceptance of ESCo's Project Proposal will be via the Energy Performance Contract following final negotiations.

10.0 SUMMARY OF DELIVERABLES

The following summarizes the deliverables associated with this Contract and due dates for those deliverables:

Deliverable	Due Date
Contractor Certificates of Insurance	At Contract execution
Preliminary Analysis of Potential Measures	■ calendar days after Contract execution
Draft Investment Grade Audit and Energy Performance Contract Project Proposal	■ calendar days after Contract execution
Final Investment Grade Audit and Energy Performance Contract Project Proposal	■ calendar days after Contract execution

11.0 Signatures

IN WITNESS WHEREOF, and intending to be legally bound, the parties hereto subscribe their names to this Contract on the date first written above and certify that they have read, understood, and agreed to the terms and conditions of this Contract.

ESCo

OWNER

By: _____

By: _____

Printed Name: _____

Printed Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

Investment Grade Audit Contract Attachment B Cost and Pricing Elements

- 1. Costs, Markups, and Fees.** Cost for performing the Investment Grade Audit and maximum project markups and fees for pre-defined categories to be used in analyses for the Investment Grade Audit shall be per the following schedules. Fees shall not be added to items on which markups are applied as listed in the mark up table below. Markups on fees are not allowable.

MARK-UPS		
<i>CATEGORY OF MARK-UP</i>	<i>MARK-UP APPLICATION</i>	<i>% MARK-UP</i>
Overhead		%
Profit		%
Labor - Internal		
Equipment Purchased		
Materials Purchased		
Subcontract Labor		
Subcontract Material		

FEES		
<i>CATEGORY OF FEE</i>	<i>FEE AMOUNT</i>	<i>YEARS APPLIED (One-time, Annual, etc.)</i>
Investment Grade Audit and Project Development	\$ per Square Foot	One time
Solicit & Evaluate Financing Proposals		N/A
Design	Per State of Utah Table of Design Fees	One time
Project Management		One time
Contingency		One time
Permits	Actual Cost – No Mark-up	One time
Performance Bond	Actual Cost – No Mark-up	One time
Commissioning		One time
Initial Training on Installed Measures		One time
Additional Training	Per Training Plan Proposed	
Monitoring and Verification	Per M&V Plan Proposed	Annual
Warranty Service		One time
Maintenance on Installed Measures	Per Maintenance Plan Proposed	

2. Open Book Pricing. Open book pricing is full disclosure by ESCo to Owner of all costs and markups for materials, labor, and services received during the project development, implementation, and performance period phases. Open book pricing will be required such that ESCo will fully disclose all costs, including all costs of subcontractors, vendors and internal resources. ESCo shall maintain cost accounting records on authorized work performed under actual costs for labor and material, or other basis requiring accounting records.

ESCo will afford DFCM and Owner access to these records and preserve them for a period of three (3) years after final payment. Costs will be evaluated through price analysis to compare costs with reasonable criteria such as established catalog and market prices or historical prices to ensure ESCo's prices are reasonable and acceptable and that markups are being properly applied.

Investment Grade Audit Contract Attachment C Risk Assessment Matrix

ESCo shall complete and submit with its proposal this Risk Assessment Matrix detailing its proposed approach or method to address each of the potential risk factors listed. Owner will review ESCo's proposed approaches and provide comments in the appropriate column. ESCo and Owner shall discuss the completed Risk Assessment to develop a mutually agreed upon method to proceed with addressing the Risk Factors in the Energy Performance Contract.

RISK FACTOR	ESCo PROPOSED APPROACH	FACILITY OWNER ASSESSMENT
1. Financial a. <u>Interest rates</u>: Neither ESCo nor Owner has significant control over prevailing interest rates. During all phases of the project, interest rates will change with market conditions. Higher interest rates will increase project cost, financing/project term, or both. The timing of the Contract signing may impact the available interest rate and project cost. <i>Clarify how fluctuating interest rates will be handled.</i>		

<p><u>b. Energy prices:</u> Neither ESCo nor Owner has significant control over actual energy prices. For calculating savings, the value of the saved energy may either be constant or change at a fixed escalation rate, If the value of saved energy is fixed (either constant or escalated), Owner risks making payments in excess of actual energy cost savings. <i>Clarify how future energy costs will be treated.</i></p>		
<p><u>c. Construction costs:</u> ESCo is responsible for determining construction costs and defining a budget. In a fixed-price design/build Contract, Owner assumes little responsibility for cost overruns. However, if construction estimates are significantly greater than originally assumed, ESCo may find that the project or measure is no longer viable and drop it before Contract award. <i>Clarify design standards and the design approval process (including changes) and how costs will be reviewed.</i></p>		

<p>d. <u>M & V costs:</u> Owner assumes the financial responsibility for M & V costs directly or through ESCo. If Owner wishes to reduce M & V cost, it may do so by accepting less rigorous M & V activities with more uncertainty in the savings estimates.</p> <p>Clarify how project savings are being verified (e.g., equipment performance, operational factors, energy use) and the impact on M&V costs.</p>		
<p>e. <u>Non-Energy Cost Savings:</u> Owner and ESCo may agree that the project will include savings from <i>recurring</i> and/or <i>one-time</i> costs. This may include one-time savings from avoided expenditures for projects that were appropriated but will no longer be necessary. Including one-time cost savings before the money has been appropriated entails some risk to Owner. Recurring savings generally result from reduced O&M expenses or reduced water consumption. These O&M and water savings must be based on actual spending reductions.</p> <p>Clarify sources of non-energy cost savings and how they will be verified.</p>		

<p>f. <u>Delays:</u> Both ESCo and Owner can cause delays. Failure to implement a viable project in a timely manner costs Owner in the form of lost savings, and can add cost to the project (e.g. construction interest, re-mobilization). Clarify schedule and how delays will be handled.</p>		
<p>g. <u>Major changes in facility:</u> Owner controls major changes in facility use, including closure. Clarify responsibilities in the event of a premature facility closure, loss of funding, or other major change.</p>		
<p>2. Operational</p>		
<p>a. <u>Operating hours:</u> Owner generally has control over operating hours. Increases and decreases in operating hours can show up as increases or decreases in “savings” depending on the M&V method (e.g., operating hours multiplied by improved efficiency of equipment vs. whole-building/utility bill analysis). Clarify whether operating hours are to be measured or stipulated and what the impact will be if they change. If the operating hours are stipulated, the baseline should be carefully documented and agreed to by both parties.</p>		

<p>b. <u>Load:</u> Equipment loads can change over time. Owner generally has control over hours of operation, conditioned floor area, intensity of use (e.g. changes in occupancy or level of automation). Changes in load can show up as increases or decreases in “savings” depending on the M & V method. Clarify whether equipment loads are to be measured or stipulated and what the impact will be if they change. If the equipment loads are stipulated, the baseline should be carefully documented and agreed to by both parties.</p>		
<p>c. <u>Weather:</u> A number of energy efficiency measures are affected by weather. Neither ESCo nor Owner has control over the weather. Changes in weather can increase or decrease “savings” depending on the M&V method (e.g. equipment run hours multiplied by efficiency improvement vs. whole-building/utility bill analysis). If weather is “normalized,” actual savings could be less than payments for a given year, but will average out over the long run. Clearly specify how weather corrections will be performed.</p>		

<p>d. <u>User participation:</u> Many energy conservation measures require user participation to generate savings (e.g., control settings). The savings can be variable and ESCo may be unwilling to invest in these measures. <i>Clarify what degree of user participation is needed and utilize monitoring and training to mitigate risk. If performance is stipulated, document and review assumptions carefully and consider M&V to confirm the capacity to save (e.g., confirm that the controls are functioning properly).</i></p>		
<p>3. Performance</p>		
<p>a. <u>Equipment performance:</u> Generally Owner has final approval over the selection of equipment and ESCo is responsible for its proper installation, commissioning, and performance. Generally ESCo has responsibility to demonstrate that the new improvements meet expected performance levels including specified equipment capacity, standards of service, and efficiency. <i>Clarify who is responsible for initial and long-term performance, how it will be verified, and what will be done if performance does not meet expectations.</i></p>		

<p><u>b. Operations:</u> Responsibility for operations is negotiable, and it can impact performance. <i>Clarify responsibility for operations, the implications of equipment control, how changes in operating procedures will be handled, and how proper operations will be assured.</i></p>		
<p><u>c. Preventive Maintenance:</u> Responsibility for maintenance is negotiable, and it can impact performance. Clarify how long-term preventive maintenance will be assured, especially if the party responsible for long-term performance is not responsible for maintenance (e.g., ESCo provides maintenance checklist and reporting frequency). <i>Clarify who is responsible for long-term preventive maintenance to maintain operational performance throughout the Contract term. Clarify what will be done if inadequate preventive maintenance impacts performance.</i></p>		

<p><u>d. Equipment Repair and Replacement:</u> Responsibility for repair and replacement of ESCo-installed equipment is negotiable, however it is often tied to project performance. <i>Clarify who is responsible for replacement of failed components or equipment throughout the term of the Contract. Specifically address potential impacts on performance due to equipment failure. Specify expected equipment life and warranties for all installed equipment. Discuss replacement responsibility when equipment life is shorter than the term of the Contract.</i></p>		
--	--	--

**WSU CONTRACT SCHEDULE EPC-3
PERFORMANCE PERIOD CASH FLOW**

_____ Proposed
_____ Final

Facility Name: Weber State University					ESCO Name:							
Project Capitalization					Applicable Financial Index:			Issue Date:				
Total Implementation Cost (CS-1 Total):					Term (Years):			Source:				
Financing Procurement Cost (\$):	\$0				Index Rate:			Effective Through:				
Pre-Performance Period Payments:	\$0				Added Premium:							
Total Amount Financed:	\$0				Project Interest Rate:							
Year of Term:	0	1	2	3	4	5	6	7	8	9	10	Yr 1-10 TOTAL
Annual Cash Flow (Performance Period):												
(A) Facility Owner Capital Contribution:												\$0
Debt Service												\$0
Interest (\$):												\$0
Principal Repayment (\$):												\$0
(B) Total Debt Service:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Performance Period Expenses												
Management/Administration:												\$0
Operation:												\$0
Maintenance:												\$0
Repair & Replacement:												\$0
Measurement & Verification:												\$0
Other Performance Period Services (List)												\$0
1 N/A												\$0
2 N/A												\$0
3 N/A												\$0
4 N/A												\$0
5 N/A												\$0
(C) Total Performance Period Expenses:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL PAYMENTS (A)+(B)+(C):	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Notes:

- Pre-Performance Period Payments include Owner Capital Contribution in the amount of: and Utility Financial Incentives in the amount of:
- Performance Period Expenses shall include only direct costs, and no implementation period expenses.
- ESCO shall attach adequate supporting information detailing total performance period expenses (direct costs), in accordance with the Investment Grade Audit and Project Development Contract.
- If applicable, ESCo shall specify escalation rate applied to performance period expenses: Energy: % O&M: %
- If applicable, pre-performance period payments will be applied in year Zero to reduce principal repayment.
- Include all years of Performance Period using additional pages as necessary.

WSU CONTRACT SCHEDULE EPC-3 (Continuation)
PERFORMANCE PERIOD CASH FLOW

_____ Proposed
 _____ Final

Facility Name: Weber State University						ESCO Name:							
Project Capitalization	Applicable Financial Index:					Issue Date:							
Total Implementation Cost (CS-1 Total):	Term (Years):					Source:							
Financing Procurement Cost (\$):	\$0	Index Rate:					Effective Through:						
Pre-Performance Period Payments:	\$0	Added Premium:											
Total Amount Financed:	\$0	Project Interest Rate:											
Year of Term:	11	12	13	14	15	16	17	18	19	20	Yr 1-10	TOTAL	
Annual Cash Flow (Performance Period):													
(A) Facility Owner Capital Contribution:												0	\$0
Debt Service												0	\$0
Interest (\$):												0	\$0
Principal Repayment (\$):												0	\$0
(B) Total Debt Service:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Performance Period Expenses													
Management/Administration:												0	\$0
Operation:												0	\$0
Maintenance:												0	\$0
Repair & Replacement:												0	\$0
Measurement & Verification:												0	\$0
Other Performance Period Services (List)												0	\$0
1 N/A												0	\$0
2 N/A												0	\$0
3 N/A												0	\$0
4 N/A												0	\$0
5 N/A												0	\$0
(C) Total Performance Period Expenses:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
TOTAL ANNUAL PAYMENTS (A)+(B)+(C):	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	

Notes:

- Pre-Performance Period Payments include Owner Capital Contribution in the amount of: and Utility Financial Incentives in the amount of:
- Performance Period Expenses shall include only direct costs, and no implementation period expenses.
- ESCO shall attach adequate supporting information detailing total performance period expenses (direct costs), in accordance with the Investment Grade Audit and Project Development Contract.
- If applicable, ESCo shall specify escalation rate applied to performance period expenses: Energy: % O&M: %
- If applicable, pre-performance period payments will be applied in year Zero to reduce principal repayment.
- Include all years of Performance Period using additional pages as necessary.

**WSU CONTRACT SCHEDULE EPC-4
GUARANTEED ANNUAL COST SAVINGS
AND ANNUAL PAYMENTS**

___ Proposed
___ Final

If selected, ESCo shall complete the installation of all proposed ECMs not later than months after delivery award.

Facility Name: **Weber State University**
ESCo Name:

Year of Performance Period	A Proposed Annual Cost Savings (\$) from ESCo IGA	B ESCo Annual Guaranteed Cost Savings (\$)	C WSU Annual Payments (\$)
Construction Period (Year 0)			
One			
Two			
Three			
Four			
Five			
Six			
Seven			
Eight			
Nine			
Ten			
Eleven			
Twelve			
Thirteen			
Fourteen			
Fifteen			
Sixteen			
Seventeen			
Eighteen			
Nineteen			
Twenty			
TOTALS	\$0	\$0	\$0

Notes:

- 1) The first year (Year One) Proposed Annual Cost Savings from the ESCo's Investment Grade Audit (IGA) reflect engineering estimates as presented in Schedule EPC-2.
- 2) The "Guaranteed Annual Cost Savings" are based on the site-specific M&V plan.
- 3) The total of Annual Payments represents the Energy Performance Contract total cost and should be supported by information submitted in and provided with Schedule EPC-1 and EPC-3, and their required supporting documentation.
- 4) If applicable, pre-performance period payments will be submitted for Year Zero.
- 5) The Guaranteed Annual Cost Savings must exceed the Annual Payments (except year zero) for each year of the performance period.
- 6) Escalation rates applied to Proposed Annual Cost Savings from ESCo IGA in column (A) as follows:
 - a. Energy Savings: % per year
 - b. Energy-related or O&M Savings (including water and sewer): % per year

**WSU CONTRACT SCHEDULE EPC-5
ANNUAL TERMINATION CEILING**

___ Proposed
___ Final

Facility Name: Weber State University

ESCo Name:

Performance Period Year	Outstanding Capital Investment (\$)	Total Termination Ceiling
Installation Acceptance		
End of Year One		
End of Year Two		
End of Year Three		
End of Year Four		
End of Year Five		
End of Year Six		
End of Year Seven		
End of Year Eight		
End of Year Nine		
End of Year Ten		
End of Year Eleven		
End of Year Twelve		
End of Year Thirteen		
End of Year Fourteen		
End of Year Fifteen		
End of Year Sixteen		
End of Year Seventeen		
End of Year Eighteen		
End of Year Nineteen		
End of Year Twenty		

Notes:

- 1) Outstanding Capital Investment is a fixed subset of Total Termination Ceiling. It constitutes the remaining unamortized principal on total Amount Financed for each time period specified above plus any prepayment charges, as negotiated for the contract.
- 2) Termination Ceilings for each time period specified above establish the maximum termination liability for that time period. Actual total termination costs will be negotiated.
- 3) The contractor or financing company may attach a monthly Financing Termination Liability Schedule that must correspond to the annual amounts submitted above in each year for Outstanding Capital Investment.
- 4) In the event of delivery order cancellation or termination for convenience, State of Wyoming regulations will apply. Changes to a contract based on mutual agreement of the parties rather than cancellation or termination may use the information in this schedule.

**Investment Grade Audit Contract
Attachment E
Notice of Acceptance of
Investment Grade Audit Report**

When completely executed, this form is to be sent by certified mail to ESCo by Owner.

(Date of Notice)

TO: (ESCo Name)
ATTN: (ESCo Contact)
(ESCo Address)
(ESCo City, State, Zip)

RE: Notice of Acceptance of Investment Grade Audit Report

Notice is hereby given that (Owner Name) accepts the Investment Grade Audit Report submitted by (ESCo Name), as contemplated in Section 8 of the Investment Grade Audit and Project Development Contract dated _____. This notice is for acceptance of the report only and does not constitute agreement with proposed pricing or a notice to proceed with construction.

(Owner Name)

By: _____

Printed Name: _____

Title: _____

Date: _____

ATTACHMENT F

FORM OF ENERGY PERFORMANCE CONTRACT

Developed by:



E/S3 Consultants, Inc.
PO Box 4595
Englewood, CO 80155-4595
TEL: 303-478-3729 FAX: 303-850-7281
All rights reserved

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Attachments

(NOTE: EPC Attachments A-E are final versions of the same Attachments used for the Investment Grade Audit and Project Development Contract.)

Attachment A:	List of Buildings Included in Contract (Final)
Attachment B:	Cost and Pricing Elements (Final)
Attachment C:	Risk Assessment Matrix (Final)
Attachment D:	EPC Schedules 1 Through 5 (Final)
Attachment E:	Notice of Acceptance of Investment Grade Audit Report

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Schedules

(NOTE: EPC Schedules 1-14 will be developed during the Investment Grade Audit and Project Development Phase and are not included in this Attachment F to the Request for Proposals.)

Schedule 1:	Description of Facility and Pre-Existing Equipment Inventory
Schedule 2:	Energy Conservation Measures (ECMs) and Other Improvements to be Implemented by ESCo
Schedule 3:	Baseline Energy Consumption
Schedule 4:	Savings Measurement & Calculation Formulae and Methodology for Adjusting Baseline
Schedule 5:	Savings Guarantee
Schedule 6:	Measurement and Verification Plan
Schedule 7:	Standards of Comfort
Schedule 8:	Construction and Installation Schedule
Schedule 9:	ESCo Construction Period Payment Schedule and Schedule of Values
Schedule 10:	System Start-Up and Commissioning; Operating Parameters of Installed ECMs
Schedule 11:	ESCo's Maintenance Responsibilities
Schedule 12:	Owner's Maintenance Responsibilities
Schedule 13:	Facility Maintenance Checklist
Schedule 14:	ESCo's Training Responsibilities

TABLE OF CONTENTS (CONTINUED)

Exhibits

(NOTE: EPC Exhibits will be provided by Owner prior to execution of the Energy Performance Contract and are not included in this Attachment F to the Request for Proposals.)

- Exhibit 1: Owner's Form of Performance Bond
- Exhibit 2: Owner's Form of Labor and Material Payment Bond
- Exhibit 3: Form of Notice of Acceptance of Installed Energy Conservation Measures (ECMs) by Owner

Appendix Material

(NOTE: EPC Appendix Materials will be developed during the Investment Grade Audit and Project Development Phase and are not included in this Attachment F to the Request for Proposals.)

- Appendix A: Contractor's Investment Grade Audit and Project Proposal
- Appendix B: Investment Grade Audit and Project Development Contract Executed by the Parties and Dated

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ENERGY PERFORMANCE CONTRACT

This Energy Performance Contract is made and entered into as of (Date), by and between (Energy Services Company Name) having its principal local offices at (Energy Services Company Address), hereinafter referred to as “ESCO” and (Owner Name), (Owner Address), hereinafter referred to as “Owner” for design, construction, guarantee, and follow-up measurement and verification of an energy-saving project. An Investment Grade Audit was previously completed that identified the costs and savings for each Energy Conservation Measure included in this project. That audit and the subsequent Investment Grade Audit Report and Project Proposal developed by ESCo provides the basis to develop and negotiate this Energy Performance Contract.

WITNESSETH

WHEREAS, ESCo has developed or become knowledgeable about certain procedures for controlling energy and water consumption through the use of engineering analyses and devices installed and maintained on the premises of its customers; and

WHEREAS, ESCo has made an assessment of the energy and water consumption characteristics of the Premises, which was delivered to Owner as an Investment Grade Audit Report which Owner has approved; and

WHEREAS, ESCo has provided to Owner a Project Proposal containing a package of acceptable Energy Conservation Measures (ECMs); and

WHEREAS, Owner owns and operates the Premises and is in need of energy and water saving equipment and services designed to reduce consumption and associated costs at said Premises; and

WHEREAS, Owner desires to retain ESCo to purchase, install, provide a guarantee of savings, and service certain energy and water efficiency equipment of the type or class described in Schedule 2 Energy Conservation Measures (ECMs) and Other Improvements to be Implemented By ESCo and to provide other services for the purpose of achieving energy cost reductions within Premises, as more fully set forth herein; and

WHEREAS, ESCo has recommended ECMs on the basis of competitive quality, compliance with WSU’s requirements and price; and

WHEREAS, Owner is authorized under the laws of the State of Utah to enter into this Contract for the purposes set forth herein; and

WHEREAS, required approval, clearance, and coordination has been accomplished from and with appropriate agencies;

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, and intending to be legally bound hereby, Owner and ESCo hereto covenant and agree as follows:

A. GENERAL

1.0 PURCHASE AND SALE

- 1.1*** Owner agrees to purchase and ESCo agrees to provide the equipment necessary to complete the scope of work including installation, maintenance and other services as provided herein, on the terms and conditions of this Contract.
- 1.2*** ESCo agrees to install energy conservation measures, and operational efficiency improvements (identified in Schedule 2 Energy Conservation Measures (ECMs) and Other Improvements to be Implemented By ESCo) in certain property and buildings, as listed in Attachment A, owned and operated by Owner and located in the State of Utah commonly known as the Weber State University, Ogden & Davis Campuses, (the "Premises") which will result in energy, water, or other operating cost savings for Owner.
- 1.3*** After installation, ESCo agrees to provide the services necessary to, measure, verify, and achieve the savings as described in this Contract. Owner agrees to take all actions described in this Contract that are necessary to achieve the savings identified. Owner's payments to ESCo and its interest in the Equipment will be based upon the terms described in Section 5.0 below.
- 1.4*** ESCo is providing this equipment to Owner. Owner may utilize a third party financier as provided for in a separate lease document. **TERMINATION FOR CONVENIENCE BY OWNER IS PROVIDED FOR, AMONG OTHER REASONS, IF FINANCING CANNOT BE ARRANGED OR IF FUNDING IS NOT APPROPRIATED.**
- 1.5*** The agreed to maximum Contract Sum for the Work and payment terms are described in Attachment D and Schedule 9 ESCo Construction Period Payment Schedule and Schedule of Values. The Contract Sum will be equal to the sum of all materials, labor, auditing, design, engineering, project management fees, and outside services for the Construction and Performance Periods of this Contract.
- 1.6*** ESCo will provide the work identified in Schedule 2, the post-implementation Measurement and Verification services detailed in the Measurement and Verification Plan (Schedule 6) and the services detailed in Schedules 5, 10, 11, and 14. ESCo

shall supervise and direct the work and shall be solely responsible for all construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the work under this Contract. ESCo shall be responsible to pay for all labor, materials, equipment, tools, construction equipment and machinery, transportation and other facilities and services necessary for the proper execution and completion of the work and for insuring that all Owner security requirements as defined in the WSU Policies and Procedures Manual as provided by Owner are met by the ESCo and its subcontractors.

- 1.7** ESCo has prepared and submitted a complete Investment Grade Audit Report, dated [REDACTED] which has been approved and accepted by Owner as set forth in Attachment E Notice of Acceptance of Investment Grade Audit Report.

B. CONTRACT ADMINISTRATION

2.0 CONTRACT DOCUMENTS

In addition to this Energy Performance Contract, the documents for this Contract shall consist of the following Attachments, Schedules, Exhibits, and Appendix Materials.

- 2.1 Attachments, Schedules, and Exhibits:** This Contract incorporates and makes a part hereof certain Attachments, Schedules and Exhibits listed in the Table of Contents and below which determines the precedence of the Attachments, Schedules and Exhibits, relative to each other and to this Contract in the event of conflict. These documents are labeled as follows:

2.1.1 Attachments

- **Attachment A:** List of Buildings Included in Contract (Final).
- **Attachment B:** Cost and Pricing Elements (Final).
- **Attachment C:** Risk Assessment Matrix (Final).
- **Attachment D:** EPC Schedules 1 through 5 (Final).
- **Attachment E:** Notice of Acceptance of Investment Grade Audit Report.

2.1.2 Schedules

- **Schedule 1:** Description of Premises and Pre-Existing Equipment Inventory.
- **Schedule 2:** Schedule of Energy Conservation Measures (ECMs) and Other Capital Improvements to be Installed by ESCo.
- **Schedule 3:** Baseline Energy Consumption.
- **Schedule 4:** Savings Measurement & Calculation Formulae and Methodology for Adjusting Baseline.
- **Schedule 5:** Energy Savings Guarantee.
- **Schedule 6:** Measurement and Verification Plan.
- **Schedule 7:** Standards of Comfort.

- **Schedule 8:** Construction and Installation Schedule.
- **Schedule 9:** ESCo Construction Period Payment Schedule and Schedule of Values.
- **Schedule 10:** System Start-Up and Commissioning and Operating Parameters of Installed Equipment.
- **Schedule 11:** ESCo's Maintenance Responsibilities.
- **Schedule 12:** Owner's Maintenance Responsibilities.
- **Schedule 13:** Facility Maintenance Checklist.
- **Schedule 14:** ESCo's Training Responsibilities.

2.1.3 Exhibits

- **Exhibit 1:** Owner Form of Performance Bond.
- **Exhibit 2:** Owner Form of Labor and Material Payment Bond.
- **Exhibit 3:** Form of Notice of Acceptance of Installed Energy Conservation Measures (ECMs) by Owner.

2.2 Appendix Material: This Contract incorporates herein and makes a part hereof the entire Request for Proposals (RFP), ESCo Proposal in response to the RFP, the Investment Grade Audit Report and Project Proposal prepared by ESCo, and the Investment Grade Audit and Project Development Contract for this Project. These documents are included as Appendix Material labeled as follows:

- Appendix A ESCo's Investment Grade Audit Report and Project Proposal
- Appendix B Investment Grade Audit and Project Development Contract Executed by the Parties and dated [REDACTED].
- Appendix C ESCo Proposal in response to the RFP.
- Appendix D RFP for ESCo Solicitation.

2.3 Other Documents: Current copies of the following documents shall be incorporated by reference into this Investment Grade Audit and Project Development Contract:

- 2.3.1** DFCM CADD Standards dated August 1, 2001.
- 2.3.2** DFCM Design Criteria dated March 15, 2006.
- 2.3.3** General Conditions dated May 25, 2005.
- 2.3.4** Supplemental General Conditions dated July 15, 2008.
- 2.3.5** Building Board Policy Regarding Enhanced Accessibility to State Facilities.
- 2.3.6** WSU Construction Standards for Architects, Engineers and Contractors dated August, 2004.

2.4 Order of Precedence: The provisions of this Contract, including the Attachments, Schedules, Exhibits and Appendices shall govern. In the event of conflict or inconsistency, such conflicts or inconsistencies shall be resolved by reference to the documents in the following order of priority:

- 2.4.1 This Energy Performance Contract including all Attachments, Schedules, Exhibits and Appendices.
 - 2.4.2 ESCo's Investment Grade Audit Report and Project Proposal.
 - 2.4.3 Investment Grade Audit and Project Development Contract executed by the Parties and dated [REDACTED].
 - 2.4.4 ESCo Proposal in response to the RFP.
 - 2.4.5 Request for Proposals (RFP).
 - 2.4.6 The Supplemental General Conditions (2.2.4) supersede General Conditions (2.2.3) in the event of conflict. DFCM Design criteria (2.2.2) supersede WSU Construction Standards for Architects, Engineers and Contractors (2.2.6) in the event of conflict.
 - 2.4.7 Notwithstanding any of the above, the most stringent provision of any Owner documents shall apply.
- 2.5 **Modifications to the Contract:** Any changes, modifications, revisions or amendments to this Contract which are mutually agreed upon by the parties to this Contract shall be incorporated by written instrument, executed and signed by all parties to this Contract.
- 2.6 **Entire Agreement:** This Contract and its incorporated Attachments, Schedules, Exhibits, and Appendices represents the entire and integrated agreement between Owner and ESCo and supersedes all prior negotiations, representations or agreement, either written or oral.
- 2.7 **Notices:** All notices required to be given by one party to the other shall be effective only when sent in writing, addressed as follows:
- 2.7.1 **For Owner:**
Weber State University
Purchasing Department
1013 University Circle
Ogden, UT, 84408
ATTN: Nancy Emenger

 - With Copy To:**
DFCM
ATTN: Mr. John Harrington
State Office Building Room 4110
PO Box 141160
Salt Lake City, UT 84114-1160

 - 2.7.2 **For ESCo:**
(ESCo Name)
ATTN: _____

(ESCo Address)
(ESCo City, State, Zip)

3.0 ENERGY USAGE RECORDS AND DATA

To the extent permitted by law, Owner has furnished and shall continue to furnish (or authorize its energy suppliers to furnish) during the Term of this Contract to ESCo, upon its written request, all of its records and complete data concerning energy and water usage and related maintenance for the Premises, including the following data: utility records; occupancy information; descriptions of any changes in the building structure or its heating, cooling, lighting or other systems or energy requirements; descriptions of all energy consuming or saving equipment used in the Premises; bills and records relating to maintenance of energy-related equipment, and a description of energy management procedures utilized. ESCo acknowledges receipt of all data, records or other information necessary to properly complete the Investment Grade Audit and support ESCo's Savings Guarantee.

4.0 CONTRACT TERM

This Contract shall become effective upon execution by Owner and shall be effective and binding upon the parties immediately upon its execution. Unless otherwise terminated pursuant to the terms of this Contract, the Term of this Contract shall continue in effect for (number) years. The term of this Contract consist of two (2) distinct periods as defined below.

4.1 Construction Period

Upon execution of the Contract the Construction Period shall begin. During this period, ESCo shall complete final project design, perform construction activities to install the Energy Conservation Measures (ECMs) provided for in this Contract, provide commissioning on the installed ECMs, and prepare and submit the Post-Implementation Report.

4.1.1 Work must commence within thirty (30) calendar days of execution of this Contract and shall be completed by the completion date as set forth in Schedule 8 Construction and Installation Schedule, which shall be the date on which Owner executes a Notice of Acceptance upon the finding of conditions that warrant such Acceptance.

4.1.2 The period of time from the commencement of work to the completion date is referred to herein as the "Construction Period".

4.1.3 Time is of the essence of this Contract. By executing this Contract, ESCo confirms that the time for completion of work is a reasonable period for performing the work. Time for completion and the costs related thereto shall only be extended and modified by Change Order, for such reasonable time and amount as Owner and ESCo may determine. Change Orders in excess of

contingency funds and/or completion date shall not be allowed unless mutually re-negotiated by both parties. If ESCo is delayed at any time in progress of the work by an act or neglect of Owner or by events beyond ESCo's control as defined in Section 6.4 below, then the time for completion of work shall be extended by Change Order, for such reasonable time as the parties hereto may determine. There shall be no extra compensation due to ESCo as a result of any such delays.

4.1.4 Any energy and cost savings achieved during the Construction Period shall be fully credited to Owner and shall not be applied to the Guaranteed Savings after the Performance Period Commencement Date.

4.1.5 *Notice of Acceptance:* The Notice of Acceptance to be executed by Owner shall be as set forth in Exhibit 3 Form of Owner Notice of Acceptance of Installed Energy Conservation Measures (ECMs) and shall include:

4.1.5.1 Acknowledgment by Owner of the buildings completed and the Completion Date.

4.1.5.2 Acknowledgment by Owner of receipt of manuals and training provided by ESCo under the Contract.

4.1.5.3 Acknowledgment by Owner of the warranty start date and warranty period.

4.2 *Performance Period*

During the Performance Period, ESCo shall provide the Savings Guarantee, perform Measurement and Verification (M&V) activities for installed ECMs, prepare and submit M&V Reports, perform maintenance and service on equipment and provide training for Owner, all in accordance with the requirements in this Contract and its Attachments, Schedules, and Exhibits.

4.2.1 The Performance Period of this Contract shall begin with the Performance Period Commencement Date. The term of the Savings Guarantee shall begin on the Performance Period Commencement Date. The start of the repayment period for the financing arrangement shall coincide with the Performance Period Commencement Date.

4.2.2 The Performance Period Commencement Date shall be the first day of the month after the month in which all schedules are in final form and accepted by Owner in writing and when ESCo shall have delivered a notice to Owner that it has installed and commenced operating all of the Equipment specified in Schedule 2 and in accordance with the provisions of Section 12.4 (ECM Startup and Commissioning) and Schedule 10 and Owner has inspected and accepted said installation and operation as evidenced by the Notice of

Acceptance of Installed Energy Conservation Measures (ECMs) as set forth in Exhibit 3 and 4.1.5 above.

- 4.2.3 Unless otherwise terminated pursuant to the terms of this Contract, the Performance Period Term of this Contract shall begin with the Performance Period Commencement Date. The term of this Contract shall be carried forward at the end of each fiscal year up to 20 years subject to the Utah State Legislature making sufficient annual appropriations based upon continued realized cost savings.
- 4.2.4 Notwithstanding anything to the contrary in Section 4.1.1 and 4.1.3 above and Section 5.0 below, the Performance Period Commencement Date shall not occur and Owner shall not be required to accept the work under this Contract unless and until all equipment installation for the Premises is completed by ESCo in accordance with the terms and conditions of this Contract, including without limitation the satisfaction of all claims for labor and materials. Owner shall have thirty (30) calendar days after notification by ESCo to inspect and accept the equipment.
- 4.2.5 Owner reserves the right to reject Energy Conservation Measures if installation fails to meet reasonable standards of workmanship and quality, does not comply with applicable building codes, or is otherwise not in compliance with this Contract.
- 4.2.6 Acceptance shall occur when Owner determines that all required conditions have been met. In the event claims are received, acceptance may not occur until after the receipt by Owner of a signed receipt in full satisfying the claims or the Owner receives an order of withdrawal of said claims.
- 4.2.7 Compensation payments due to ESCo for service and maintenance under this Contract, as set forth in Section 5.2 and on Schedule EPC-3 Performance Period Cash Flow (Attachment D), shall begin no earlier than calendar days from the Performance Period Commencement Date as defined herein.

5.0 COMPENSATION TO ESCO

5.1 ESCo Compensation - Construction Period

Owner shall pay ESCo the Contract Sum in accordance with Schedule 9 ESCo Construction Period Payment Schedule and Schedule of Values. A retainage of percent (%) will be withheld from each payment until the Work is complete and Owner executes the Notice of Acceptance of Installed Energy Conservation Measures (ECMs) as set forth in Exhibit 3.

5.1.1 Contract Sum for Construction Period: The Contract Sum for the Construction period is a Guaranteed Maximum Price not to exceed Dollar

Amount in Words (\$ dollar amount). Owner shall pay ESCo the Contract Sum in accordance with Schedule EPC-1 Implementation Cost by Energy Conservation Measure (Attachment D), ESCo Payment Schedule and Schedule of Values (Schedule 9), and the Financing Agreement. In establishing the Contract Sum, ESCo has used the markups and fees, as negotiated and agreed to by Owner and detailed in the Cost and Pricing Elements (Attachment B), and applied them to the labor and material costs as shown in Schedule 9. ESCo has also provided a contingency equal to a percentage of the labor, material and direct cost budget.

- 5.1.2 *Payments:*** Payments will be made on a progress basis in accordance with the ESCo Payment Schedule and Schedule of Values (Schedule 9) for work completed and authorized by Owner during the Construction Period. The Progress Payments outlined in Schedule 9 and the Financing Agreement will be applicable to this Contract.
- 5.1.3 *Payment Due Dates:*** Payments due during the Construction Period shall be due and payable within thirty (30) calendar days of Owner's approval of the invoice, which shall not be unreasonably withheld.
- 5.1.4 *Adjustments to Contract Sum:*** The Contract Sum shall be adjusted based on the actual costs of labor and materials to ESCo multiplied by the markups in Attachment B, but in no event shall the Contract Sum be increased. In the event it is possible to reduce the Contract Sum because the actual labor and material costs are less than budgeted, Owner can, at its sole option, increase the scope of work such that the original Contract Sum is reached. If Owner declines to increase the scope of work, at its sole option, the Contract Sum shall be reduced to an amount consistent with the pricing using the stated markups and the balance shall be applied to the financing amount.
- 5.1.5 *Construction Period Final Payment:*** ESCo shall not be paid in full, including retainage, until the Notice of Acceptance of Installed Energy Conservation Measures (Exhibit 3) has been issued after the punch list is completed. The retainage will be released after the punch list is completed and ESCo has satisfied any and all claims for labor and materials.
- 5.2 *ESCo Compensation - Performance Period***
ESCo shall provide all related services identified in the Energy Savings Guarantee (Schedule 5), Measurement and Verification Plan (Schedule 6), ESCo's Maintenance Responsibilities (Schedule 11), and ESCo's Training Responsibilities (Schedule 14).

 - 5.2.1 *ESCo Measurement and Verification (M&V) Fees:*** Throughout the Term of this Contract, Owner shall pay ESCo an annual fee in accordance with Schedule EPC-3 Performance Period Cash Flow (Attachment D) for

Measurement and Verification associated with the Savings Guarantee as defined in Schedule 6 Measurement and Verification Plan. Annual guaranteed energy and cost savings achieved shall be sufficient to cover any and all fees to be paid to ESCo for the provisions of Schedule 6 Measurement and Verification Plan.

5.2.2 Savings Guarantee:

5.2.2.1 Subsequent to the Performance Period Commencement Date and throughout the Term of this Contract, ESCo hereby guarantees, in accordance with the terms of Schedule 5 Savings Guarantee, to Owner that annual energy and cost savings will meet or exceed the amortized cost of Energy Conservation Measures as detailed in Schedule EPC-4 Guaranteed Annual Cost Savings and Annual Payments (Attachment D) and the Savings Guarantee (Schedule 5). ESCo shall provide the savings guarantee and measurement and verification of savings as defined in the Measurement and Verification Plan (Schedule 6), for every year of the Contract Term. ESCo shall reimburse Owner for any shortfall of the Savings Guarantee included in this Contract.

5.2.2.2 ESCo has formulated and, subject to the adjustments provided for in Section 31.0 Material Changes, has guaranteed the annual energy and operations savings to be achieved as a result of the installation and operation of the equipment and provision of services provided for in this Contract as specified in ESCo's Maintenance Responsibilities (Schedule 11), Owner's Maintenance Responsibilities (Schedule 12) and in accordance with the Savings Calculation Formulae as set forth in Savings Calculation Formulae and Methodology to Adjust Baseline (Schedule 4).

5.2.2.3 This Savings Guarantee is subject to the satisfactory performance by Owner of all its obligations under this Contract. In the event this Contract is terminated for convenience by Owner and not due to a breach of Contract by ESCo, the Savings Guarantee shall be canceled.

5.2.2.4 The Savings Guarantee is set forth in annual increments for the term of the Contract as specified in Schedule EPC-4 Guaranteed Annual Cost Savings and Annual Payments (Attachment D) and has been structured by ESCo so as to be sufficient to cover any and all annual payments required to be made by Owner.

5.2.2.5 The Savings Guarantee per Schedule EPC-4 Guaranteed Annual Cost Savings and Annual Payments (Attachment D) and Schedule 5 shall not be reduced even in the event of a Material Change per Section 31.0, except as the parties may mutually agree to such a reduction and act in good faith in determining such an agreement.

5.2.2.6 Energy and Cost Savings shall be calculated each quarter in the following manner:

- a.** Within 45 calendar days upon receipt of utility reports, Owner shall provide ESCo with copies of all energy bills for the Premises that it shall have received for the preceding quarter.
- b.** Upon receipt of the required information, ESCo shall calculate the savings in accordance with the agreed-upon calculation formula in Schedules 4, 5, and 6.

5.2.3 *Annual Review and Reimbursement/Reconciliation*

5.2.3.1 At the end of each Performance Period year there will be a review and reconciliation of the actual achieved savings, subject to any adjustments made in accordance with Savings Measurement and Calculation Formulae and Methodology to Adjust Baseline (Schedule 4), versus Contractor's Annual Energy Savings Guarantee per Attachment D and Schedule 5.

5.2.3.2 Energy-related cost savings shall be measured and/or calculated as specified in Measurement and Verification Plan (Schedule 6) and Baseline Energy Consumption (Schedule 3) and a report provided to Owner on each anniversary of the Performance Period Commencement Date within sixty (60) calendar days of ESCo compiling all information necessary for the completion of the Annual Measurement and Verification Report.

5.2.3.3 In the event the level of project savings achieved during such twelve-month period is less than the Savings Guarantee set for the for that year, ESCo shall promptly pay Owner an amount equal to the difference.

5.2.3.4 If during any twelve-month period the project cost savings achieved are greater than the Savings Guarantee, such excess savings shall be retained by Owner and shall not be used to make up for shortfalls in other years of the Contract.

5.2.4 *Performance Period Payments*

5.2.4.1 Owner shall pay to ESCo the Performance Period Expenses shown on Schedule EPC-3 Performance Period Cash Flow (Attachment D).

Payments due during the Performance Period shall be due and payable within forty-five (45) calendar days of the invoice date.

5.2.4.2 ESCo has structured the Savings Guarantee, so as to be sufficient to include any and all annual payments required to be made by Owner in connection with the acquisition of Energy Conservation Measures to be installed by ESCo and Performance Period expenses under this Contract as set forth in Schedules EPC-3 Performance Period Cash Flow and EPC-4 Guaranteed Annual Cost Savings and Annual Payments (Attachment D).

5.2.4.3 Actual project savings achieved by ESCo through the operation of Energy Conservation Measures and performance of services by ESCo shall be sufficient to cover any and all annual fees to be paid by Owner to ESCo for the provision of services as set forth and in accordance with the provisions of Energy Savings Guarantee (Schedule 5), Measurement and Verification Plan (Schedule 6), Contractor's Maintenance Responsibilities (Schedule 11), and Contractor's Training Responsibilities (Schedule 14).

5.2.5 *Effective Date of Payment Obligation*

5.2.5.1 The payment obligation for the Performance Period costs shall not begin before the Performance Period Commencement Date.

5.2.5.2 Owner shall not be required to begin any payments to ESCo under this Contract until all Energy Conservation Measure installations are completed by ESCo in accordance with the provisions of Section C Construction Period Requirements and Scope and Schedule 10, Systems Start-Up and Commissioning and Operating Parameters of Installed Equipment, and accepted by Owner as evidenced by the signed Notice of Acceptance of Installed Energy Conservation Measures as set forth in Exhibit 3 and all Energy Conservation Measures are fully and properly functioning.

5.3 *Capital Contribution from Owner*

Owner, as an option, may elect to contribute capital or other funds towards project costs.

5.4 *Late Payment*

Payment due either party hereunder shall be due and payable within thirty (30) calendar days of the invoice date. Interest shall accrue on any past due balance owed to either party hereunder at the rate of one half of one percent (0.5 %) per month (or the highest rate not prohibited by law, whichever is lower). This remedy shall be in

addition to, and not exclusive of, any other remedy available under this Contract or applicable law.

5.5 Compensation for Termination

Compensation for termination of the Contract shall be as set forth in Section 6.5 of this Contract. In the event this Contract is terminated due to an uncured Event of Default by Owner, as defined in Section 6.1.1, the Savings Guarantee shall be cancelled and ESCo shall have no further obligations hereunder, except to guarantee Owner the prorated portion of the annual Savings Guarantee. The prorated portion shall include all Guaranteed Savings incurred prior to the termination date except that such portion should only go up until the Event of Default if the Event is related to the non-payment or other violations impacting the Savings including but not limited to providing utility bills and access to the equipment.

5.6 Utility Incentive Payments

5.6.1 ESCo will assist Owner in entering into and fulfilling an agreement under Rocky Mountain Power's Energy Efficiency Incentive Program wherein a portion of the Contract Sum will be subsidized by the Utility (the "Award Payment") upon the Utility's inspection and approval of the work performed. ESCo will seek to maximize the incentive available to Owner for the purposes of reducing overall financing by Owner. The Incentive shall be received directly by Owner.

5.6.2 If Utility Incentive Payments are a part of this Contract, wherein a portion of the Contract cost will be subsidized by the Utility upon the Utility's inspection and approval of the work performed, the total Incentive Payment is as indicated on Schedules EPC-1 and EPC-3 (Attachment D). There shall be no adjustment to the Contract Sum, Guarantee, or Schedule of Values if the Incentive Payment allowed by the Utility is other than the amount specified herein, unless the disallowance or reduction is attributable to delay caused by neglect or an act of Owner constituting a breach of its obligations under this Contract. Owner understands that ESCo is not a representative or an agent of the Utility.

5.7 Open Book Pricing

Open book pricing will be required, such that the ESCo will fully disclose all costs. ESCo will maintain cost accounting records on authorized work performed documenting actual costs for labor and material, or other basis agreed to by Owner. ESCo will afford Owner, or its representative, access to these records and preserve them for a period of three (3) years after final payment. Costs will be evaluated through price analysis to compare costs with reasonable criteria such as established catalog and market prices or historical prices. The pricing methodology and

individual cost markups illustrated in Attachment B Costs and Pricing Elements (Final) shall be applied for work performed under this Contract.

6.0 DEFAULT AND TERMINATION

6.1 Events of Default

6.1.1 Events of Default by Owner: Each of the following events or conditions shall constitute an "Event of Default" by Owner:

6.1.1.1 Any failure by Owner to pay ESCo any sum due hereunder for a service properly performed and maintenance period of more than thirty (30) calendar days after delivery of written notification by ESCo that Owner is delinquent in making payment.

6.1.1.2 Any other mutually determined material failure by Owner to perform or comply with the terms and conditions of this Contract, including breach of any covenant contained herein, provided that such failure continues for thirty (30) calendar days after delivery of written notice to Owner demanding that such failures to perform be cured or if such cure cannot be effected in such thirty (30) calendar days, Owner shall be deemed to have cured default upon the commencement of a cure within such thirty (30) calendar days and diligent subsequent completion thereof.

6.1.1.3 Any representation or warranty furnished by Owner in this Contract that was false or misleading in any material respect when made.

6.1.2 Events of Default by ESCo

Each of the following events or conditions shall constitute an "Event of Default" by ESCo:

6.1.2.1 The standards of comfort and service set forth in Schedule 7 are not provided due to failure of ESCo to properly design, install and commission the Energy Conservation Measures except that such failure, if corrected or cured within thirty (30) calendar days after written notice by Owner to ESCo demanding that such failure be cured, shall be deemed cured for purposes of this Contract.

6.1.2.2 Any representation or warranty furnished by ESCo in this Contract is false or misleading in any material respect when made.

6.1.2.3 Failure to furnish and install the Energy Conservation Measures and make them ready for use within the time specified by this Contract as set forth in Schedule 2, Schedule 8 and Schedule 10.

- 6.1.2.4** Provided that the operation of the Premises is not adversely affected and provided that the Standards of Comfort in Schedule 7 are maintained, any failure by ESCo to perform or comply with the terms and conditions of this Contract, including but not limited to any breach of any covenant contained herein except that such failure, if corrected or cured within thirty (30) calendar days after written notice to ESCo demanding that such failure to perform be cured, shall be deemed cured for purposes of this Contract.
- 6.1.2.5** Failure by ESCo to pay any amount due that is not in dispute, or performs any material obligation under the terms of this Contract, unless such amount due or failure to perform is excused pursuant to the provisions of this Contract.
- 6.1.2.6** Failure by ESCo to pay the Savings Guarantee shortfall as set forth in Schedule EPC-4 Guaranteed Annual Cost Savings and Annual Payments (Attachment D) and Savings Guarantee (Schedule 5).
- 6.1.2.7** Any lien or encumbrance upon the equipment by any subcontractor, laborer or materialman of ESCo which is not released within thirty (30) calendar days after notice of said filing.
- 6.1.2.8** Any change in ownership or control of ESCo without the prior approval of Owner, which shall not be unreasonably withheld.
- 6.1.2.9** The filing of a bankruptcy petition whether by ESCo or its creditors against ESCo which proceeding shall not have been dismissed within ninety (90) calendar days of its filing, or an involuntary assignment for the benefit of all creditors or the liquidation of ESCo.

6.2 REMEDIES UPON DEFAULT

- 6.2.1 Remedies upon Default by Owner:** If an Event of Default by Owner occurs, ESCo may, without a waiver of other remedies that exist in law or equity:
 - 6.2.1.1** Exercise all remedies available at law or in equity or other appropriate proceedings including bringing an action or actions from time to time for recovery of amounts due and unpaid by Owner, and/or for damages which shall include all costs and expenses reasonably incurred, including reasonable attorney fees; and/or
 - 6.2.1.2** Terminate this Contract.
- 6.2.2 Remedies upon Default by ESCo:** If an Event of Default by ESCo occurs, Owner may, without waiver of other remedies which exist in law or equity:

6.2.2.1 Exercise any and all remedies at law or equity, or institute other proceedings, including, without limitation, bringing an action or actions from time to time for the recovery of damages, which shall include all costs and expenses reasonably incurred, including reasonable attorney fees; and/or

6.2.2.2 Terminate this Contract.

6.3 PREREQUISITE TO LEGAL ACTION FOR DAMAGES:

6.3.1.1 Prior to any party filing any legal action for damages, the parties shall within thirty (30) calendar days notice of a dispute from a party to this Contract, each designate an expert qualified in the field related to the issue of the dispute to be a part of a three member expert panel to attempt to resolve the dispute. The two designated experts shall select a third expert. The panel shall investigate the matter and issue a preliminary recommendation delivered to the parties. Within ten (10) calendar days of receipt of the preliminary recommendation, the parties may make written comments to the panel on the recommendation. The panel shall thereafter finalize its recommendation. If the panel process does not resolve the dispute, the parties agree to enter into a mediation process. The parties shall in good faith negotiate additional protocols for the panel process in order to assure its success in resolving the dispute. Notwithstanding any of these dispute resolution provisions, the parties may by mutual written agreement provide for any other dispute resolution process.

6.4 CONDITIONS BEYOND CONTROL OF THE PARTIES:

If a party is unable to reasonably perform any of its obligations under this Contract due to acts of God, insurrections or riots, materials or labor shortages, strikes; labor disputes; fire; explosions or other casualties; thefts; vandalism; riots; threats or acts of terrorism; war; or unavailability of parts, materials or supplies or similar events, this Contract shall at the other party's option remain in effect but the obligations of both parties shall be suspended until the said events shall have ended. In no event shall any extra compensation be due as a result of the foregoing.

6.5 TERMINATION

6.5.1 Termination by Owner – Construction Period

Owner may terminate this Contract at any time during the Construction Period as described below, subject to applicable termination clauses in any Financing Agreement Documents.

6.5.1.1 Termination for Cause or Default

- a. Failure to Perform:** Owner may terminate this Contract upon ESCo's failure to fulfill the terms of the Contract. If ESCo fails to timely perform any of the provisions of this Contract, with such diligence as will ensure its completion within the time specified in this Contract, Owner may notify ESCo in writing of the non-performance, and if not promptly corrected within the time specified, Owner may terminate ESCo's right to proceed with the Contract or such part of the Contract as to which there has been delay or a failure to properly perform. ESCo shall continue performance of the Contract to the extent it is not terminated and shall be liable for excess costs incurred in procuring similar goods or services elsewhere. Termination shall be effective thirty (30) days from receipt of written notice if conditions of default are not first corrected.
- b. Protection of Owner Property:** Notwithstanding termination of the Contract and subject to any directions from Owner, ESCo shall take timely, reasonable and necessary action to protect and preserve property in the possession of ESCo in which Owner has an interest.
- c. Compensation for Termination:** Payment for work completed and materials or supplies delivered and accepted by Owner shall be at the Contract price and in accordance with Section 5.0 of this Contract. Owner may withhold amounts due to ESCo as Owner deems to be necessary to protect Owner against loss because of outstanding liens or claims of former lien holders and to reimburse Owner for the excess costs incurred in procuring similar goods and services.
- d. Excuse for Nonperformance or Delays in Performance:** Except for obligation to make payments of money, ESCo shall not be in default by reason of any failure in performance of this Contract in accordance with its terms if such failure arises out of Conditions Beyond Control of the Parties as described in Section 6.4 above. Upon request of ESCo, Owner shall ascertain the facts and extent of such failure, and, if Owner determines that any failure to perform was occasioned by any one or more of the excusable causes, and that, but for the excusable cause, ESCo's progress and performance would have met the terms of the Contract, the delivery schedule shall be revised accordingly, subject to the rights of Owner.
- e. Erroneous Termination for Default:** If after notice of termination of ESCo's right to proceed under the provisions of this clause, it is determined for any reason that ESCo was not in default under the provisions of this clause, or that the delay was

excusable, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to the termination for convenience clause.

6.5.1.2 Termination for Convenience

- a. Termination:** Owner may, when the interests of Owner so require, and with thirty (30) calendar days written notice, terminate this Contract in whole or in part, for the convenience of Owner. Owner shall give written notice of the termination to ESCo specifying the part of the Contract terminated and when termination becomes effective. This shall in no way imply that Owner has breached the Contract by exercise of the Termination for Convenience Clause.
- b. Contractors Obligations:** ESCo shall incur no further obligations in connection with the terminated work and on the date set in the notice of termination ESCo will stop work to the extent specified. ESCo shall also terminate outstanding orders and subcontracts as they relate to the terminated work. ESCo shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated work. Owner may direct ESCo to assign ESCo's right, title, and interest under terminated orders or subcontracts to Owner. ESCo must still complete and deliver to Owner the work not terminated by the Notice of Termination and may incur obligations as are necessary to do so.
- c. Compensation for Termination:**
 1. Upon notice of Termination for Convenience by Owner, ESCo shall submit a termination claim specifying the amounts due because of the termination for convenience together with cost or pricing data bearing on such claim. If ESCo fails to file a termination claim within forty-five (45) calendar days from the effective date of termination, Owner may pay ESCo, if at all, an amount set in accordance with subparagraph 6.5.1.2.c.3. of this Section.
 2. Owner and ESCo may agree to a settlement provided ESCo has filed a termination claim supported by cost or pricing data and that the settlement does not exceed the total Contract price plus settlement costs, reduced by payments previously made by Owner, the proceeds of any sales of supplies and manufactured materials made under agreement, and the Contract price of the work not terminated.
 3. Absent complete agreement, under subparagraph 2 of this Section, Owner shall pay ESCo the following amounts,

provided the payments agreed to under subparagraph 2 shall not duplicate payments under this subparagraph:

1. Contract prices for supplies or services accepted under the Contract.
 2. Costs incurred in preparing to perform the terminated portion of the work plus a fair and reasonable profit on such portion of the work (such profit shall not exceed the markup and fee schedules in the Cost and Pricing Elements Attachment B, nor include anticipatory profit or consequential damages) less amounts paid or to be paid for accepted supplies or services; provided, however, that if it appears that ESCo would have sustained a loss if the entire Contract would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss.
 3. Costs of settling and paying claims arising out of the termination of subcontracts or orders pursuant to ESCo's obligations paragraph of this clause. These costs must not include costs paid in accordance with subparagraph 2 of this Section.
 4. The reasonable settlement costs of ESCo including accounting, legal, clerical, and other expenses reasonably necessary for the preparation of settlement claims and supporting data with respect to the terminated portion of the Contract and for the termination and settlement of subcontracts thereunder, together with reasonable storage, transportation, and other costs incurred in connection with the terminated portion of this Contract.
 5. The total sum to be paid ESCo under this subparagraph 3 shall not exceed the total Contract price plus settlement costs, reduced by the amount of payments otherwise made, the proceeds of any sales of supplies and manufacturing materials under subparagraph 2, and the Contract price of work not terminated.
4. ESCo will be entitled to no other payments in case of termination for convenience.

6.5.1.3 Termination for Non-Appropriation of Funding

Each payment obligation of Owner is conditioned upon the availability of government funds that are appropriated or allocated for the payment of this obligation. If Owner provides ESCo notice that the Utah State Legislature has not made a sufficient annual appropriation based upon continued realized cost savings, then this

Contract shall be considered terminated sixty (60) calendar days after ESCo's receipt of such termination notice, and ESCo shall only be owed for Work properly performed up and until the expiration of said sixty (60) calendar day period and ESCo shall not be entitled to any other compensation, including but not limited to, consequential damages, lost profits, etc.

6.5.2 Termination by Owner – Performance Period

Owner may terminate this Contract at any time during the Performance Period as described in Section 6.5.1 above, subject to applicable termination clauses in any Financing Agreement Documents. Compensation for Termination shall be subject to the following:

6.5.2.1 Annual Termination Ceiling for Financing

The Annual Termination Ceiling for project financing for this Contract shall be as illustrated on Schedule EPC-5 Annual Termination Ceiling (Attachment D).

6.5.2.2 Maximum Payment to ESCo for Termination

The maximum payment to ESCo for termination of ESCo's Performance Period services shall not exceed the scheduled annual payment for Performance Period Expenses in the year of termination as illustrated on Schedule EPC-3 Performance Period Cash Flow (Attachment D).

7.0 INSURANCE REQUIREMENTS

7.1 Liability Insurance

7.1.1 ESCo shall maintain Comprehensive General Public Liability and Property Damage Insurance and Comprehensive Automobile Liability and Property Damage Insurance as hereinafter specified, at ESCo's own expense, during the life of this Contract, written on a claims made basis and naming Owner as an additional insured. This insurance shall include a provision preventing cancellation without ninety (90) calendar days prior notice by certified mail to ESCo and Owner. Evidence of coverage will be provided to Owner via a Certificate of Insurance or a Self Administered Claims Letter.

7.1.2 This insurance must protect ESCo from all claims for bodily injury, including death, and all claims for destruction of or damage to property, arising out of or in connection with any operations under this Contract, whether such operations are by ESCo, any ESCo subcontractor or consultant at any tier, any agent of ESCo, or any person or entity for whom any of such may be liable.

7.1.3 All such insurance shall be written on a Comprehensive Form of Policy. In the event any of the hazards or exposures, normally listed in standard policies as “Exclusions,” are involved or required under this Contract, then such hazards or exposures shall be covered and protection afforded under the policy and such exclusions “(x)”, “(c)” and “(u)”, as excerpted from standard policies, must be removed from the policy as listed below:

- “(x) Injury to or destruction of any property arising out of blasting or explosion, other than the explosion of air or steam vessels, piping under pressure, prime movers, machinery of power transmitting equipment;”
- “(c) The collapse of or structural injury to any building or structure due to; grading of land, excavating, burrowing, filling, backfilling, tunneling, pile driving, cofferdam work or caisson work; or moving, shoring, underpinning, raising or demolition of any building or structure, or removal or rebuilding of any structural support thereof;”
- “(u) (1) injury to or destruction of wires, conduits, pipes, mains, sewers or other similar property, or any apparatus in connection therewith, below the surface of the ground, if such injury or destruction is caused by and occurs during the use of mechanical equipment for the purpose of grading of land, paving, excavating or drilling; or injury to or destruction of property at any time resulting therefrom.”

7.1.4 In lieu of any insurances required in this Section, ESCo may self insure hereunder and use a Self Administered Claims Program for this purpose. ESCo will notify Owner in writing thirty (30) calendar days prior to cancellation of the Self Administered Claims Program.

7.2 *Liability Insurance, Limits and Coverages*

Such insurance shall be written with limits and coverages as follows:

7.2.1 General Liability: Minimum limit of liability per occurrence of \$2,000,000 combined single limit for bodily injury and/or property damage. Evidence of coverage will be provided to Owner via a Certificate of Insurance or a Self Administered Claims Letter. The following coverage shall be included:

- Explosion/Collapse Hazard
- Underground Hazard
- Products/Completed Operations Hazard
- Broad Form Contractual
- Independent Contractors
- Comprehensive Form
- Broad Form Property Damage

- Personal Injury

7.2.2 Automobile Liability: Minimum limit of liability per occurrence of \$600,000 combined single limit for bodily injury and/or property damage. Evidence of coverage will be provided to Customer via a Certificate of Insurance or a Self Administered Claims Letter. The following coverages shall be included:

- Owned automobiles
- Non-owned automobiles
- Hired automobiles

7.2.3 Excess General and Automobile Liability: Minimum limit of liability per occurrence of \$1,000,000 combined single limit for bodily injury and/or property damage.

7.2.4 In lieu of any insurances required in this Section, ESCo may self insure hereunder and use a Self Administered Claims Program for this purpose. ESCo will notify Owner in writing thirty (30) calendar days prior to cancellation of the Self Administered Claims Program.

7.3 *Installation Risk Insurance*

ESCo shall maintain, at ESCo's expense, All Risk Installation Floater insurance in the dollar amount equal to the total insurable value of the construction contemplated by this Contract. The insurance shall remain in effect until Owner acceptance of the installation as provided for in this Contract. Evidence of coverage will be provided to Owner via a Certificate of Insurance or a Self Administered Claims Letter. The following shall also apply:

7.3.1 ESCo waives all rights of subrogation as regards the State of Utah, its officials, its officers, its agents and its employees, all while acting within the course of their employment. The insurer shall not void such insurance policy by reason of ESCo waiving said rights. Such policy may have a deductible clause not to exceed one thousand dollars (\$1,000).

7.3.2 The Insurance shall include a provision preventing cancellation without ninety (90) calendar days' prior notice in writing by certified mail to ESCo and Owner.

7.3.3 All such insurance shall insure the State of Utah acting by and through the named agency or institution which is a party to this Contract, ESCo and ESCo's subcontractors as their interests may appear, but the loss, if any, shall be payable to the State Controller, as Trustee.

- 7.3.4 The Certificate of Insurance shall specifically state the inclusion of the provisions hereinabove.
- 7.3.5 Unless it is agreed otherwise in writing, all monies received shall be applied on rebuilding or repairing the destroyed or injured work.
- 7.3.6 In lieu of any insurances required in this Section, ESCo may self insure hereunder and use a Self Administered Claims Program for this purpose. ESCo will notify Owner in writing thirty (30) calendar days prior to cancellation of the Self Administered Claims Program.

7.4 *Workers' Compensation Insurance*

Standard Workers' Compensation and Employer Liability Insurance as required by Utah law, including occupational disease, covering all employees at the worksite. ESCo shall require that all consultants and subcontractors, at any tier, also maintain such Insurance for their own employees. ESCo accepts full liability and responsibility for all subcontractor employees not so covered. In cases where any class of employees engaged in hazardous work under this Agreement at the worksite is not protected under Workers' Compensation statute, ESCo shall provide, and shall cause each consultant or subcontractor, at any tier, to provide adequate and suitable insurance for the protection of such employees not otherwise protected.

7.5 *Professional Liability Insurance*

- 7.5.1 ESCo shall maintain in full force and effect, at ESCo's expense, an Errors and Omissions or Professional Liability Insurance Policy in the amount of \$1,000,000 minimum coverage. Evidence of coverage will be provided to Owner via a Certificate of Insurance or a Self Administered Claims Letter. The policy shall remain in effect for the duration of the applicable statute of limitations for claims against design and construction professionals.
- 7.5.2 ESCo shall be responsible for all claims, damages, losses or expenses, including attorneys fees, arising out of or resulting from the performance of professional services contemplated by this Contract, provided that any such claim is attributable to bodily injury or death, or injury to or destruction of tangible personal property, any unreasonable interference with the operations or programs of Owner, or to failures of the work, including the loss of use resulting there from, and is caused, in whole or in part, by any negligent or intentional act, error or omission of ESCo, any consultant or associate thereof, anyone directly or indirectly employed by ESCo and any person or entity for whom any of them may be liable.

7.5.3 ESCo shall submit a Certificate of Insurance to Owner verifying said coverage upon execution of this Contract and also any notices of renewals of such policy as they occur.

7.5.4 In lieu of any insurances required in this Section, ESCo may self insure hereunder and use a Self Administered Claims Program for this purpose. ESCo will notify Owner in writing thirty (30) days prior to cancellation of the Self Administered Claims Program.

7.6 *Certificate and Endorsements*

Prior to commencement of work under this Contract, ESCo is required to provide Owner with complete current certificates of insurance evidencing the required coverages specified above and endorsements to the policies listing Owner as additional insured (other than for workers' compensation and professional liability). ESCo shall also immediately provide written notice to Owner of any notice of cancellation received from any insurer.

7.7 At all times during the term of this Contract, ESCo shall maintain in full force and effect at its expense, standard perils Casualty insurance on the installed ECMs and Liability insurance in accordance with applicable Utah law. Evidence of coverage will be provided to Owner via a Certificate of Insurance or a Self Administered Claims Letter.

7.8 Certificates of Insurance and insurance policies required of ESCo by this Contract shall be subject to the following stipulations:

7.8.1 The clause entitled "Other Insurance Provisions" contained in any policy including the State of Utah and Owner as an additional named insured shall not apply to the State of Utah and Owner. Coverage will be limited to liability arising out of operations performed for Owner by or on behalf of ESCo, but only to the extent of damages caused by the negligent or intentional act, error or omission of ESCo or anyone for whom ESCo is liable.

7.8.2 The insurance companies issuing the policy or policies shall have no recourse against the State of Utah or Owner for payment of any premiums due or for any assessments under any form of any policy.

7.8.3 Any and all deductibles or self-insured retentions contained in any insurance policy shall be assumed by and at the sole risk of ESCo.

7.8.4 If any of the said policies shall be or at any time become unsatisfactory to the State of Utah and Owner as to form or substance, or if a company issuing any such policy shall be or at any time become unsatisfactory to the State of Utah or WSU, ESCo shall promptly obtain a new policy, submit the same to Owner

for approval and thereafter submit a Certificate of Insurance as herein provided. Upon failure of ESCo to furnish, deliver and maintain such insurance as provided herein, this Contract, in the sole discretion of Owner may be immediately declared suspended, discontinued, or terminated. Failure of ESCo in obtaining and/or maintaining any required insurance as well as any insurance limits or exclusions shall not relieve ESCo from any liability under the Contract, nor shall the insurance requirements be construed to conflict with the obligations of ESCo concerning indemnification.

- 7.8.5 Prior to cancellation of or material change in any requisite policy, a minimum of ninety (90) calendar days written notice shall be given to Owner by means of registered mail, return receipt requested. All notices shall name ESCo and identify the premises and Project Name.
- 7.8.6 All requisite insurance shall be obtained from financially responsible insurance companies, licensed in the State of Utah and acceptable to Owner.
- 7.8.7 Receipt, review or acceptance by Owner of all Insurance Policies, Certificates of Insurance and bonds required under this Agreement shall not be construed as a waiver or relieve ESCo from its obligation to meet the insurance and bond requirements of the Contract.

7.9 Indemnification

- 7.9.1 ESCo shall indemnify and hold harmless Owner, its employees, agents, and assigns against all claims, actions, damages, liabilities, and expenses, including reasonable attorney's fees, arising out of any negligent or intentional act, error or omission of ESCo or anyone for whom ESCo is liable, or related to any claims of patent infringement and any claims of construction or materialman's lien made by any subcontractor or materialman arising out of ESCo's intentional misconduct or the negligent act or omission of ESCo. ESCo shall indemnify and hold harmless Owner, its employees, agents, and assigns against all claims, actions, damages, liabilities and expenses including reasonable attorney's fees, related to any claims of ESCo's employees, agents, contractors or subcontractors arising out of ESCo's intentional misconduct or the negligent act or omission of ESCo. The obligations of ESCo and of Owner under this paragraph are further subject to paragraph 7.10 below.
- 7.9.2 Owner assumes all risk and liability for the use, operation, and storage of the Equipment, and for injuries or death to persons or damage to property arising out of the use, operation, or storage of the Equipment, except for any injuries or death to person(s) or damage to property caused by the negligence of ESCo, its employees, agents, assigns, subcontractors, consultants and any

person or entity for whom any of these are liable. Owner shall indemnify and hold harmless ESCo, its employees, agents, and assigns from and against all claims, actions, damages, liabilities, and expenses, including attorney's fees, to the extent related to an intentional or negligent act of Owner arising out of or related to this Contract, except for injuries or death to persons or damage to property caused by the intentional acts or negligence of ESCo, its employees, agents, assigns, subcontractors, consultants and any person or entity for whom any of these are liable.

7.10 Limitations on Liability

7.10.1 Neither ESCo nor Owner will be responsible to the other for any special, indirect, or consequential damages arising in any manner from the Contract, the work or services hereunder.

7.10.2 If this Contract covers fire safety or security equipment, Owner understands that ESCo is not an insurer regarding those services. ESCo is also not responsible for any injury, loss, or damage caused by equipment that is not Covered Equipment, as defined in this Contract.

7.11 Risk Manager

Notwithstanding any insurance requirements in this Agreement, Owner reserves the right to have the State of Utah Risk Manager review the insurance requirements, limits, forms, and notice requirements provided for in this Contract, and make reasonable amendments that in the opinion of the State Risk Manager are necessary for adequate protection, however, any such amendments must be approved by ESCo, which approval shall not be unreasonably withheld.

7.12 Owner may Insure for ESCo

In case of the breach for any provision of this Section, Owner may, at Owner's option, purchase and maintain, at the expense of ESCo, such insurance in the name of ESCo, as Owner may deem proper and may deduct the cost of taking out and maintaining such insurance from any sums which may be found to be due or become due to ESCo under this Contract.

7.13 Subcontractors

The insurance requirements set forth above apply to all subcontractors. It is ESCo's responsibility to ensure that its subcontractors meet these insurance requirements.

7.14 Responsibility for Claims

ESCo shall be responsible for all claims, damages, losses or expenses, including attorney's fees, arising out of or resulting from the performance of the services contemplated in this Contract, provided that any such claim, damage, loss or expense

is caused by any neglect act, error or omission of ESCo, any Consultant or associate thereof, or anyone directly or indirectly employed by ESCo.

7.15 *Responsibility for Damage to Owner Equipment*

ESCo shall be responsible for any damage to the equipment or other Owner property at the Premises and any personal injury where such damage or injury occurs as a result of ESCo's performance under this Contract.

8.0 *OWNERSHIP*

8.1 *Ownership of Certain Proprietary Property Rights*

8.1.1 Owner shall not, by virtue of this Contract, acquire any ownership interest in any formulas, patterns, devices, secret inventions or processes, copyrights, patents, or other intellectual or proprietary rights/properties, or similar items of property which are or may be used in connection with the Equipment. Owner shall, however, have a nonexclusive license to utilize all such intellectual or proprietary rights in connection with its use of the Equipment under this Contract.

8.1.2 ESCo hereby grants to Owner a perpetual, irrevocable, royalty-free license to any and all software or other intellectual property or proprietary rights necessary for Owner to continue to operate, maintain, and repair the Equipment in a manner that will yield the intended energy consumption reductions. This license shall continue subsequent to any termination or expiration of this Contract other than termination due to breach by Owner.

8.2 *Ownership of Documents*

All drawings, reports and materials prepared by ESCo specifically in performance of this Contract shall become the property of Owner upon payment being received by ESCo for stated documents.

8.3 *Ownership of Existing Equipment*

8.3.1 Ownership of the equipment and materials existing at the Premises at the time of execution of this Contract shall remain the property of Owner even if it is replaced or its operation made unnecessary by work performed by ESCo pursuant to this Contract. If applicable, ESCo shall advise Owner in writing of all equipment and materials to be replaced at the Premises and Owner shall within fifteen (15) calendar days designate in writing to ESCo which equipment and materials should not be disposed of off-site by ESCo.

8.3.2 It is understood and agreed to by both Parties that Owner shall be responsible for and designate the location and storage for any equipment and materials that should not be disposed of off-site.

8.3.3 Except as may be otherwise provided in this Contract, ESCo shall be responsible for the disposal of all equipment and materials designated by Owner as disposable off-site in accordance with all applicable laws and regulations regarding such disposal. Under no circumstance shall ESCo be obligated to dispose of or take responsibility for any materials identified in Section 16 of this Contract, except to the extent ESCo or an entity/person that ESCo is liable for, brought such materials to the Premises.

8.4 *ESCo's Property*

All materials furnished by and used by ESCo personnel at the installation site, including documentation, schematics, test equipment, software, and associated media remain the exclusive property of ESCo. Owner agrees not to use such materials for any purpose at any time. Owner agrees to allow ESCo personnel to retrieve and to remove all such materials remaining after installation or maintenance operations have been completed. Owner acknowledges that all ESCo software included is proprietary and will be delivered only under the provisions of an appropriate Software License Agreement that will limit its use to the system purchased under this Contract.

8.5 *Ownership of Measurement and Verification Equipment*

If required, Owner shall provide and maintain a non-dedicated telephone line to facilitate remote monitoring of the Equipment. Owner shall not by virtue of this Contract, acquire any interest in any formulas, patterns, devices, secret inventions or processes, copyrights, patents, other intellectual or proprietary rights/properties, or similar items of property which are or may be used in connection with the verification of savings by ESCo. Owner shall own and maintain all metering equipment.

8.6 *New Equipment*

All new equipment or materials supplied to Owner shall become the property of Owner.

8.7 *Instruments of Service*

8.7.1 Drawings, specifications and other documents, including those in electronic form, prepared by ESCo and ESCo's consultants are Instruments of Service for use solely with respect to this project. ESCo and ESCo's consultants shall be deemed the authors and owners of their respective instruments of service and shall retain all common law, statutory and other reserved rights, including copyrights.

- 8.7.2 Upon execution of this Contract, ESCo hereby grants to Owner a perpetual, non-revocable, and nonexclusive license to reproduce and use, and permit others to reproduce and use for Owner, ESCo's Instruments of Service solely for purposes of constructing, using and maintaining the Project or for future alterations, or additions to the project. ESCo shall obtain similar nonexclusive licenses from ESCo's consultants consistent with this Contract. If, and upon the date ESCo is adjudged to be in default of this Contract, the foregoing license shall be deemed terminated and replaced by a second, nonexclusive license permitting Owner to authorize other similarly credentialed design professionals to reproduce and, where permitted by law, to make changes, corrections or additions to the Instruments of Service solely for purposes of completing, using and maintaining the project, or for future alterations, or additions to the project.
- 8.7.3 Any unilateral use by Owner of the Instruments of Service for completing, using, maintaining, adding to or altering the project or facilities shall be at Owner's sole risk and without liability to ESCo and ESCo's consultants; provided, however, that if Owner's unilateral use occurs for completing, using or maintaining the project as a result of ESCo's breach of this Contract, nothing in this Section shall be deemed to relieve ESCo of liability for its own acts or omissions or breach of this Contract.

C. CONSTRUCTION PERIOD REQUIREMENTS AND SCOPE

9.0 CONSTRUCTION PERIOD GENERAL

9.1 Purpose of Contract

This Energy Performance Contract is for acquisition of energy conservation services for Owner to reduce energy, water consumption and associated utility costs, and energy-related operations and maintenance costs as specified in this Contract. ESCo shall be responsible for providing all labor, material, etc. to install energy and water conservation measures and to provide operations and maintenance as specified herein.

9.2 Project Costs Paid from Savings

- 9.2.1 The cost of the project must be covered by the reduced energy and related operation and maintenance cost savings incurred at Owner's Premises, plus any capital contribution by Owner as described in this Contract.
- 9.2.2 The energy cost savings must be guaranteed and verified annually by ESCo. The annual guarantee is required for the entire Contract term. The guarantee shall be based on cost savings attributable to all energy saving measures, and must equal or exceed all project costs each year during the Contract period.

9.2.3 Annual project costs include debt service, ESCo fees, maintenance services, monitoring services, and other services as defined in this Contract.

9.3 Performance by ESCo

9.3.1 ESCo shall perform all tasks/phases under the Contract, including construction, and install the Energy Conservation Measures (ECMs) in such a manner so as not to harm the structural integrity of the buildings or their operating systems or to create any unreasonable risks to life or safety and so as to conform to the standards set forth in Standards of Comfort (Schedule 7).

9.3.2 Construction and equipment installation shall proceed in accordance with the construction schedule approved by Owner and attached hereto as Construction and Installation Schedule (Schedule 8). The construction/installation phase of the project shall be managed by ESCo in compliance with Owner's security requirements and governing statutes.

9.3.3 All services called for by this Contract which constitute the "practice of architecture" or the "practice of engineering", shall be performed by properly qualified and licensed professionals employed by ESCo and shall be performed in accordance with applicable law.

9.3.4 ESCo shall provide the installation and all related services identified on the Attachments and Schedules to this Contract. ESCo shall provide supervision and direction and shall be solely responsible for all construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the work under this Contract.

9.3.5 ESCo shall be responsible to pay for all labor, materials, equipment, tools, construction equipment and machinery, transportation and other facilities and services necessary for the proper execution and completion of the work.

9.3.6 ESCo shall promptly repair and restore to its original condition any area of damage caused by ESCo performance under this Contract. ESCo shall inform Owner in advance of any repair or restoration work. Notice of such repair or restoration by ESCo must be provided in advance to Owner. Owner reserves the right to review the work performed by ESCo and to direct ESCo to take certain corrective action if, in the opinion of Owner, the structural integrity of the Premises or its operating system is or will be harmed. All costs associated with such corrective action caused by ESCo's breach of its obligations under this Contract shall be borne by ESCo. All construction and installation by ESCo shall be in compliance with applicable building, fire and other codes in existence as of the date of this contract.

9.3.7 ESCo shall provide, during the progress of the installation and testing, a competent superintendent and any necessary assistants. The superintendent shall represent the ESCo and all directions or notices given to him or her shall be binding on the ESCo.

The superintendent shall give efficient supervision to the work, using his or her best skill and attention. The superintendent shall see that the work is carried out in accordance with this Contract and in a thorough first-class manner in every respect. The superintendent shall establish all lines, levels, and marks, if any, necessary to facilitate the operations of all concerned in such installation.

9.3.8 ESCo shall remain responsible for the professional and technical accuracy of all services performed, whether performed by the ESCo or its subcontractors or others on its behalf, throughout the term of this Contract.

9.4 Subcontractors

9.4.1 As used in this Contract, the term “subcontractor” means a person or entity supplying both labor and materials, or labor only, for installation or maintenance related to the Equipment. Each and every subcontractor shall be properly qualified to perform the work that is the subject of such subcontract.

9.4.2 Owner retains the right to approve any ESCo selected subcontractor prior to its commencement of work on this project. Within thirty (30) calendar days following execution of this Contract, ESCo shall provide Owner a complete list of all proposed subcontractors. ESCo shall not use any subcontractor Owner objects to in writing as being unacceptable within five (5) business days after receiving ESCo’s list.

9.4.3 In lieu of work proposed to be performed by ESCo or a subcontractor recommended by ESCo, ESCo agrees Owner may specify that certain energy conservation measures or components will be subject to requests for bids to ESCo from one or more subcontractors acceptable to Owner. ESCo shall provide its specifications for bids to Owner for review and comment prior to their release to bidders. ESCo shall provide Owner with copies of all bid responses. ESCo shall consent to the bidder reasonably recommended by Owner and ESCo warrants that such consent shall not be unreasonably withheld.

9.4.4 Prior to the execution of subcontracts, ESCo shall ensure that such subcontracts incorporate by reference all relevant clauses of this Contract and that any required prior notice and description of the subcontract is given to Owner and any required consent is received.

9.4.5 Except as may be expressly set forth herein, any consent by Owner to the execution of subcontracts shall not be construed to constitute approval of the subcontractor or any subcontract terms and conditions, determination of any price revision of the Contract or any of the respective obligations of the parties thereunder, or creation of any subcontractor privilege of Contract with Owner.

9.4.6 Nothing in this Contract shall create any contractual relationship whatsoever between any subcontractor and the Owner. ESCo shall not grant or allow any lien or security interest for labor or material or otherwise on the Equipment, the Premises or other property owned by Owner.

10.0 STANDARDS OF COMFORT

10.1 Energy and water conservation measures installed by ESCo shall provide the standards of heating, cooling, ventilation, hot water supply, lighting quality and levels, etc. described in Schedule 7 to comply with the Standards of Comfort required by Owner. ESCo will be responsible for maintaining the levels of comfort for each building as specified in this Contract.

10.2 During the Construction Period of this Contract, ESCo shall maintain and operate the Energy Conservation Measures in a manner that will provide the standards of heating, cooling, hot water, lighting and other systems as described in Schedule 7 (Standards of Comfort).

10.3 During the term of this Contract, ESCo and Owner will maintain, according to Schedules 6, 11, and 12, and operate the measures in a manner that will provide the standards of comfort and levels of operation as described in Schedule 7.

11.0 ENERGY CONSERVATION MEASURES (ECMs)

11.1 Compliance with Contract Requirements

Installed ECMs shall comply with the Contract requirements. Contract Requirements also incorporate all Owner-approved ESCo submittals, including equipment design; installation specifications; the Design and Construction Package(s); Commissioning Plan; compliance with codes and standards; design drawings; installation schedules; startup and testing procedures; operation and maintenance procedures; and any other submittals required by the Contract.

11.2 Modification or Replacement of ECMs

11.2.1 Modification or Replacement by ESCo

11.2.1.1 ESCo may, subject to approval by Owner, elect to modify, replace, change the ECM systems and equipment, revise any procedures for

operation or implement other energy saving actions in the Premises during the term of the Contract from those originally approved.

11.2.1.2 Any proposed ECM modification, replacement, or change shall require notification and coordination with and approval of Owner, which approval shall not be unreasonably withheld.

11.2.1.3 Such modifications, replacements, changes or revisions shall be subject to the following:

- a. ESCo complies with the standards of comfort and services set forth in Schedule 7 and applicable DFCM and Owner standards as attached herein.
- b. Such ECM modifications, replacement, revisions, and any operational changes, or new procedures are necessary to enable the ESCo to achieve the Savings Guarantee at the Premises or increase energy and cost savings.
- c. Any replacement of ECM equipment shall be new and have equal or better potential to reduce energy consumption at the Premises than the ECM equipment being replaced.
- d. All replacements of and alterations or additions to the installed ECMs shall become part of the installed ECMs described in Schedule 2 and shall be covered by the provisions and terms of this Contract.
- e. ESCo shall update and upgrade any and all software to be used in connection with the ECMs in accordance with the provisions of Section 8.1 (Ownership of Certain Proprietary Rights).

11.2.1.4 All modifications, additions or replacements of the ECMs or revisions to operating or other procedures shall be described in a supplemental Schedule(s) to the Energy Conservation Measures described in Schedule 2 and shall be covered by the provisions and terms of this Contract.

11.2.1.5 Any cost incurred relative to such ECM modifications, additions or replacement of ECMs, or any operational changes or new procedures shall be the responsibility of the ESCo at no cost to Owner and shall not interfere with Owner's operations and mission.

11.2.2 Modification or Replacement by Owner

11.2.2.1 Except as set forth in Schedule 12 (Owner's Maintenance Responsibilities), during the Term of this Contract, Owner will not, affix or install any accessory equipment or device on any ECM equipment if such addition will change or impair the originally intended functions, value or use of the ECM equipment without ESCo's prior written approval, which approval shall not be unreasonably withheld.

11.2.2.2 Notwithstanding the foregoing Section 11.2.2.1, Owner may take reasonable steps to protect the ECM equipment if, due to an emergency, it is not possible or reasonable to notify ESCo before taking any such actions. In the event of such an emergency, Owner shall take reasonable steps to protect the ECM equipment from damage or injury and shall follow instructions for emergency action provided in advance by ESCo.

11.2.2.3 Owner agrees to maintain the Premises in good repair and to protect and preserve all portions thereof which may in any way affect the operation or maintenance of the ECM equipment, all in accordance with the same standard of care Owner applies to the Premises generally, that of a reasonably prudent owner.

12.0 *INSTALLATION REQUIREMENTS FOR ECMs*

Once negotiated and awarded, an Energy Performance Contract is a Guaranteed Maximum Price design/build energy performance contract. Changes to meet design or performance requirements of the Contract shall be at no cost to Owner. Changes in ESCo cost due to Owner changes to Contract requirements will be negotiated as changes.

12.1 *Design and Construction Package*

12.1.1 ESCo shall prepare and submit a Design and Construction Package to Owner for review and approval prior to starting ECM installation. The Design and Construction Package shall be certified by a licensed Professional Engineer to assure compliance with applicable building codes and Owner design standards. ESCo is responsible for the technical adequacy of its work. Acceptance of the Design and Construction Package by Owner shall not relieve ESCo from responsibility for adequacy of its design and installation work.

12.1.2 The Design and Construction Package due date will be specified in the agreed upon Construction and Installation Schedule (Schedule 8). Upon approval of the Design and Construction Package, bonds may be required.

12.1.3 The Design and Construction Package shall be prepared and include at least the following:

12.1.3.1 *Manufacturer's Data:* For all ECM equipment to be installed, Contractor shall provide the manufacturer's descriptive literature of equipment including drawings, diagrams, performance and characteristic curves, and catalog cuts.

12.1.3.2 Design Specifications: ESCo shall identify and reference design specifications applicable to installed ECMs.

12.1.3.3 Construction Drawings: Construction drawings shall be prepared by ESCo, subcontractor, or any lower-tier subcontractor showing in detail:

- a. The installation (e.g. form, fit, and attachment details) of the interface between ECM equipment and existing Owner equipment.
- b. The location of installed equipment on building floor plans.
- c. Certification of ECM Compliance with Building Codes and Standards. ESCo shall provide certification by a licensed Professional Engineer that ECMs comply with all applicable building codes and standards. ECM installation plans submitted to Owner without evidence of the licensed Professional Engineer (PE) certification shall be returned for resubmission.

12.1.3.4 Planned Service Interruptions: If any utility services must be discontinued temporarily to perform work, such interruptions shall be described and indicated on the project installation schedule. The description shall include the length of the interruption, its time (date, day of week, time of day, etc.), and a justification.

12.1.3.5 Quality Control Plan: A Quality Control Inspection Plan for ECM installation shall be prepared and submitted with the design and construction package.

12.1.3.6 Site Plan and Compliance with Facility Owner Exterior Site Plan: If an ECM involves the installation of facilities or exterior structures, ESCo shall provide a site plan showing its location, or show its location on Owner's existing site plan. ESCo shall also provide a plan and elevation drawings of the facility or exterior structure showing its size and exterior appearance.

12.1.3.7 Acquisition of Permits: For any ECM installation requiring permits from regulatory agencies (i.e., hot-work permit for welding), ESCo shall provide its plan and schedule for acquiring such permits.

12.1.3.8 Installation Schedules: The Construction and Installation Schedule (Schedule 8) shall be revised to show the most current information relative to the order in which ESCo proposes to perform the work and the dates on which ESCo contemplates starting and completing all major milestones (including acquiring

materials, equipment, permits). The schedule shall be in the form of a progress chart of suitable scale to indicate the amount of work scheduled for completion by any given date during the installation period.

12.1.3.9 Commissioning Plan: ESCo's plan for start-up and commissioning of ECMs installed under this Contract.

12.1.4 Design documents will require both a preliminary and final review by Owner.

12.1.5 Design and Construction Standards

12.1.5.1 At a minimum, all work, equipment and materials required for ECM installation shall comply with the following list of standards:

- a. **American National Standards Institute (ANSI)**
- b. **International Electric Code (IEC)**
- c. **International Fire Code**
- d. **National Electrical Manufacturers Association (NEMA)**
- e. **Underwriters Laboratory (UL)**
- f. **International Building Code (IBC)**
- g. **International Plumbing Code (IPC)**
- h. **International Mechanical Code (IMC)**
- i. **American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE)ASHRAE 90.1**
- j. **Illuminating Engineering Society of North America (IES)**
- k. **American Institute of Architects (AIA) Masterspec**
- l. **Air Conditioning and Refrigeration Institute (ARI)**
- m. **Occupational Safety and Health Administration regulations**
- n. **Other design standards required by the Facility Owner**

12.1.5.2 No requirement of this Contract shall supersede applicable regulations, local codes and/or standards. Any violation of such regulations and standards shall be brought to the attention of Owner for clarification prior to proceeding with the work.

12.1.5.3 If conflicts between designated applicable codes and/or standards exist, Owner and applicable authority having jurisdiction shall determine the appropriate code to follow.

12.2 ECM Installation Quality Control

ESCo shall be responsible for quality control during installation of ECMs. ESCo shall inspect and test all work performed during ECM installation to ensure compliance with Contract's performance requirements. ESCo shall maintain records

of inspections and tests, including inspections and tests conducted by or for utility or other regulatory agencies.

12.3 Coordination During Installation

Owner and ESCo shall coordinate the activities of ESCo's equipment installers with those of Owner, its employees, and agents. ESCo shall not commit or permit any act, which will interfere with the performance of business activities conducted by Owner or its employees without prior written approval of Owner.

12.4 ECM Start-up and Commissioning

ESCo shall assure Owner through the ECM Commissioning that performance of the ECMs achieves facility performance requirements as set out in the Contract. The ECM Commissioning shall be accomplished through a process of verification and documentation, from the post-award design phase through Acceptance of Installed ECMs. To ensure this Contract properly accounts for as-installed conditions, which conditions may vary from the pre-installation analyses, Contractor shall re-validate or modify Schedules 2 and 10 prior to System Start-Up.

12.4.1 Commissioning Approach

12.4.1.1 ESCo has submitted in its Project Proposal an ECM Commissioning Approach document that utilizes data and factors derived from the Investment Grade Audit, needed to achieve facility performance requirements in accordance with the Contract.

12.4.1.2 ESCo shall conduct a thorough and systematic performance test of each element and total system of the installed ECMs in accordance with the procedures specified in Attachment Q and in the Commissioning Plan prior to acceptance of the project by Owner.

12.4.1.3 Testing shall be designed to determine if the installed ECMs are functioning in accordance with both published specifications and the Attachments to this Contract, and to determine if modified building systems, subsystems or components are functioning properly within the new integrated environment.

12.4.1.4 ESCo shall provide notice to Owner of the scheduled test(s) and Owner and/or its designees shall have the right to be present at any or all such tests conducted by ESCo and/or manufacturers of equipment. ESCo shall be responsible for correcting and/or adjusting all deficiencies in the operation of the installed ECMs that may be observed during system commissioning procedures of Schedule 10 and in the Commissioning Plan.

12.4.1.5 ESCo shall be responsible for correcting and/or adjusting all deficiencies in ECM operation that may be observed during system testing procedures.

12.4.2 *Commissioning Plan*

ESCo shall provide a Commissioning Plan with the design and construction package that finalizes the Commissioning Approach and addresses each ECM with specific steps that will be taken during the commissioning process.

12.4.3 *Commissioning Report*

12.4.3.1 Prior to Owner acceptance, ESCo shall submit a Commissioning Report documenting the affect of the installed ECMs upon facility performance requirements in accordance with the Commissioning Plan.

12.4.3.2 The Commissioning Report shall also provide Owner with reasonably satisfactory documentary evidence that the ECMs installed are the measures specified in Schedule 2.

13.0 *Permits and Approvals*

13.1 All required permits and licenses for the installation of the Energy Conservation Measures, including without limitation, this State's plumbing and electrical permits, shall be secured and paid for by ESCo.

13.2 Owner shall use its best efforts to assist ESCo in obtaining all necessary permits and approvals for installation of the Energy Conservation Measures. In no event shall Owner, however, be responsible for obtaining any permit or license fees or the payment of any permit or license fees. The Energy Conservation Measures and their operation by ESCo shall at all times conform to all federal, state and local code requirements. ESCo shall furnish copies of each permit or license which is required to perform the work to Owner before the ESCo commences the portion of the work requiring such permit or license.

13.3 As directed by Owner, design documentation shall be submitted to Owner for review. As deemed necessary by Owner, design documentation shall be forwarded by Owner to the appropriate code review contractor for review. Owner agrees that the total review process will not be longer than fifteen 15 business days from the date of Owner's receipt of the complete design documentation. All costs of code review will be borne by Owner.

13.4 Owner shall be responsible for securing any necessary approvals, easements, assessments, or zoning changes and shall be responsible for real estate and personal property taxes where applicable. ESCo makes no representations regarding the tax implications or Owner's accounting treatment of this Contract or the services and work provided under this Contract.

14.0 Waiver of Liens, Performance Bonds, Labor and Material Payment Bonds

14.1 Bonds: ESCo shall furnish a Performance Bond and a Labor and Material Payment Bond on approved standard Owner bond forms, executed by a corporate Surety licensed to transact such business in the State of Utah and in the full amount of the Contract Sum. Form of bonds shall be as shown in Exhibit 1 (Owner Form of Performance Bond) and Exhibit 2 (Owner Form of Labor and Material Payment Bond).

14.1.1 The expense of these bonds shall be borne by ESCo and the bonds submitted to Owner prior to commencing work. Form of such bonds are incorporated herein by reference and shall be as shown in Exhibit 1 (Owner Form of Performance Bond) and Exhibit 2 (Owner Form of Labor and Material Payment Bond). The Contract bonds shall be maintained in full force and effect until Final Completion.

14.1.2 The bonds are not being furnished to cover the performance of any energy guaranty or guaranteed savings under this Contract. Owner agrees that upon Final Completion, the Performance and Payment Bonds shall be released and all obligations arising thereunder shall be terminated. Final completion is further clarified and defined to mean upon the signing and issuance of a Final Completion of Acceptance for the entire work as defined in this Contract.

14.1.3 If, at any time, a Surety on such a bond becomes irresponsible or loses its right to do business in the State of Utah, another Surety will be required that meets the above stated requirements, which ESCo shall furnish to Owner within ten (10) business days after receipt of Notice.

14.1.4 The responsibility and liability of ESCo shall survive the period of the release of the bonds subject to statutes of limitation or repose as provided by Utah law. No statute of limitations shall commence in regard to any latent defect, until such defect is actually discovered or should have been discovered by Owner.

14.2 Liens: Utah law does not provide any right of mechanics lien against State of Utah property. Although no right of lien exists, ESCo will obtain and furnish to Owner a Waiver of Lien from each vendor, materialman and laborer in the furnishing,

installation and servicing of each piece of Equipment as additional protection against unpaid labor or materials.

15.0 Location and Access

15.1 ESCo Access

15.1.1 ESCo acknowledges that there exists sufficient space on the Premises for the installation and operation of the Energy Conservation Measures.

15.1.2 Owner shall provide access to the Premises for ESCo to perform any function related to this Contract during negotiated work performance periods, or such other reasonable hours as may be requested by ESCo and acceptable to Owner.

15.1.3 It shall be ESCo's responsibility, through Owner, to obtain access to buildings on the project site, and arrange for the buildings to be opened and closed as necessary.

15.1.4 Keys may be issued to ESCo in accordance with current WSU policy; however, it shall be ESCo's responsibility to make adequate arrangements for security of the building at the end of each work day. ESCo shall be responsible for the cost of replacing any keys that are furnished to and lost by its employees. If Owner decides that a lock must be replaced because of the loss of a key by ESCo's employee(s), ESCo shall pay the cost of that replacement. Similarly, ESCo shall pay the cost of changing a combination if Owner has reasonable cause to assume that the combination has been compromised.

15.1.5 Access to any classroom, laboratory, faculty office or other like spaces must be scheduled with Owner at least ten (10) business days in advance. Notice must include names of employees to be admitted, expected arrival time, and visit duration.

15.1.6 Certain areas of the Premises may require that ESCo and its employees have an escort, and/or place limits on the days and times that ESCo and its employees may work in these areas.

15.1.7 Subject to Owner's security requirements, ESCo shall be granted ready access to make emergency repairs or corrections as it may, in its discretion, determine are needed. ESCo's access to the Premises to make emergency repairs or corrections as it may determine are needed shall not be unreasonably restricted by Owner. ESCo shall immediately notify Owner when emergency action is taken and follow up with written notice within

three (3) business days specifying the action taken, the reasons therefore, and the impact upon the Premises, if any.

15.2 Utility Access

15.2.1 If a Utility Award Payment is made as described in Section 5.6 (Utility Incentive Payments), the following shall apply:

15.2.1.1 Upon request by the Utility (or its agent) and with prior consent of Owner, as governed by Owner's security requirements, which consent shall not be unreasonably withheld, Owner shall agree to allow Utility to interview Owner and to enter the Premises at reasonable times throughout the life of the installed equipment to install metering equipment, perform energy audits or inspect the facilities and any equipment installed.

15.2.1.2 Owner also agrees to cooperate with the Utility or its agent upon request and with prior consent of Owner, in conducting such activities and/or in analyzing energy savings. At all times a representative of Owner (or its agent) shall be present during such inspections.

16.0 ENVIRONMENTAL REQUIREMENTS

16.1 Quality of Environment

ECMs shall cause no adverse impacts upon the quality of the human environment. Impacts on air quality (pollutants, noise level, and odors or fumes) and potable water use are examples of potential areas of concern at the project site.

16.2 Compliance with Regulations

16.2.1 Federal, State and Local Laws or Regulations: ESCo shall comply with applicable Federal, state and local laws and with the applicable regulations and standards regarding environmental protection. All environmental protection matters shall be coordinated with Owner. Authorized Owner personnel may inspect any of ESCo's work areas on a no-notice basis during normal working hours. In the event that a regulatory agency assesses a monetary fine against Owner for violations caused by ESCo's negligence, ESCo shall reimburse Owner for the amount of any fine and other related costs. ESCo shall also clean up any oil spills, hazardous wastes, and hazardous materials resulting from ESCo's operations. ESCo shall comply with the instructions of the cognizant Owner's safety and health personnel to avoid conditions that create a nuisance or which may be hazardous to the health of Owner's or other personnel.

16.2.2 Documentation for Permits: ESCo shall prepare at its expense all documentation necessary to acquire permits to comply with all applicable Federal, state and local requirements prior to implementing affected ECMs in the performance of this Contract. ESCo shall not receive a notice to proceed with installation until all environmental protection requirements contained in the Contract have been satisfied.

16.2.3 Spill Prevention and Countermeasures: ESCo shall comply with any Owner spill prevention control and countermeasures requirements.

16.2.4 Excluded Material and Activities

All work completed under this Contract must be in compliance with all applicable federal, state and local laws, rules and regulations regarding waste disposal and treatment/disposal of any hazardous materials that could result from this project. Work must also be in accordance with sound engineering and safety practices, and in compliance with all reasonable Owner rules relative to the Premises.

16.2.4.1 Owner recognizes that in connection with the installation and/or service or maintenance of Equipment at Owner's Premises, ESCo may encounter, but is not responsible for, any work relating to:

- a.** Asbestos, materials containing asbestos, or the existence, use, detection, removal, containment or treatment thereof, or
- b.** Pollutants, hazardous wastes, hazardous materials, contaminants other than those described in Section 16.2.5 below (collectively "Hazardous Materials"), or the storage, handling, use, transportation, treatment, or the disposal, discharge, leakage, detection, removal, or containment thereof.

16.2.4.2 The materials and activities listed in the Section 16.2.4.1 are referred to as "Excluded Materials and Activities".

16.2.4.3 Owner agrees that if performance of work involves any Excluded Materials and Activities, Owner will perform or arrange for the performance of such work and ESCo shall be free from any liability there from except to the extent of intentional misconduct or negligence on the part of ESCo that creates damage to person(s) or property. Owner shall be responsible to handle such Materials at its expense.

16.2.4.4 In the event ESCo discovers Hazardous or Excluded Materials, ESCo shall immediately cease work, remove all ESCo personnel or subcontractors from the site, and notify Owner. ESCo shall undertake no further work on the Premises except as authorized by Owner in writing.

16.2.4.5 Notwithstanding anything in this Contract to the contrary, any such event of discovery or remediation by Owner shall not constitute a default by Owner. In the event of such stoppage of work by ESCo, the time for completion of work will be automatically extended by the amount of time of the work stoppage. There shall be no extra compensation due to ESCo as a result of any such delays or work stoppage.

16.2.4.6 ESCo shall be responsible for any hazardous or other materials, including, without limitation, those listed in this Section that it may bring to the Premises, including any damages to person(s) or property that are related thereto.

16.2.5 Polychlorinated Biphenyl (PCB) Ballasts; Mercury Lamps

16.2.5.1 ESCo will enter into an agreement with an approved PCB ballast disposal contractor who will provide an informational packet, packing receptacles and instructions, labels and shipping materials, transportation, recycling, and incineration services for PCB ballasts.

16.2.5.2 All capacitors and asphalt potting compound materials removed from Owner's PCB ballasts will be incinerated in a federally approved facility. Certificate of Destruction will be provided to Owner by ESCo.

16.2.5.3 ESCo's responsibility shall be for the proper and legal management of any of Owner's PCB ballasts removed as a result of the installation of the ECMs.

16.2.5.4 ESCo will enter into an agreement with an approved lamp disposal contractor who will provide approved containers, materials required to label, transportation, recycling in accordance with EPA requirements, and a copy of the manifest.

16.2.5.5 Owner agrees to sign all appropriate manifests of ownership for all PCB ballasts and mercury lamps removed from the Premises.

17.0 SERVICE INTERRUPTIONS

17.1 For any planned utility service interruptions, ESCo shall furnish a request to Owner's designated representative for approval at least fifteen (15) business days in advance or as specified in the Contract. The request shall identify the affected buildings and duration of planned outage.

17.2 Owner will coordinate with affected tenants and other occupants as applicable.

17.3 If the discontinued service is due to any emergency breakdown, ESCo shall notify Owner's designated representative as soon as possible and Owner will notify those affected tenants and other occupants as applicable.

18.0 AS-BUILT DRAWINGS

After completion of installation of ECMs, ESCo shall provide durable, reproducible record drawings in electronic (CAD) format from the "as-built drawings" of all existing and modified conditions associated with the project, conforming to typical engineering standards. These shall include applicable architectural, mechanical, electrical, structural, and control drawings and operating manuals which shall be delivered prior to acceptance. ESCo shall also provide Owner with any As-built Drawings received from Subcontractors.

19.0 AVAILABILITY OF UTILITIES

Owner will furnish water and electric current at existing outlets as may be required for the installation work to be performed at no cost to ESCo. ESCo, at its expense and in a workmanlike manner satisfactory to Owner, shall install and maintain all necessary temporary connections and distribution lines for each utility. Information concerning the location of existing outlets may be obtained from Owner. ESCo shall remove all the temporary connections, distribution lines, and associated equipment upon completion of the installation work. Temporary heating or cooling required for spaces due to outages resulting from ESCo's work, shall be provided by ESCo at ESCo's expense including utility costs.

20.0 CONTRACTOR FURNISHED LABOR AND MATERIAL

20.1 ESCo Labor and Personnel: ESCo shall furnish sufficient personnel to perform all work specified within the Contract and ESCo employees shall conduct themselves in a proper, efficient, courteous, and businesslike manner. ESCo shall provide to Owner the name(s) of the responsible supervisory person(s) authorized to act for ESCo. No employee or representative of ESCo will be admitted to the work site unless that employee furnishes satisfactory proof that he/she is a citizen of the United States or otherwise legally authorized to work in the United States.

20.2 ESCo Materials: ESCo shall provide all materials and supplies necessary to perform the work as specified in the Contract. Materials and supplies provided shall be of acceptable industrial grade and quality and in compliance with any applicable standards. All such materials and supplies must be compatible, and operate safely within design parameters of existing systems equipment.

21.0 FIRE PREVENTION

ESCo shall ensure that its employees shall know how to activate a fire alarm. ESCo employees operating critical equipment shall be trained to properly respond during a fire

alarm or fire in accordance with the applicable Owner's fire prevention procedures, rules or regulations as identified in the Contract. ESCo shall obtain all required welding permits prior to any welding. ESCo shall observe all requirements for handling and storing combustible supplies, materials, waste and trash.

22.0 SALVAGE

All material and equipment removed or disconnected during the installation of ECMs under this Contract shall remain the property of Owner. Owner will identify the equipment it wants stored. Any material and equipment not to be stored and all debris resulting from work under this Contract shall be removed from the site by ESCo at his expense.

23.0 SAFETY REQUIREMENTS

23.1 All work shall be conducted in a safe manner. Owner will not provide safety equipment to ESCo. A safety program and hazard analysis shall be prepared prior to the start of work on a construction site. Prior to commencing work, ESCo shall meet with Owner to agree upon administration of the safety program.

23.2 ESCo's workplace may be inspected periodically for OSHA violations. Abatement of violations shall be the responsibility of ESCo and/or Owner as determined by Owner. ESCo shall provide assistance to Owner and Federal or state OSHA inspector if a complaint is filed. Any fines levied on ESCo by Federal or state OSHA offices due to safety/health violations will be paid promptly by ESCo.

23.3 ESCo shall report to Owner all accidents within twenty-four (24) hours of their occurrence. Additionally, ESCo shall submit to Owner a full report of damage to Owner property and equipment by ESCo's employees or ESCo's subcontractors, at any tier. All damage reports shall be submitted to Owner within twenty-four (24) hours of their occurrence.

24.0 SECURITY REQUIREMENTS

24.1 Passes and Badges

ESCo employees shall purchase vehicle passes as required.

24.2 ESCo and Subcontractor Vehicles

ESCo vehicle shall display ESCo's or subcontractor's name such that it is clearly visible. ESCo and subcontractor vehicles shall, at all times, display a valid state license plate and Owner parking permit purchased by ESCo or subcontractor so as to be clearly visible.

25.0 WORK SCHEDULE REQUIREMENTS

- 25.1** ESCo shall arrange its on-site work so that it will not interfere with normal Owner business. ESCo shall develop a monthly work schedule for all on-site work performed from Contract award through implementation and performance periods for all ECMs. In no event shall ESCo change approved work schedules without the prior consent of Owner.
- 25.2** If ESCo desires to work on Saturdays, Sundays, Holidays, or outside the Premises' normal working hours, it may submit a request for approval to Owner at least seven (7) business days prior to the proposed start of such work.

26.0 INSPECTION AND ACCEPTANCE

26.1 Owner Inspection

- 26.1.1** Owner shall have the right to inspect, test and approve the work conducted in the Premises during construction and operation. Owner shall have the right and access to the account books, records, and other compilations of data that pertain to the performance of the provisions and requirements of this Contract. Records shall be kept on a generally recognized accounting basis, and calculations will be kept on file in legible form and retained for three years after close-out. Owner retains the right to have its representative visit the site during the audit and implementation phases of the project, and to attend relevant on-site or off-site meetings of ESCo and/or its subcontractors.
- 26.1.2** Owner inspections and tests are for the sole benefit of Owner and do not:
- Relieve ESCo of responsibility for providing adequate quality control measures.
 - Relieve ESCo of responsibility for damage to or loss of the material before acceptance.
 - Constitute or imply acceptance.
 - Affect the continuing rights of Owner after acceptance of the completed work under Section 26.1.8 below.
- 26.1.3** The presence or absence of an Owner inspector does not relieve ESCo from any Contract requirement, nor is the inspector authorized to change any term or condition of the specification without Owner's written authorization.
- 26.1.4** ESCo shall promptly furnish, at no increase in Contract price, all equipment, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by Owner. Owner may charge to ESCo any additional cost of inspection or test when work is not

ready at the time specified by ESCo for inspection or test, or when prior rejection makes re-inspection or retest necessary. Owner shall perform all inspections and tests in a manner that will not unnecessarily delay the work. Any special and performance tests shall be performed as described in the Contract.

26.1.5 ESCo shall, without charge, replace or correct work found by Owner not to conform to Contract requirements, unless in its interest Owner consents to accept the work with an appropriate adjustment in Contract price. ESCo shall promptly segregate and remove rejected material from the Premises.

26.1.6 If ESCo does not promptly replace or correct rejected work, Owner may:

- By contract or otherwise, replace or correct the work and charge the cost to ESCo, or
- Terminate for default ESCo's right to proceed.

26.1.7 If, before acceptance of the entire work, Owner decides to examine already completed work by disassembling or removing it, ESCo, on request, shall promptly furnish all necessary facilities, labor, and material. If the work is found to be defective or non-conforming in any material respect due to the fault of ESCo or its subcontractors, ESCo shall defray the expenses of the examination and of satisfactory reconstruction. However, if the work is found to meet Contract requirements, Owner shall make an equitable adjustment for the additional services involved in the examination and reconstruction, including, if completion of the work was thereby delayed, an extension of time.

26.1.8 Unless otherwise specified in the Contract, Owner shall accept, as promptly as practicable after completion and inspection, all work required by the Contract, or that portion of the work Owner determines can be accepted separately. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or Owner's rights under any warranty or guarantee.

26.2 *ESCo Inspection*

ESCo shall maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the Contract conforms to Contract requirements. ESCo shall maintain complete inspection records and make them available to Owner. All work shall be conducted under the general direction of Owner for the specific project, and is subject to Owner inspection and test at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the Contract.

26.3 *Acceptance of Installed ECMs*

26.3.1 ESCo shall arrange for the inspection of construction work and construction oversight to verify that the energy efficiency equipment and/or system modifications are properly supplied as designed and specified, and installed in accordance with the approved installation plan, all applicable codes and standards, the Contract specifications and in a manner that will provide the intended long-term function, energy savings, and performance of the equipment.

26.3.2 Any measurement and verification of equipment and systems installed shall be consistent with requirements defined in the approved M&V plan. All start-up and testing shall be conducted in the presence of Owner.

26.3.3 ESCo shall furnish at least three (3) printed copies and one (1) electronic copy of operation and maintenance (O&M) manuals and recommended spare parts lists for O&M of the installed ECMs and modified Owner equipment. O&M plans and spare parts lists shall be submitted prior to Owner acceptance of the project, as specified in the Contract. Manuals are subject to approval by Owner.

26.3.4 Owner will accept the project installation in writing, in accordance with Exhibit 3, upon satisfactory completion of the required test period and receipt of all other required deliverables.

26.3.5 Owner acceptance shall occur when ALL of the following are completed:

- Approval by Owner of ESCo's Post-Implementation Report.
- Approval by Owner of ESCo's ECM Commissioning Report.
- The project inspection and acceptance is obtained pursuant to Sections 26.1 and 26.2.
- Provision of the required number of Operation and Maintenance Manuals.
- Completion of initial training per the Contract.

26.3.6 The approval of the ECM Commissioning Report and the Measurement and Verification Post-Implementation Report by Owner shall also constitute acceptance of ESCo's achievement of performance requirements.

D. PERFORMANCE PERIOD REQUIREMENTS AND SCOPE

27.0 MEASUREMENT AND VERIFICATION OF ECM PERFORMANCE

27.1 Measurement and Verification Plan

27.1.1 This Contract includes a site-specific Measurement & Verification (M&V) Plan (Schedule 6) that specifies the M&V requirements and procedures that shall apply to the Contract based on various factors such as type of ECMs, projected value of energy savings, certainty/uncertainty of savings being achieved, and the intended risk allocation between Owner and ESCo.

27.1.2 The M&V plan specifies the M&V options(s) and method(s) that will be used for each ECM included in the Contract. M&V options and methods for each ECM comply with the latest version of the International Performance Measurement and Verification Protocol (IPMVP) guidelines for M&V in effect at the time of Contract award.

27.1.3 ESCo shall conduct annual M&V activities to verify operation of the installed equipment/systems and/or calculation of current year's energy savings.

27.2 Measurement and Verification Submittals

27.2.1 Post Implementation Report: ESCo shall prepare and submit a Post-Implementation Report to Owner verifying that installed ECMs demonstrate the potential to achieve the guaranteed annual energy, energy-related, and water cost savings specified in the Contract. The approval by Owner of this Post-Implementation Report shall constitute Owner's acceptance of ESCo's Savings Guarantee.

27.2.2 Annual Measurement and Verification Report: ESCo shall prepare and submit an Annual Measurement and Verification Report to Owner pursuant to Schedule 6 including data and calculations that demonstrate that continued ECM performance achieves the guaranteed annual energy, energy-related, and water cost savings as required by the Contract.

27.3 Independent Review of Measurement and Verification Reports.

Owner reserves the right to utilize the services of an independent third party to review ESCo's Measurement and Verification Reports and to advise Owner of compliance in measuring and verifying savings. The independent third party's responsibilities could also include verifying the prorated share of Guaranteed Savings in the event of Contract Termination. Compliance checks will relate to the Measurement and Verification Plan (Schedule 6), the established baseline

(Schedule 3), the baseline adjustments (Schedule 4) the Savings Guarantee (Schedule 5) and savings calculations.

27.4 Measurement and Verification Fees

27.4.1 Throughout the Term of this Contract, Owner shall pay ESCo an annual fee according to Schedule EPC-3 Performance Period Cash Flow (Attachment D) for measuring and verifying the energy and cost savings. Annual guaranteed energy and cost savings achieved shall be sufficient to cover all fees to be paid to ESCo pursuant to the provisions of Schedule EPC-3.

27.4.2 Notwithstanding the above provisions and the payment provisions in Section 5.2, Owner shall not be required to begin any Measurement and Verification Fee payments to ESCo under this Contract unless and until all equipment installation is completed by ESCo and accepted by Owner as evidenced by the signed Notice of Acceptance of Installed Energy Conservation Measures as set forth in Exhibit 3, and unless and until said equipment is fully and properly functioning in accordance with Schedule 2 and related details and specifications.

28.0 WARRANTY

28.1 Warranty on Installed Equipment

28.1.1 ESCo warrants that all equipment sold and installed, as part of this Contract is new, will be free from defects in materials or workmanship, will be installed properly in a good and workmanlike manner, and will function properly for a period of one (1) year from the Substantial Completion for the particular Energy Conservation Measure.

28.1.2 Substantial Completion shall be defined as the stage in the progress of ECM installation where the work is sufficiently complete in accordance with the Contract Documents so that Owner can utilize and take beneficial use of the ECM for its intended use or purpose. Substantial Completion does not occur until the ECM installation has been commissioned and accepted as defined in this Contract.

28.1.3 ESCo further agrees to assign to Owner all manufacturer's warranties relating to the installed ECMs and to deliver such written warranties; to pursue rights and remedies against manufacturer of the equipment under the warranties in the event of equipment malfunction or improper or defective function, and defects in parts, workmanship and performance.

- 28.1.4** ESCo shall, during the warranty period, notify Owner whenever defects in equipment, parts, or performance occur which give rise to such rights and remedies and those rights and remedies are exercised by ESCo. During this period, the cost of any risk of damage or damage to the equipment and its performance, including damage to person(s), property and equipment of Owner or the Premises, due to ESCo's failure to exercise its warranty rights shall be borne solely by ESCo.
- 28.1.5** All warranties shall be transferable and extend to Owner. The warranties shall specify that only new, not reconditioned, parts may be used and installed when repair is necessitated by malfunction.
- 28.1.6** After the warranty period, ESCo shall have no responsibility for performing maintenance, repairs, or making manufacturer warranty claims relating to the Equipment, except as provided in Schedule 11 ESCo's Maintenance Responsibilities.
- 28.1.7** Notwithstanding the above, nothing in this Section shall be construed to alleviate/relieve ESCo from complying with its obligations to perform under all terms and conditions of this Contract and as set forth in all attached Schedules.
- 28.1.8** These warranties do not extend to any work or services that have been abused, altered, misused, or repaired by Owner or third parties without the prior written approval of ESCo, which approval shall not be unreasonably withheld; or if ESCo serial numbers or warranty dates decals have been removed or altered. Owner must report any known failure of the Equipment to ESCo in writing.

28.2 *Warranty of Services*

- 28.2.1** Notwithstanding inspection and acceptance by Owner or any provision concerning the conclusiveness thereof, ESCo warrants that all services performed under this Contract will, at the time of acceptance, be free from defects in workmanship and conform to the requirements of this Contract.
- 28.2.2** Owner shall give written notice of any defect or nonconformance to ESCo within thirty (30) calendar days from the date the defect or non-conformance is detected by Owner. This notice shall state either ESCo shall correct or re-perform any defective or nonconforming services, or that Owner does not require correction or re-performance.
- 28.2.3** If ESCo is required to correct or re-perform, it shall be at no cost to Owner, and any services corrected or re-performed by ESCo shall be subject to this

clause to the same extent as work initially performed. If ESCo fails or refuses to correct or re-perform, Owner may, by contract or otherwise, correct or replace with similar services and charge to ESCo the cost occasioned to Owner thereby, or make an equitable adjustment in the Contract price.

29.0 OPERATION, MAINTENANCE, REPAIR, AND REPLACEMENT OF ECMs

29.1 Actions by ESCo

During the Warranty Period, ESCo shall provide all service, repairs, and adjustments to the Equipment installed under terms of this Contract pursuant to Schedule 5 Savings Guarantee and Schedule 11 ESCo's Maintenance Responsibilities. Owner shall incur no cost for installed ECM service, repairs, and adjustments, except as set forth in Schedule EPC-3.

29.2 Operation of ECMs

29.2.1 ESCo and Owner shall be jointly responsible for operation of all installed ECMs. The operations work effort for installed ECMs shall include operations tasks at specific stations, continuous or periodic equipment monitoring, and minor on-line equipment adjustments required to achieve all facility and energy conservation performance requirements of the Contract.

29.2.2 When the implementation of an installed ECM results in a change in an existing operations work procedure, ESCo shall prepare a new written operations work procedure for approval by Owner.

29.2.3 The Parties acknowledge and agree that energy and cost savings would not likely be obtained unless certain procedures and methods of operation designed for energy and water conservation shall be implemented, and followed by Owner on a regular and continuous basis.

29.2.4 Owner agrees that it shall adhere to, follow and implement the energy conservation procedures and methods of operation to be set forth in Owner's Maintenance Responsibilities (Schedule 13). Owner shall not have been deemed to have failed to follow any such procedure or method unless Owner has been provided written notice from ESCo and such matter has not been cured within five (5) business days of Owner's receipt of such letter.

29.2.5 For Operations of ECMs assumed by Owner, Owner will operate the ECM in accordance with ESCo-provided work procedures. If Owner fails to operate an ECM pursuant to ESCo-provided work procedures, Owner will compensate ESCo for losses directly attributable to that action.

29.3 Preventive Maintenance of ECMs

- 29.3.1** Preventive maintenance work includes periodic equipment inspections, tests, calibrations, and preventive maintenance tasks and actions required to ensure that systems operate as intended. ESCo shall be responsible for preventive maintenance of all installed ECMs, unless this activity is assumed by Owner, set forth in Owner's Maintenance Responsibilities (Schedule 12).
- 29.3.2** ESCo will provide a written record of all preventive maintenance work performed by ESCo. This record will be a description of maintenance actions performed.
- 29.3.3** ESCo shall prepare a written preventive maintenance work procedure for each installed ECM. ESCo shall train Owner personnel in the new approved preventive maintenance work procedures.
- 29.3.4** Owner agrees that it shall adhere to, follow and implement the maintenance procedures as set forth in Owner's Maintenance Responsibilities (Schedule 12).
- 29.3.5** For Maintenance of installed ECMs assumed by Owner, Owner will maintain the ECM in accordance with work procedures and checklists provided by ESCo and approved by Owner. If Owner fails to perform preventive maintenance per ESCo-provided preventive maintenance procedures and checklists, and the performance of the installed ECMs is adversely affected, (including manufacturer equipment warranties) Owner will compensate ESCo for the losses directly attributable to that action.
- 29.3.6** Upon completion or termination of the Contract, ESCo shall provide to Owner a single comprehensive schedule of necessary preventive maintenance for all installations for the five (5) years following Contract expiration or termination.
- 29.3.7** Owner agrees that ESCo shall have the right, with prior notice, to inspect the Premises to determine if Owner is complying, and shall have complied with its obligations as set forth in Sections 29.1 and 29.2. For the purpose of determining Owner's said compliance, the checklist to be set forth in Schedule 13, as completed and recorded by ESCo during its monthly inspections, shall be used to measure and record Owner's compliance. Owner shall make the Premises available to ESCo for and during each inspection, and shall have the right to witness each inspection and ESCo's recordation on the checklist. Owner may complete its own checklist at the same time. ESCo agrees to not interfere with Owner operations during any monthly inspection.

29.4 Repair and Replacement of ECMs

- 29.4.1** Repair of installed ECMs includes all material and equipment associated with the replacement or rebuilding of out-of-warranty facilities, systems, or equipment that have failed or are found to be in a condition of diminished ECM performance as determined by ESCo, and concurred to by Owner.
- 29.4.2** ESCo shall provide all service, repairs, and adjustments to installed ECMs under terms of this Contract pursuant to ESCo's Maintenance Responsibilities (Schedule 11). Owner shall incur no cost for ECM service, repairs, and adjustments, except as set forth in Schedule EPC-3 (Performance Period Cash Flow), provided, however, that when the need for maintenance or repairs principally arises due to the negligence or willful misconduct of Owner or any employee or other agent of Owner, and ESCo can so demonstrate such causal connection, ESCo may charge Owner for the actual cost of the maintenance or repair insofar as such cost is not covered by any warranty or insurance proceeds.
- 29.4.3** ESCo shall promptly provide to Owner a written record of all service work performed. This record will indicate the reason for the service, description of the problem and the corrective action performed.
- 29.4.4** If equipment failure or damage is a result of Owner negligence, Owner will provide repair or replacement. If repaired or replaced by ESCo as directed by Owner, Owner will reimburse ESCo for losses attributable to that negligence.
- 29.4.5** If equipment failure or damage is a result of ESCo negligence, ESCo will provide repair or replacement at its expense, or if repaired or replaced at Owner expense, will reimburse ESCo Owner for losses attributable to that negligence.

29.5 Malfunctions and Emergencies

- 29.5.1** Owner shall use its best efforts to notify ESCo or its designated subcontractor within three (3) business days after Owner's actual knowledge and occurrence of:
- a.** Any malfunction in the operation of the installed ECMs or any pre-existing energy related equipment that might materially impact upon the energy savings or Savings Guarantee.
 - b.** Any emergency condition affecting the installed ECMs.
 - c.** Any interruption or alteration to the energy supply to the Premises.
 - d.** Any alteration or modification in any energy-related equipment or its operation.

29.5.2 Where Owner exercises due diligence in attempting to assess the existence of a malfunction, interruption, or alteration it shall be deemed not at fault in failing to correctly identify such conditions as having a material impact upon the savings.

29.6 ESCO Response Time

29.6.1 Emergency maintenance and repair work is defined as maintenance or repair necessary to correct an imminent failure of Standards of Comfort or any action necessary to protect the safety or health of occupants of the Premises and prevent adverse impacts on property.

29.6.2 ESCo shall establish a point of contact (name and phone number) for use by Owner in providing response to ESCo equipment failures. The point of contact shall be available for the length of the Contract's term.

29.6.3 Initial telephone response to repair call messages shall be within two (2) hours.

29.6.4 If a site visit is needed to repair equipment, repair personnel shall arrive on site within twenty four (24) hours of the initial telephone response for emergency repairs or within seventy two (72) hours for non-emergency repairs.

29.6.5 In the event ESCo fails to respond as required in the Contract and in the event of emergencies, Owner may incur expenses to perform emergency repairs to ESCo-installed equipment as well as Owner equipment for which ESCo assumed maintenance and repair responsibilities, and deduct such incurred expenses from future ESCo invoices. ESCo shall hold Owner harmless in such cases where ESCo fails to respond in emergencies. In addition, ESCo shall reimburse Owner for any costs incurred.

30.0 TRAINING AND FOLLOW-UP ACTIVITIES BY ESCo

30.1 Training

ESCo shall conduct the training program described in Schedule 14 ESCo's Training Responsibilities. All initial training adequate for Owner to properly operate the installed ECMs must be completed prior to acceptance of the ECM installation.

30.1.1 The training program shall provide instruction on operation, troubleshooting, maintenance, and repair of ECMs. Training shall include both a classroom phase and a practical application phase. The course material shall include the operation and maintenance plans and manuals.

The program shall be conducted at Owner's site in facilities provided by Owner.

30.1.2 Owner shall pay ESCo an annual fee, if applicable, according to Schedule EPC-3 Performance Period Cash Flow (Attachment D) for ongoing training during the Contract Term as described in Schedule 14.

30.1.3 ESCo shall provide ongoing training whenever needed with respect to updated or altered Equipment, including upgraded software. Such training shall be provided at no charge to Owner provided the updated or altered equipment is installed under this contract.

30.2 *Energy Star Application/LEED EB Certification*

Upon the request of Owner, ESCo shall conduct an Energy Star benchmarking study for each facility and apply for an Energy Star Label or assist in obtaining LEED EB certification on behalf of Owner for all buildings that meet or exceed the necessary requirements for the Energy Star Label.

30.3 *Emissions Reductions Documentation and Reporting*

ESCo shall include emissions reductions quantities in each annual Measurement and Verification report and advise Owner on opportunities to achieve monetary benefit from such credits.

31.0 *MATERIAL CHANGES*

31.1 *Material Change Defined:*

A Material Change shall be any change or changes in or to the Premises, whether structural, operational or otherwise in nature which reasonably could be expected, in the judgment of Owner, to increase or decrease annual energy consumption by more than five percent (5%) after adjustments for climatic variations.

31.2 *Actions by Owner*

Actions by Owner that may result in a Material Change include but are not limited to the following: (i) manner of use of the Premises by Owner; or (ii) hours of operation for the Premises or for any equipment or energy using systems operating at the Premises; or (iii) permanent changes in the comfort and service parameters set forth in Schedule 7 (Standards of Comfort); or (iv) occupancy of the Premises; or (v) structure of the Premises; or (vi) types and quantities of equipment used at the Premises or (vii) modification, renovation or construction at the Premises; or (viii) Owner's failure to provide maintenance of and repairs to the equipment in accordance with Schedule 12 (Owner's Maintenance Responsibilities); or (ix) casualty or condemnation of the Premises or equipment, or (x) changes in utility provider or utility rate classification, or (xi) any other conditions other than climate affecting energy or water use at the Premises.

31.3 *Reported Material Changes; Notice by Owner*

Owner shall use its best efforts to deliver to ESCo a written notice describing all actual or proposed Material Changes in the Premises or in the operations of the Premises at least twenty-one (21) calendar days before any actual or proposed Material Change is implemented or as soon as is practicable after an emergency or other unplanned event. Notice to ESCo of Material Changes which result because of a bona fide emergency or other situation which precludes advance notification shall be deemed sufficient if given by Owner within three (3) business days after having actual knowledge that the event constituting the Material Change occurred or was discovered by Owner to have occurred.

31.4 *Unreported Material Change*

In the absence of any Material Changes in the Premises or in their operations, the baseline energy consumption as set forth in Schedule 3 (Baseline Energy Consumption and Schedule 5 (Savings Guarantee) should not change from year to year after adjustments for changes in climatic conditions. Therefore, if energy and water use for any month is five percent (5%) or more during any month from the projected energy usage for that month, after adjustments for changes in climatic conditions then such deviation be investigated as to whether it should be deemed to have resulted from a Material Change, except where an increase is due to Equipment malfunction, malfunction of Premises systems, subsystems or components attributable to the Equipment, faulty repair or other negligence or breach of contract by ESCo. In the event an unreported Material Change is reasonably identified according to this Section 19.3, the ESCo shall attempt to identify the Material Change and report its findings to Owner in a timely manner. ESCo and Owner shall determine what, if any, adjustments to the baseline will be made in accordance with the provisions set forth in Schedule 4 (Savings Measurement and Calculation Formulae and Methodology for Adjusting Baseline). If no Material Change is properly identified by ESCo then no adjustments to the baseline will occur.

E. MISCELLANEOUS CONTRACT CLAUSES

32.0 ASSIGNMENT

32.1 *Assignment by ESCo.*

32.1.1 ESCo acknowledges that Owner is induced to enter into this Contract by, among other things, the professional qualifications of ESCo. ESCo agrees that except as provided below, neither this Contract nor any right of obligations hereunder may be assigned in whole or in part to another firm, without the prior written approval of Owner.

32.1.2 Notwithstanding the foregoing, in the event of a sale, transfer, or reorganization of ESCo as an entity, ESCo shall have the right to assign all of its rights and delegate all of its duties under or pursuant to this Contract

without any prior consent or approval of Owner. However, if assurance of the ability of the new entity to comply with this Contract is not provided and approved by Owner within ten (10) business days of such event, which approval shall not be unreasonably withheld, then Owner may terminate this Contract. Owner may seek damages caused by such termination, including reasonable attorneys' fees and costs.

32.1.3 ESCo may, with prior written approval of Owner, which consent shall not be unreasonably withheld, utilize subcontractors, provided that any subcontractor(s) shall fully comply with the terms of this Contract. The provisions of Section 13.3 pertaining to subcontracts shall apply to any and all subcontract(s). Proposed subcontractor(s) for other than installation shall be tendered to Owner for approval at least ten (10) business days prior to execution of any such subcontract. No such subcontract shall relieve ESCo of any obligation under this Contract. Owner has final approval of all subcontractors.

32.2 *Assignment by Owner*

Owner may transfer or assign this Contract and its rights and obligations herein to a successor or purchaser of the Premises or an interest therein with the consent of ESCo, which shall not be unreasonably withheld.

33.0 REPRESENTATIONS AND WARRANTIES

33.1 Each party warrants and represents to the other that:

- (i) it has all requisite power, authority, licenses, permits, and franchises, corporate or otherwise, to execute and deliver this Contract and perform its obligations hereunder;
- (ii) its execution, delivery, and performance of this Contract have been duly authorized by, or are in accordance with, its organic instruments, and this Contract has been duly executed and delivered for it by the signatories so authorized and it constitutes its legal, valid, and binding obligation;
- (iii) its execution, delivery, and performance of this Contract will not result in a breach or violation of, or constitute a default under any Contract, lease or instrument to which it is a party or by which it or its properties may be bound or affected; or
- (iv) it has not received any notice, nor to the best of its knowledge is there pending or threatened any notice, of any violation of any applicable laws, ordinances, regulations, rules, decrees, awards, permits or orders which would materially and adversely affect its ability to perform hereunder.

34.0 ADDITIONAL REPRESENTATIONS OF THE PARTIES

34.1 By Owner

Owner hereby warrants, represents and promises that:

- (i) Owner is authorized under the Constitution and laws of the State of Utah to enter into this Contract, each transaction contemplated hereby, and to perform all of its obligations under this Contract.
- (ii) To the extent permitted by law, Owner has provided or shall provide timely to ESCo, all records within the control and custody of Customer or which can be reasonably obtained by Customer and reasonably relating to energy and water usage and energy-related maintenance of Premises requested by ESCo and the information set forth therein is, and all information in other records to be subsequently provided pursuant to this Contract will be accurate copies of such documents; and
- (iii) Owner has not entered into any prior leases, contracts or agreements with other persons or entities regarding the leasing or acquisition of water or energy efficiency equipment or the provision of energy management services for the Premises or with regard to servicing any of the energy related equipment located in the Premises that would encroach upon the scope of this contract. If related to the Premises, Owner shall provide ESCo with copies of any successor or additional leases of energy efficiency equipment and contracts for management or servicing of preexisting equipment at Premises that may be executed from time to time hereafter within seven (7) business days after execution thereof.
- (iv) The authorization, approval and execution of the Contract and all other proceedings of Owner relating to the transactions contemplated thereby have been performed in accordance with all applicable open meeting, public records, public bidding and all other laws, rules and regulations of Owner.

34.2 By ESCo

ESCo hereby warrants, represents and promises that:

- (i) before executing this Contract
 - a. ESCo shall have become licensed and or otherwise permitted to do business in the State of Utah
 - b. ESCo shall provide within ten (10) business days of execution of this Contract proof and documentation of all required insurance and bonds pursuant to this Contract.
- (ii) ESCo shall make available, upon written request, documents relating to its performance under this Contract, including contracts and subcontracts it shall enter into;

- (iii) ESCo shall use consultants or subcontractors, at any tier, who are qualified, licensed and bonded in this State to perform the work so subcontracted pursuant to the terms hereof;
- (iv) ESCo has all requisite authority to license the use of proprietary property, both tangible and intangible, contemplated by this Contract;
- (v) The Equipment is or will be compatible with all of the other Premises mechanical and electrical systems, subsystems, or components with which the Equipment interacts, and that, as installed, neither the Equipment nor such other systems, subsystems, or components will materially adversely affect each other as a direct or indirect result of Equipment installation or operation;
- (vi) That ESCo is financially solvent, able to pay its debts as they mature and possessed of sufficient working capital to complete the Installation and perform its obligations under this Contract.

35.0 COMPLIANCE WITH LAW AND STANDARD PRACTICES

ESCo shall perform its obligations hereunder in compliance with any and all applicable federal, state, and local laws, rules, and regulations as well as the customary practices in the industry for the scope, level and type of work under this Contract, in accordance with sound engineering and safety practices and in compliance with any and all reasonable rules of Owner relative to the Premises. ESCo shall be responsible for obtaining all governmental permits, consents, and authorizations as may be required to perform its obligations hereunder.

36.0 NO WAIVER

The failure of ESCo or Owner to insist upon the strict performance of the terms and conditions hereof shall not constitute or be construed as a waiver or relinquishment of either party's right to thereafter enforce the same in accordance with this Contract in the event of a continuing or subsequent default on the part of ESCo or Owner.

37.0 SEVERABILITY

In the event that any clause or provision of this Contract or any part thereof shall be declared invalid, void, or unenforceable by any court having jurisdiction, such invalidity shall not effect the validity or enforceability of the remaining portions of this Contract unless the result would be manifestly inequitable or unconscionable or unlawful or substantially affect the ability of a party to receive the intent, purpose or benefit of this Contract.

38.0 COMPLETE AGREEMENT

This Contract, when executed, together with all Attachments, Schedules, and Exhibits attached hereto or to be attached hereto, as provided for by this Contract shall constitute the entire agreement between both parties and this Contract may not be amended, modified, or terminated except by a written agreement signed by the parties hereto.

39.0 FURTHER DOCUMENTS

To the extent permitted by law, the parties shall execute and deliver all documents and perform all further acts that may be reasonably necessary to effectuate the provisions of this Contract.

40.0 APPLICABLE LAW

This Contract and the construction and enforceability thereof shall be interpreted under the laws of the State of Utah. Venue for the commencement of any legal action or equitable pursuit shall be in Salt Lake County, State of Utah.

41.0 HEADINGS

Headings and subtitles used throughout this Contract are for the purpose of convenience only, and no heading or subtitle shall modify or be used to interpret the text of any section.

42.0 OWNER LIABILITY EXPOSURE

Notwithstanding any other provision of this Contract to the contrary, no term or condition of this Contract shall be construed or interpreted as a waiver of any provision of the sovereign immunity of Owner. The parties hereto understand and agree that liability for claims for injuries to persons or property arising out of the negligence of Owner, its departments, institutions, agencies, boards, officials, and employees is controlled and limited by the provisions of Utah law. Any provision of this Contract, whether or not incorporated herein by reference, shall be controlled, limited, and otherwise modified so as to be subject to the procedural requirements and liability limits applicable to matters, disputes, claims and litigation related to Owner under Utah law, including but not limited to the Utah Governmental Immunity Act.

**43.0 INDEPENDENT CONTRACTOR; NONDISCRIMINATION;
CHOICE OF LAW**

43.1 ESCo shall perform its duties hereunder as an independent contractor and not as an employee of Owner. Neither ESCo, any consultant, or subcontractor at any tier, nor any agent or employee of ESCo shall be or shall be deemed to be an agent or employee of the State of Utah or WSU. ESCo shall pay when due all required employment taxes and income tax withholding, shall provide and keep in force workers' compensation (and provide proof of such insurance when requested by Owner) and unemployment compensation insurance in the amounts required by law, and shall be solely responsible for the acts of the ESCo, its consultant(s) or subcontractor(s) at any tier, employees and agents.

43.2 ESCo, and its consultant(s) or subcontractor(s) at any tier and any person or entity for whom ESCo is liable, shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability,

or other basis prohibited by state law relating to discrimination in employment, except where there is a lawful and bona fide occupational qualification reasonably necessary to the normal operation of ESCo. ESCo agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

43.3 The laws of the State of Utah and rules and regulations issued pursuant thereto shall be applied in the interpretation, execution, and enforcement of this Contract. Nothing contained in any provision incorporated herein by reference which purports to negate this or any other special provision in whole or in part shall be valid or enforceable or available in any action at law whether by way of complaint, defense, or otherwise. Any provision rendered null and void by the operation of this provision will not invalidate the remainder of this contract to the extent that the contract is capable of execution and except as provided in Section 37.0 of this Contract. At all times during the performance of this contract, ESCo shall strictly adhere to all applicable federal and State laws, rules, and regulations that have been or may hereafter be established.

F. SIGNATURES

IN WITNESS WHEREOF, and intending to be legally bound, the parties hereto subscribe their names to this Contract on the date first written above and certify that they have read, understood, and agreed to the terms and conditions of this Contract.

ESCo

OWNER

By: _____

By: _____

Printed Name: _____

Printed Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

Investment Grade Audit Contract Attachment B Cost and Pricing Elements

1. Costs, Markups, and Fees. Maximum project markups and fees for pre-defined categories shall be per the following schedules. Fees shall not be added to items on which markups are applied as listed in the mark up table below. Markups on fees are not allowable.

MARK-UPS		
<i>CATEGORY OF MARK-UP</i>	<i>MARK-UP APPLICATION</i>	<i>% MARK-UP</i>
Overhead		%
Profit		%
Labor - Internal		
Equipment Purchased		
Materials Purchased		
Subcontract Labor		
Subcontract Material		

FEES		
<i>CATEGORY OF FEE</i>	<i>FEE AMOUNT</i>	<i>YEARS APPLIED (One-time, Annual, etc.)</i>
Investment Grade Audit and Project Development	\$ _____ per Square Foot	One time
Solicit & Evaluate Financing Proposals		N/A
Design	Per State of Utah Table of Design Fees	One time
Project Management		One time
Contingency		One time
Permits	Actual Cost – No Mark-up	One time
Performance Bond	Actual Cost – No Mark-up	One time
Commissioning		One time
Initial Training on Installed Measures		One time
Additional Training	Per Training Plan Proposed	
Monitoring and Verification	Per M&V Plan Proposed	Annual
Warranty Service		One time
Maintenance on Installed Measures	Per Maintenance Plan Proposed	

2. Open Book Pricing. Open book pricing is full disclosure by ESCo to Owner of all costs and markups for materials, labor, and services received during the project development, implementation, and performance period phases. Open book pricing will be required such that ESCo will fully disclose all costs, including all costs of subcontractors, vendors and internal resources. ESCo shall maintain cost accounting records on authorized work performed under actual costs for labor and material, or other basis requiring accounting records.

ESCo will afford DFCM and Owner access to these records and preserve them for a period of three (3) years after final payment. Costs will be evaluated through price analysis to compare costs with reasonable criteria such as established catalog and market prices or historical prices to ensure ESCo's prices are reasonable and acceptable and that markups are being properly applied.

3. Invoicing Requirements. Open book pricing will be required by Owner for all invoices submitted by ESCo to provide full disclosure by ESCo to Owner of all costs and markups for materials, labor, and services received during the period covered by each ESCo invoice, including all costs of subcontractors and vendors. In addition, ESCo shall provide full disclosure of all costs associated with fees illustrated in the **Fee Schedule** above during the period covered by each ESCo invoice.

ATTACHMENT G

WEBER STATE UNIVERSITY SITE DATA PACKAGE

Developed by:



E/S3 Consultants, Inc.
PO Box 4595
Englewood, CO 80155-4595
TEL: 303-478-3729 FAX: 303-850-7281
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ATTACHMENT G

WSU SITE DATA PACKAGE

I. OVERVIEW

The Weber State University Ogden Campus consists of approximately 2.5 million square feet in twenty major education buildings; an Administration building; a Student Union building; a special events center; nine student residence buildings; a Village Community Center; an athletic office complex, weight rooms and other facilities at the football stadium; Facilities Management offices and shops; a district heating plant; a central chilled water plant; and several other smaller buildings that provide space for various campus services. The Davis Campus consists of a single, three-story, 113,275 square foot building completed in 2003.

Together these campuses consumed over 28 million kilowatt-hours (kWh) of electrical energy with an average instantaneous connected electrical load, or demand, of over 2,000 kilowatts (kW) during the fiscal year from July 2005 through June 2006. In addition they used in excess of 157,000 Decatherms of natural gas over that same period. Translated into dollars, these amounts resulted in total utility costs of over \$1.32 million each for electricity and natural gas and a total cost of approximately \$2,656,900. In addition, the two campuses used nearly 47 million gallons of water at a total cost of over \$183,000.

In 2006, University Facilities Management embarked on development of an Energy Savings Investment Plan (ESIP) and engaged outside consulting services to establish a methodology to identify, manage, fund, evaluate the performance, and sustain the benefits of energy and water saving projects. The intent of the plan is to ascertain the energy and water conservation goals of the University, identify potential projects for facilities and infrastructure improvements and other energy and water savings initiatives, perform analyses, and make recommendations on contracting vehicles to use for implementation of projects and initiatives to help the University achieve its energy conservation goals.

For development of the ESIP an initial survey of energy consuming equipment and systems in buildings on the Weber State University Ogden and Davis Campuses was performed. This survey included site visits and building walk-throughs, review of utility and operational costs, interviews and other communication with Weber State University Facilities Management staff, and obtaining information about the buildings and their systems, including operational and energy data on the lighting, mechanical, heating, ventilation, and electrical systems.

The purpose of the initial energy survey was to evaluate current conditions in buildings with regard to energy using equipment and systems as a basis for development of the ESIP. The initial energy survey and subsequent analyses were not intended to be detailed energy surveys or investment grade audits, but rather to identify short and long term energy efficiency and facility improvement strategies for incorporation in the ESIP.

Section II contains descriptions of existing conditions noted by building as a result of these surveys. For each building, a basic description is provided followed by information on its lighting, heating, ventilating, and air conditioning, temperature control, and other energy consuming systems as applicable.

As part of the initial energy survey an analysis of twelve consecutive months of utility bills provided by the University was also performed to evaluate the utility rate structure and energy usage over a twelve month period and to develop an initial preliminary baseline of energy use for development of the ESIP. In addition, water usage was analyzed using spreadsheet data provided by the University. Sewer usage and costs were not evaluated in the scope of the initial survey.

This analysis and the energy and water use baselines are a high level look at a twelve-month period for the purposes of developing the ESIP. Section III provides information on utility bill analyses along with brief descriptions of the billing structures and tables to illustrate the energy and water use baseline developed from the utility bill data provided.

II. EXISTING CONDITIONS IN CAMPUS BUILDINGS

The buildings selected by Weber State University for the initial energy survey included most of the major buildings on the main campus in Ogden, Utah and the building that serves as the Davis Campus in Layton, Utah (Davis County). This section contains descriptions of existing conditions noted during these surveys.

A. Ogden Campus

Twenty three buildings, representing over 1,689,200 square feet, were surveyed on this campus. Descriptions for twenty one of these buildings are included in this Site Data Package with each building's Weber State University 2-digit identifier.

1. Heat Plant (HP)

The original part of this 10,520 square foot building was constructed in 1952 with additions in 1972 and 1994. It serves as a district heating plant, providing steam through the main campus distribution system to most of the buildings on the campus. Much of the area inside the building is occupied by the steam boilers but there are also office, conference, shop and control room spaces. The Heat Plant operates 24 hours a day, 7 days per week, all 365 days of the year.

a. Lighting Systems

Interior lighting in the boiler room is high bay metal halide fixtures using 400 watt lamps. The offices and other areas use fluorescent lighting consisting mostly of high efficiency T8 fluorescent lamps with electronic ballasts. Outdoor lighting uses High Pressure Sodium lamps in wall pack fixtures controlled by photocells.

b. Heating, Ventilating and Air Conditioning (HVAC) Systems

Heating and cooling for the office and control room spaces is provided by a single Trane Climate Changer air handling unit with a 5 hp fan motor installed in 2005. This unit uses chilled water from the main campus loop for cooling and has steam reheat coils in seven zones. The zone serving the core and control rooms is also equipped with a backup DX cooling system that is used as necessary when the central chilled water plant is not operating. An occupancy sensor was installed in each office, the shop, and the conference room, which also serves a break room, to shut down the heating and cooling to that zone whenever the room is unoccupied.

The heating side of the plant uses three natural gas fired boilers to provide steam at 100 psig to the campus heating loop. Each building served by the district heating system has a pressure reducing valve (PRV) lowering this pressure to 8 psig for use in hot water converters, coils, etc., as described for individual buildings in this section. Relief valves at the PRVs are set at 15 psig. Some steam at about 30 psig is used at the Swenson Building. The Stromberg Center uses 20 psig steam and the Browning Center uses 100 psig steam at the heat exchangers.

The summer load on the heating plant is reported to be 5,000-7,000 lbs/hr to provide for the reheat capability installed in most building as well as heating for each building's domestic hot water system. In addition to these loads, steam from the heat plant is used in autoclaves in the Science Lab, kitchen equipment in the Student Union, and for heating the swimming pool.

Steam piping runs in underground tunnels that are now up to 50 years old. A line to the stadium was the only direct-buried portion of the distribution system until 2004 when it was put in a shallow tunnel. Condensate return to the Heat Plant for re-use is in these same tunnels via two redundant condensate return systems. There appear to be considerable losses in the main steam distribution and condensate systems, as well as in the heating water systems in some building due to leaks in piping. In addition, missing insulation is a campus-wide problem.

Boiler #1 has been removed. Boiler #2 is being replaced with a new boiler rated at 30,000 lbs/hr capacity.

Boiler #3 was manufactured by E Keeler and installed in 1971. It is rated at 40,000 lbs/hr. Boiler #4, installed in 1995, is the newest in the plant. Manufactured by Nebraska, it is rated at 45,000 lbs/hr. Both of these boilers are equipped with stack economizer heat recovery systems. The economizer on boiler #3 is not operational apparently due to serious issues with water hammer and corroded piping. The economizer on boiler #4 was part of its

original installation and is operational for preheating make-up feed water for this boiler.

Facilities Maintenance personnel have installed a system to capture heat generated during boiler blowdown which is then used to supplement heating of the domestic hot water system at the plant.

c. Control and Automation Systems

The air handling unit that provides heating and cooling for this building is under control of the campus-wide building automation system. The boilers have separate on-board operational and safety controls. This building has no submetering capability for electric, steam or chilled water use.

2. Central Chilled Water Plant (CL)

Chilled water for the main campus loops is provided by a central chilled water plant. Two Trane centrifugal chillers of 650 and 1,250 tons were relocated from the basement of the Science Lab Building to the new plant and two new Trane 1500 ton centrifugal chillers with variable frequency drives were installed along with new pumps, a variable volume/pumping system, and a plate/frame heat exchanger.

The cooling towers are a separate structure constructed of concrete with ceramic tile and drift eliminators. The cooling tower has five 40 hp fan motors. Only two of the motors have variable speed drive (VSD) and installation of VSDs on all tower fans motors is planned as part of a cooling tower upgrade project currently scheduled for fiscal year 2009.

Most campus buildings have booster pumps for chilled water but the majority of these have been disconnected and bypassed. Pumps in the Swenson Gym, Lampros Hall and the Browning Center are still operated to maintain flow.

Due to piping failures near the Engineering Technology Building in the 1970's dirt or mud appears to have been introduced in the main chilled water lines. It is suspected to have made its way into chilled water coils within individual buildings causing flow restrictions and loss of cooling efficiency or capacity.

The entire chilled water loop is drained at the end of the cooling season each year to provide protection of the chilled water coils in air handling units from freezing. The amount of water required for filling the system prior to the start of the cooling season is highly variable and quantities from 66,000 gallons one year to 144,000 gallons in another year were reported. This is apparently due to crossovers in piping at air handling units that allow heating water to migrate to the chilled water piping. Facilities management is finding and fixing these crossover points as manpower and funding is available.

a. Lighting Systems

Interior lighting in the chiller room is high bay fluorescent fixtures using T8 fluorescent lamps with electronic ballasts. Outdoor lighting uses Metal Halide lamps in fixtures controlled by photocells.

b. Control and Automation Systems

The chillers and towers are controlled through the campus-wide building automation system with operation monitored at the Heat Plant. Chillers are staged based on the load on the system as indicated by loop chilled water temperature. The cooling tower fans are sequenced on condenser water temperature.

3. Val A. Browning Center for the Performing Arts (BC)

The 177,224 square foot Performing Arts building was built in two phases with original construction in 1964 and the second phase completed in 1966. A recommissioning of the building was completed in July, 2008. It is comprised of three main floors, a basement level, and a fourth or “penthouse” level. The building is used for both instructional purposes and performances. Classrooms, practice rooms, theater and performance support areas and auditoria make up the bulk of its area. It also provides offices and administrative areas for the department. There are two main auditoria, the largest is the Austad Theater and the smaller is the Allred Theater. There is also a large choral rehearsal room and a movement studio. The building underwent a comprehensive renovation in 1999. Its typical hours of operation are 7:00 AM to 10:00 PM Monday through Friday and on weekends and evenings for musical/theatrical productions as necessary.

a. Lighting Systems

This building’s lighting systems were completely upgraded recently. General building lighting is provided by fluorescent fixtures that use high efficiency T-8 lamps and electronic ballasts. Most down lighting uses high efficiency, long-life compact fluorescent lamps, however there are several incandescent wall sconces used in the building. Facilities management has installed occupancy sensors in restrooms to keep lights off except when in use. Motion detectors have also been installed in theater areas, classrooms and common areas. Exterior lighting was not surveyed.

b. Heating, Ventilating and Air Conditioning (HVAC) Systems

This building is served by the main steam loop from the central heat plant. Hot water for the building heating system is produced through a steam to hot water heat exchanger located in the building. The steam’s condensate is returned to the central heat plant via an electric pump system.

Mechanically, the building is fairly complex with about 15 separate AHUs, some of which are single fan and some two fan units. A mix of steam and hot

water coils are found in the AHUs. Piping that delivers heating water and domestic hot water is old original piping with leaks in several places. Two 15 hp heating water pumps circulate heating water to a variety of Air Handling Units (AHUs) and a few cabinet heaters located throughout the building. Some AHUs utilize direct steam heat. Variable speed drives are utilized on some of the AHUs to provide variable air volume control to the spaces.

Chilled water produced in the campus central chilled water plant is distributed via the plant's pumps to chilled water coils in the AHUs. There is a single chilled water pump (10 hp) for circulating water in the building. While similar secondary pumps in most other campus buildings have been bypassed and abandoned, this pump continues to be used to help maintain pressure on the chilled water loop.

Air distribution is accomplished through using 15 separate AHUs of varying size as follows: (3) 3hp, (4) 5 hp; (2) 7.5 hp, (1) 10 hp, (1) 15 hp, (1) 25 hp and (1) 30 hp. Each air handler is equipped with a chilled water coil for cooling and either a steam or hot water coil for heating. Most of these systems are constant volume although some have variable air volume (VAV). In addition to these AHUs there are three return air fans of 3 hp (2) and 7.5 hp. Many of the AHU and return air fans are equipped with variable speed drives.

One system provides 100% outside air for the scene shop area with evaporative cooling. In addition to the above the building has 25 exhaust fans.

c. Control and Automation Systems

This building has Johnson Controls Metasys[®] Direct Digital Controls (DDC) on the campus-wide building automation system with pneumatic actuators for valves, dampers, etc. that are interfaced with the DDC system. The building automation system controls the time of day schedules and operating temperatures in the building. The fan schedule provided by Facilities Management indicates the fans are turned on at 6:00 AM and off at 11:00 PM. This building has submetering capability installed for electricity, steam or chilled water use.

Most of the AHUs are equipped with CO₂ sensing or demand ventilation controls to limit the amount of outside air brought into the building to the minimum ventilation requirements based on real-time occupancy variances. This system overrides the ventilation air setpoint when CO₂ concentrations rise above 800 ppm.

4. Dee Events Center (DC)

The Dee Events Center is primarily a sports arena with seating for 11,592 and the home of the Weber State University Men's and Women's Basketball teams. The facility is also used for various special events including concerts. Constructed in 1977, the building is round with a dome diameter of 309' 4" containing essentially two levels with the playing floor in the center of the building on the lower level and a total of 161,225 square feet.

Seating surrounds the playing floor and rises nearly to the start of the roof. A lower concourse at playing floor level surrounds the floor under the seating. On the exterior of this concourse are locker rooms, coach's rooms, equipment rooms, press room, storage areas, and the Wildcat Room. Mechanical spaces for the chillers and boilers and access to fan rooms are also on this level. An upper concourse is approximately half way up on the arena seating and also encircles the building. The four main entrances are on this level along with concessions areas, restrooms, ticket office and coach's offices.

a. Lighting Systems

Lighting other than for the playing floor is primarily fluorescent with a mix of T8 lamps and electronic ballasts along with older T12 lamps and magnetic ballasts. An upgrade to T8 technology was completed in 2004 in the office areas and restrooms on the upper concourse and in 2005 for the lower concourse coach's rooms, locker rooms and Wildcat Room.

The lower concourse hallway, dock area and mechanical rooms use 4' 2-lamp fixtures with T12 lamps and magnetic ballasts. On the upper concourse T12 lamps with magnetic ballasts are installed in concessions areas, kitchen, ice room, custodial rooms, Police and stairwells. In addition, 4' 2-lamp fixtures are located in the skylights inside all four main entrances.

The travel area in the upper concourse is illuminated by suspended metal halide fixtures installed in 1998 and reported to be "high efficiency". Incandescent lighting on stairs in the seating area is being converted to LED technology as Facilities Management time and budgets permit.

Game floor lighting is suspended from the roof above the floor in what is referred to as "The Cloud". This structure is accessible from catwalks and contains several different types of lighting as follows:

- Game lights: (39) metal halide with 1500 watt lamps
- Work Lights: (22) metal halide with 1500 watt lamps
- General/Emergency lights: (16) 750 watt incandescent lamps
- Uplights (aimed at dome): 1000 watt metal halide (20 total)

An upgrade of the lighting in the cloud was completed in 2001-2002. Control for the lights is manually on and off via circuit breakers. Game lights are reported to be on 10 hours per day Monday through Friday and an additional 10 hours per day on Saturdays from mid-October through mid-March for the Basketball season.

Exterior lighting for each of the four main entrances consists of (16) 175w metal halide lamps in recessed fixtures. The ticket office also has three of this lamp/fixture combination. Parking lot lighting is on poles with 1000 watt metal halide lamps as follows: (13) with four lamps; (3) with two lamps; and (3) with one lamp. There are also six accent light poles each with a single 400 watt metal halide lamp. Walkways are illuminated with approximately (45) 175 watt metal halide pulse arc start lamps.

b. Heating, Ventilating and Air Conditioning (HVAC) Systems

Heating for this building is independent of the main campus steam and chilled water loops. Two Trane centrifugal chillers rated at 283 tons each provide chilled water for the main air handlers that serve the arena area. These chillers have two 25 hp chilled water and two 20 hp condenser water pumps and are piped in parallel. A third Trane centrifugal chiller rated at 100 tons provides chilled water for multizone air handlers. This chiller is on a separate chilled water loop and has dedicated 7.5 hp chilled and condenser water pumps.

A single Baltimore AirCoil cooling tower serves the condenser water side of all three chillers. This tower has two fans with 10 hp motors staged on condenser water temperature. There are no VSDs on the fan motors nor is there any tower free cooling installed.

Two Sellers Engineering hot water boilers of 3,348,000 BTUH input each provide heating water for all of the building's systems. Hot water is circulated to air handling units and the reheat coils in the office HVAC system by two 7.5 hp Bell & Gossett pumps. Most times only one pump is in operation. The boilers also provide heating for domestic hot water through a heat exchanger and fractional horsepower circulating pumps.

Four built-up air handling units, located in four equipment rooms accessed from the lower concourse, provide heating and cooling for the arena area. These units are located and ducted so each system serves approximately one quarter of the arena. Return air is drawn from the arena via the entrances to the seating section by 20 hp vane-axial return air fans and the fan rooms serve as the return air section for each air handling unit. Each system consists of an outdoor air intake, roll filter, hot and chilled water coils, and a 30 hp vane-axial supply air fan. A 5 hp exhaust fan has a heat exchanger in its discharge

duct to transfer some heat from exhaust air to the building return air. There are no VSDs installed for fan motors.

Four multizone air handling units located in the same mechanical rooms provide heating and cooling for all areas outside the arena with each serving approximately one quarter of the building, with the exception of the upper level offices. These units each have a hot water hot deck, chilled water cold deck, 10 hp supply fan, 5 hp outside air fan, and are equipped with an economizer cycle to take advantage of cooling with outdoor air during lower outdoor ambient conditions.

A packaged cooling unit serves the upper concourse ticket and coaches' offices. This constant volume unit is installed on the roof above the offices and has hot water reheat coils for each of the office spaces. Hot water must be available to these coils all summer in case there is a call for reheat. A small split air conditioning system serves the Rich Lounge.

c. Control and Automation Systems

Control of HVAC systems in this building is accomplished by an original pneumatic control system. The boilers and chillers are interfaced with the campus-wide building automation system through a Johnson Controls DSC8500 system that provides start/stop control for boiler chiller and pump operation. In addition the chiller room has a Johnson Controls Metasys[®] panel and a Carrier Comfort Network DDC panel, presumably for interoperability with the Carrier control panels on the chillers.

Air handling units also have a DSC8500 system that provides start/stop control and presumably some minimal communication with the campus-wide building automation system. Actuators are pneumatic with control air for the building provided by a Quincy dual compressor unit with 3 hp motors. The HVAC unit for the packaged unit serving the upper concourse offices has a small commercial Honeywell electronic control system with setback capability.

This building is not on the main campus utility meters, steam or chilled water systems. Electricity and natural gas are metered and billed separately by Rocky Mountain Power and Questar gas for this building eliminating the need for submetering.

d. Other Systems

The main entrance on the Southwest side has six quartz heaters installed in the overhead outside the doors. The concessions areas share a kitchen with commercial kitchen equipment. There are also a number of refrigerated bubblers as well as refrigerated vending machines within the building.

5. David O. McKay Education Building (ED)

This building was constructed in 1973 and provides 67,305 square feet of space for School of Education classrooms and faculty offices. The ground floor has a number of classrooms and several office spaces. On the first floor are classrooms with observation areas, other classrooms, a kitchen area, preparation rooms and storage areas. The second and third floors contain six classrooms are located in the central core with offices around the exterior on each floor. One of these classrooms on the third floor is a MAC Lab. Typical hours of operation are 7:00 AM to 10:00 PM Monday through Friday year round.

a. Lighting Systems

Lighting throughout the building is fluorescent using T8 lamps with electronic ballasts from a renovation in 2004. Exterior lighting was not surveyed at this time. During the building survey, it was noted that many lights were operating in unoccupied spaces.

b. Heating, Ventilating and Air Conditioning (HVAC) Systems

This building underwent a complete HVAC and control system upgrade in 2004. It is served by the main steam and chilled water loops from the central plants. Two Bell & Gossett converters provide hot water for reheat coils in variable air volume (VAV) boxes and perimeter radiation throughout the building. VAV boxes in the interior and the perimeter zones have hot water reheat coils. In addition, the perimeter has hot water fin/tube radiation on the inside of exterior walls. The perimeter radiation is divided into vertical zones described as North, South, East, and West. Control is based on outdoor air temperature with the radiation zone valves opening when temperatures are below 30°F and closed when outdoor temperature exceeds 36°F. Heating water temperature from the converters for the VAV reheat coils and perimeter radiation is reset based on outdoor temperature.

One main air handler provides air to the ceiling mounted VAV boxes. This built-up unit has chilled water cooling coils and two supply fans with 100 hp motors, each with a variable speed drive installed during an upgrade in 1991. There are no return air fans. A preheat coil for outdoor air in this unit is supplied with steam.

c. Control and Automation Systems

During an upgrade in 2001 Johnson Controls Metasys® DX9100 direct digital controls were installed in the mechanical rooms for control of the air handling units, converters, and VAV box controls for zones and spaces within the building. These also provide reporting functions to the campus-wide building automation system.

VAV boxes may be zoned for more than one office space and comfort complaints typical of multiple spaces controlled by a single zone thermostat may occur.

The building has submetering capability for electricity and steam but not for chilled water use.

d. Other Systems

The kitchen has a residential type refrigerator, microwave, and dishwasher. There also are a number of refrigerated water coolers and vending machines within the building.

6. Engineering Technology Building (ET)

This two story 75,305 square foot building was built in 1977. It presently houses classrooms, offices, computer rooms, and technology labs. The first (main) floor is comprised of lobby, offices, conference rooms, computer labs, science labs, and classrooms. In addition to faculty and staff offices, the second story houses more industrial-type labs and classrooms including an automation lab, metals lab, a foundry, mechanics and hydraulics lab, and a testing lab. Its typical hours of operation are 6:00 AM to 10:00 PM Monday through Friday during the school year.

a. Lighting Systems

Most general lighting in this building is fluorescent with a variety of fixture types. Most exit signs appear to be new, high efficiency, long life LED signs. The University is recently completed implementing a building-wide lighting efficiency upgrade to T8 lamps with electronic ballasts through the Division of Facilities Construction and Management. Exterior lighting was not surveyed.

b. Heating, Ventilating and Air Conditioning (HVAC) Systems

This building is served by the main steam and chilled water loops from the central plants. Chilled water is distributed to air handling units (AHUs) using pressure from the loop chilled water pumps. Chilled water pumps originally installed in this building are bypassed and abandoned in place.

Heating in the building is accomplished with two systems. Using steam provided by the campus central heating plant, heating water is produced through a shell and tube heat exchanger and is in turn, distributed to a variety of terminal units through two 7.5 horsepower constant flow pumps. One heating system is a hot water radiation system which is installed on the west side exterior walls. The campus-wide building automation system monitors outside air temperature and when the setpoint is reached, it provides a signal to the building's pneumatic control system to activate the heating water pumps for this loop, which in turn pump heating water through the radiation

units. This is a single-zone system with control of water temperature in the loop only and no space temperature control.

The second system type incorporates a number of air handling units. AC1 and AC2 are the building's main air handling units and provide heating, ventilation, and cooling to the majority of the building. These dual-duct AHUs are equipped with 10 horsepower supply and 5 HP return fans and operate according to schedules set through the campus-wide building automation system. AC1 and AC2 are constant volume AHUs. As is typical in constant volume dual-duct systems, conditioned air is provided through both a hot duct and a cold duct to terminal mixing boxes that modulate dampers to provide the proper proportion of hot and cool air to the zone to satisfy the setpoint of the zone temperature control thermostat.

As part of a recent renovation to the south first floor, a new variable air volume (VAV) AHU was installed. Its airflow is controlled by a variable speed drive and the unit is completely under control of the campus-wide building automation system. In the VAV system, the terminal VAV boxes modulate the amount of air delivered in response to their thermostats. A hot water heating coil and chilled water cooling coil condition the air in their respective ducts. This AHU also has a hot water preheat coil used to temper incoming outside air during extremely cold conditions.

There are an additional four AHUs that serve labs on the second floor. These units are single-duct heating and ventilating only and provide no cooling to these areas. Each is equipped with a preheat and a reheat coil that are each equipped with coil pumps for heating water. Their operating schedules are controlled by the campus-wide building automation system, but the units themselves are under the building's original pneumatic control system.

c. Control and Automation Systems

Local control of HVAC systems in this building is mainly accomplished by an original pneumatic control system. The pneumatic system is interfaced with the campus-wide building automation system through a Johnson Controls DSC8500 system that mainly provides monitoring with start/stop control for time and temperature dependent operating schedules of the building's systems. The fan schedule provided by Facilities Management indicates the fans run continuously 24/7/365. It is reported that this is due to lack of a dedicated system for the server room. No submetering capability for electricity, steam or chilled water use is installed in this building.

d. Other Systems

Domestic hot water is provided with an instantaneous steam to hot water shell and tube heat exchanger. There are a number of personal computers

throughout this building and it appears that they are left on at all times. There are also refrigerated water coolers and soft drink vending machines within the building.

7. Ethel Wattis Kimball Visual Arts Building (KA)

Built in 2001, this 74,420 square foot building provides classroom and work spaces for all types of art education (2D, 3D, Design, Illustration, and Photography) and offices for faculty. The ground floor contains the Mary Elizabeth Dee Shaw Art Gallery; a large lecture hall; studios for sculpture, jewelry and ceramics; wood and metal shops; kilns; exhibit space; a large entry atrium open to all three floors; and faculty areas. The second floor is primarily devoted to photography with studios, darkrooms, labs, and other related work spaces. On the third floor are large studios for drawing, weaving, water color, and painting along with faculty offices. The exterior wall in several of these studios is essentially all windows.

Operating hours are from 7:00 AM to Midnight Monday through Friday and from 10:00 AM to 6:00 PM on Saturday. The building is closed on Sundays.

a. Lighting Systems

This is one of the newer buildings on campus and when it was built fluorescent lighting consisting of high efficiency T8 fluorescent lamps and electronic ballasts was installed throughout. Some areas also have HID fixtures. Exit signs are efficient long-lasting LED signs. Exterior lighting was not surveyed.

b. Heating, Ventilating and Air Conditioning (HVAC) Systems

Building heating and cooling systems are supplied with steam and chilled water from the main campus loops and central steam and chilled water plants. Four converters provide hot water for heating the building. Heating hot water is circulated by two 7.5 hp pumps equipped with VSDs. There is no staging for operation of the converters. No secondary chilled water pumps were installed in this building.

Air handling units (AHU) #1 and #2, located in the ground floor mechanical room provide heating and cooling to the majority of the building through a Variable Air Volume (VAV) system with hot water reheat coils in the VAV terminals. These are large built-up units rated at 22,500 CFM with two 25 hp supply fans equipped with variable speed drives (VSDs), chilled water coils, and outdoor air preheat coils in each. The preheat coils are on glycol loops with individual 2 hp pumps and a heat exchanger connected to the building hot water system. A return air fan is installed but currently is not operated in an effort to correct problems with building static pressure. Each air handler also has an air washer installed but it is reported that this system is rarely used

because the condensation on the chilled water coils is sufficient for air washing needs.

AHUs #3 and #4 serve the Art Gallery and large lecture hall respectively. These units are located in a mezzanine area near the main entry atrium. Each unit has a chilled water coil and a supply fan motor equipped with VSD. These units are also each equipped with a Dri-Steam injection-type humidifier. AHU #3 for the Art Gallery is rated at 10,000 CFM with a chilled water coil and a 7.5 hp supply fan motor equipped with VSD. This AHU serves four VAV boxes with hot water reheat coils in the Gallery. AHU #4 for the lecture hall is a constant volume unit rated at 7,000 CFM with a chilled water coil and a heating hot water coil. Four fractional horsepower pumps circulate water for these coils. The supply fan motor is estimated to be 5 hp and it is also equipped with VSD. The reason for the VSD on this unit is unclear as it is a constant volume unit. AHU #4 also has a coil using hot water, with a booster pump, for preheat of outdoor air.

A separate cooling system serves computer lab areas in the building. This system consists of a packaged unit with a cooling coil and provision for cooling using outdoor air. The cooling coil operates with a glycol solution that is cooled through a plate/frame heat exchanger connected to the main campus chilled water system. During the off season when the campus chilled water system is shut down these computer spaces are cooled using outdoor air.

c. Control and Automation Systems

Controls are Johnson Controls Metasys[®] throughout the building with pneumatic actuators on VAV boxes, AHU dampers, and large valves. This provides the ability for the building to be monitored and controlled from the campus-wide building automation system. Control air is provided by a Quincy air compressor on the mezzanine with dual compressors rated at 5 hp each and a Powers air compressor in the ground floor mechanical room with dual compressors rated at 1 hp each. The building automation system controls the time of day schedules and operating temperatures in the building. There is no submetering capability installed for electricity, steam or chilled water use.

d. Other Systems

There are two relief fans (RF-1 & RF-1) located in a penthouse on the roof that are rated at 29,692 CFM each that are no longer operated.

Exhaust fans (Loren Cook) specific to various areas are also located on the roof as listed below. These fans are connected to hoods in the areas served and are controlled locally by area occupants. They are not connected to the campus-wide building automation system.

- EF9 - Photography; 9515 CFM, estimated 3 hp motor
- EF10 - Printmaking; 4420 CFM, 1 hp motor
- EF11 - Printmaking; 800 CFM, 0.5 hp motor
- EF12 - Ceramics; 4000 CFM, 1 hp motor
- EF13 - Ceramics; 4000 CFM, 1 hp motor
- EF14 - Electric kilns; variable 5,000-10,000 CFM, estimated 3 hp motor
- EF15 - Spray booth; 2100 CFM 0.75 hp motor
- EF16 - Spray booth; 2100 CFM 0.75 hp motor

There are a number of refrigerated water coolers and vending machines within the building.

8. John G. Lind Lecture Hall (LL)

The majority of the 56,824 square feet in this circular building, which was constructed in 1970, consists of large two-level lecture and demonstration rooms oriented around the perimeter of the basement and first floor. Entrance to the back of the lecture halls is on the first floor while the front of the halls is on the basement level. Also on the basement level are the preparation and storage rooms that are used by faculty and staff for various presentations and demonstrations. The third floor consists of smaller classrooms, a museum prep room, a lobby and the planetarium. The main building entry is on the first floor which also includes a museum. The building's typical hours of operation are from 7:00 AM to 10:00 PM Monday through Friday with the building closed on Saturdays and Sundays.

a. Lighting Systems

During the summer of 2006, the lighting throughout this building was upgraded to efficient T-8 lamps and electronic ballasts. Incandescent lamps were changed to high efficiency compact fluorescents. There is also some T-5 fluorescent technology in use in the main lobby and the stairwells along with tungsten-halogen track lights in the Pendulum area.

The typical fixture type in the lecture halls is a 3-lamp 2' x 4' lay-in that is dual switched. There are a number of cove and valence lighting fixtures in the main lobby. Time of day control for the lights on the second floor is scheduled through the campus-wide building automation system. The remainder of the lights are controlled with manual switches. Exterior lighting was not surveyed.

b. Heating, Ventilating and Air Conditioning (HVAC) Systems

A single central air handling unit (AHU) provides heating and cooling to the building through a variable air volume (VAV) distribution system. This air handler is equipped with a 50 hp supply fan motor and a 15 hp return fan motor both with variable speed drive (VSD), hot water heating preheat and

reheat coils, and a chilled water cooling coil. It was noted that the AHU fans utilize cog belts rather than v-belts which is an energy efficiency improvement. According to facilities staff, the preheat coil froze and is presently decommissioned. It was also observed during the building survey that the VSD controlling the supply fan was operating at or near 100% while the return air fan was operating very slowly.

Heating water for the reheat coils comes from the Science Lab building hot water loop. Chilled water is delivered to the AHUs chilled water coil via campus central chilled water loop pressure. No secondary chilled water pump is in use in the building.

c. Control and Automation Systems

The controls are a blend of electronic DDC and pneumatic. The campus-wide building automation system controls the scheduling and temperature control on the AHU, the VSDs, and lights on the second floor. The remainder of the building remains under pneumatic control including thermostats. The supply and return air fan motors in the AHU are controlled by duct static pressure. The building automation system controls the time of day schedule in the building. There are no electric, steam, or chilled water usage submeters installed.

d. Other Systems

There are a number of refrigerated water coolers and vending machines within the building.

9. Stewart Library (LI)

The original (North) building of the campus library was built in 1965 with a second adjacent building (South) added in 1975. The North building underwent a major remodel recently and an atrium was added between the two buildings in 2006. Both buildings are interconnected on all three floors. The ground floor contains a large circulation area, computer classroom, offices, and viewing/listening rooms in the north section. The south section has offices, work rooms, classrooms, stack rooms, and storage spaces. On the second floor are a large reference and periodicals area, electronic classroom, and offices in the north section with a copy center, newspaper area, cataloger work room, and offices in the south section. The second floor is almost completely occupied by the general collection with some small study rooms, reading rooms and offices. A large room in the south section contains rare books. Total square footage for the building is 158,792.

Hours of operation for the building are 7:00 AM to 11:00 PM Monday through Thursday; 7:00 AM to 8:00 PM Friday; 9:00 AM to 8:00 PM Saturday; and 1:00 PM to 9:00 PM Sunday throughout the year.

a. Lighting Systems

Lighting throughout the building is fluorescent with efficient T8 lamps and electronic ballasts installed during the remodel throughout all floors in the north part of the building; in the ground floor hallways; first floor lobby, newspaper and copy center; and in the entire second floor in the south section. Remaining areas in the south part of the building have older T12 lamps with electronic ballasts either in 2' x 2' U-tube or 2' x 4' 4-lamp ceiling fixtures. Building exterior lighting uses HID fixtures with 150 watt HPS lamps.

b. Heating, Ventilating and Air Conditioning (HVAC) Systems

Building heating and cooling systems are supplied with steam and chilled water from the main campus loops and central steam and chilled water plants. There are two main heating and cooling systems in the building which are completely separate. A third smaller system is dedicated to the atrium area. These systems are supplied with steam and chilled water from the main campus loops and central steam and chilled water plants.

The North part of the building uses a dual duct distribution system with mixing boxes supplied from a large built-up air handling unit in the ground floor fan room. The air handling unit has a chilled water coil a hot water heating coil and a 100 hp fan motor with variable speed drive (VSD).

A variable air volume (VAV) system with hot water reheat coils is used in the south part of the building. This system is supplied from a large built up air handling unit in a mechanical room on the ground floor. This air handler has a chilled water coil, steam preheat coil and two supply fan with motors rated at 75 hp each. VSDs are installed on these motors.

In addition to the air distribution systems perimeter hot water radiation is installed on exterior walls inside the building. This radiation operates on a reset schedule from 180°F at 0°F outdoor air temperature to 120°F at 60°F outdoor air temperature. Control of the radiation for space temperature is independent of dual duct or VAV box control.

The atrium air handling unit is constant volume with chilled and hot water coils and a 3 hp fan motor. It operates from 6:00 AM to Midnight and is controlled on discharge air temperature with space temperature reset. Pumps for primary heating water (3), radiation (1) and reheat loops (3) are all 3 hp without VSDs.

c. Control and Automation Systems

Control systems are a mix of pneumatic and Johnson Controls DSC8500 or Metasys® systems. The north dual duct system has a DSC8500 control system overlaying the original pneumatic actuators on the air handling unit providing

start/stop, temperature control, and some communication to the campus-wide building automation system. Mixing boxes in the spaces are controlled by pneumatic thermostats and actuators. The south VAV system has a Metasys[®] control system overlaying the original pneumatic actuators on the air handling unit providing start/stop, temperature control, and communication to the campus-wide building automation system. VAV boxes are controlled by pneumatic thermostats and actuators. The Atrium air handling unit is controlled entirely by a Metasys[®] system.

Control air for the building is provided by one Quincy dual compressor unit with 5 hp motors and one Quincy dual compressor unit with 3 hp motors. There is submetering capability installed for electricity and steam but not for chilled water use.

d. Other Systems

There is a 3-ton Mitsubishi split system air conditioner for the server room (241) that reportedly runs 24/7/365.

10. Miller Administration Building (MA)

This building consists of three stories, one of which is the basement level that houses a variety of university-wide administrative functions. Most of the occupied spaces are private offices, but it also includes a lobby, reception areas and telecom/computer equipment rooms. The 43,028 square foot mostly brick and glass building was built 1970. Typical hours of operation are 8:00 AM to 5:00 PM Monday through Friday year round.

a. Lighting Systems

General lighting is mostly provided by older 2'x 4' lay-in fixtures that are equipped with (4) T-12 fluorescent lamps and (2) magnetic ballasts. In the common areas, a combination of fluorescent cove lights and a large number of inefficient incandescent recessed can lights are used. A few other fluorescent fixtures are found in other areas. Exterior lighting consists of pole mounted HID lights of unknown wattage. The building's exit signs have been replaced with new LED signs. During the building survey, it was noted that many lights were operating in unoccupied spaces.

b. Heating, Ventilating and Air Conditioning (HVAC) Systems

This building is served by the main steam and chilled water loops from the central plants. Chilled water is distributed to air handling units using pressure from the loop chilled water pumps. Chilled water pumps originally installed in this building are no longer in use.

The heating in the building is accomplished with hot water that is produced through a steam to hot water heat exchanger. Condensate is returned to the

heat plant via a steam assisted condensate return system. A series of two 2 hp pumps circulate heating water to reheat terminal units throughout the building, each of which is under control of its own temperature sensor and the campus-wide building automation system

The HVAC in this building is a hybrid of the original dual duct and a variable air volume (VAV) system. The sole air handling unit in this building is the original dual duct system that has been retrofitted by removing the inlet vanes on the fans and installing variable speed drives (VSD) that modulate to maintain a set duct static pressure in both the cold and hot decks. The original dual duct mixing boxes were not converted to VAV. While light fixtures give the appearance of being the terminal air devices this is not the case for the most part. There are 50 hp fans in each of the hot and cold decks and a vane axial return air fan all of which are controlled by variable speed drives. There is an additional vane axial fan installed in what appears to be one of the return air ducts.

The fans do not appear to be synchronized to maintain the proper building static air pressure as evidenced by exterior doors being forced open then closing in a cyclic fashion. It appears that the return air fan that tracks building static is not tracking but continuously hunting for the proper setting. The supply air fan VSD is controlled by duct static pressure but the return fans have been bypassed and their VSDs have been disconnected.

c. Control and Automation Systems

The building's controls are a blend of DDC and pneumatic. All HVAC and space temperatures in this building are under the direct control of the campus-wide building automation system. However there are electronic to pneumatic interfaces for the AHU dampers and valve actuators. No submetering capability for electric, steam or chilled water use is installed in this building.

d. Other Systems

There are a number of refrigerated water coolers and vending machines within the building.

11. J. Willard Marriott Allied Health Sciences Building (MH)

Originally constructed in 1987 with an addition in 1995, there are four levels on both the north and south wings providing classrooms and labs for Health Sciences, Nursing and Dental training in this 86,468 square foot building. There is a very wide variety of types of laboratories and classrooms in the building. There are also operating rooms, x-ray labs, computer labs, lecture halls, and departmental and staff/faculty offices to serve the students. Hours of operation for the building are 7:00 AM to 10:00 PM Monday through Friday throughout the year.

a. Lighting Systems

The lighting in this building is efficient T-8 fluorescent technology. High efficiency compact fluorescent lamps (CFL) are also used throughout instead of incandescent lamps. There are a few metal halide down lights as well. The primary fixture type is a three-lamp 2' x 4' lay-in. There are also a number of two-lamp wrap around fluorescents throughout. Exit signs are LED signs. Exterior lighting was not surveyed at this time.

b. Heating, Ventilating and Air Conditioning (HVAC) Systems

Building heating and cooling systems are supplied with steam and chilled water from the main campus loops and central steam and chilled water plants. A steam to hot water converter produces heating water that is distributed to preheat coils in the building's two air handling units (AHUs) and to hot water reheat coils in the dual duct terminals in the building's temperature control zones. There are two separate heating water loops, one is a glycol loop that serves the preheat coils; the other does not contain glycol and serves the reheat coils in the building. Steam condensate is returned to the central plant via a steam assisted return system.

Heating hot water to the dual duct terminals is circulated by one 10 hp and two 3 hp pumps located in Mechanical Rooms 1 and 2. Two 5 hp pumps serve the glycol loops in the AHUs. The air handling units are also located in the mechanical rooms and consist of vane-axial supply and return air fans, preheat coils, and chilled water coils. These AHUs have a total of two 50 hp supply fan motors, one 40 hp supply fan motor, all equipped with variable speed drives and four return air fans. The computer lab and mechanical rooms have direct expansion air conditioning systems.

c. Control and Automation Systems

The campus-wide building automation system controls the scheduling and temperature parameters in the AHUs. The remainder of the building is under old pneumatic controls, including the zone thermostats. The fan schedule provided by Facilities Management indicates the fans are turned on at 5:20 AM and off at 9:00 PM. There is no submetering capability installed for electric, steam or chilled water use.

d. Other Systems

The building has Medical air and vacuum systems installed and there are a number of refrigerated water coolers and vending machines within the building.

12. C. William Stromberg Center (SB)

This building serves as a health and human performance center. The main fieldhouse portion of the building contains an indoor running track, basketball

courts, weight and fitness areas, locker rooms, and storage. In addition the building has six racquetball courts, a human performance lab, and offices. Built in 1990 the total area for the building is 81,407 square feet. Hours of operation for the building are 6:00 AM to 11:00 PM seven days a week throughout the year.

a. Lighting Systems

A lighting survey was performed on this building previously and a lighting retrofit project was accomplished through the state Division of Facilities Construction and Management. This project replaced original indirect up lighting with high efficiency T5 HO fluorescent lamps and electronic ballasts. Daylighting control reporting to the campus-wide building automation system at the Heat Plant was also installed during this retrofit. T12 fluorescent lighting was also upgraded to T8 lamps and electronic ballasts under this project. Outdoor lighting consists of parking area poles each with two fixtures.

b. Heating, Ventilating and Air Conditioning (HVAC) Systems

The central steam and chilled water loops serve this building. Two converters utilize steam from the main loop to provide hot water for heating in the building. One converter is sized for approximately 1/3 of the heating load and the other is sized for 2/3 of the load.

The fieldhouse area has single-zone air handling units located high above the floor in each corner (four total) with supply ductwork suspended on the ceiling joists. Each unit has a chilled water coil and a hot water coil. Access to the air handling units in the fieldhouse is problematic due to height above the floor. A manlift must be used since no permanent ladders or access is available.

The labs, racquetball courts, and office areas are served by one multizone unit located in a second floor mechanical room. This unit has a total of seven zones, delivering 21,000 CFM with a 25 hp supply fan motor. The motor is not equipped with variable speed drive.

Two 7.5 hp pumps provide heating HW from the converters to coils in the air handling units. One chilled water pump is in place but operated as little as possible because the pressure within the main campus chilled water loop is usually sufficient for circulation. None of the pump motors have variable speed drive.

c. Control and Automation Systems

AHUs 1-4 (Fieldhouse) each have an early Johnson Controls C500A electronic control. These controls are not capable of a PID process and cannot communicate with the campus-wide building automation system. Valve and damper actuators are pneumatic. AHU5 (Multizone) has an older Johnson Controls DSC8500 system providing control of scheduling and temperature

for the hot and cold deck, discharge air, and mixed air with pneumatic damper and valve actuators. This control can provide status of equipment and temperature readings to the campus-wide building automation system but changes to operating parameters must be done at the control due to its inability to communicate further with the campus-wide building automation system. Control air is provided by a Johnson Controls dual compressor unit, each compressor with a 1.0 hp motor. The building has submetering capability for electricity but not for steam or chilled water use.

d. Other Systems

There are a number of refrigerated water coolers and soft drink vending machines in the building.

13. Student Service Center (SC)

This 84,814 square foot building is comprised of two above ground stories and an open basement level. The first and second floors house departments that provide support services to students including financial aid, counseling, admissions and registration, disability services and student recruiting. The mostly brick building was built 1995 and its typical hours of operation are 6:00 AM to 5:00 PM Monday through Friday during the school year.

a. Lighting Systems

When the building was constructed, a high efficiency lighting system was installed consisting of T-8 fluorescent technology and 175 watt metal halide high intensity discharge (HID) can lights. Exit signs are high efficiency LED signs. Exterior lighting was not surveyed.

b. Heating, Ventilating and Air Conditioning (HVAC) Systems

The heating in the building is accomplished with hot water that is produced through a steam to hot water heat exchanger with steam supplied from the campus central heating plant. A series of three 7.5 hp pumps circulate heating water to reheat coils in variable air volume (VAV) terminal units throughout the building. Two main air handling units (AHUs) provide the majority of heating, ventilation, and cooling to the building. AC-1, which generally serves the north end of the building, is equipped with a 75 hp supply fan that is under control of a variable speed drive. This AHU is also tied into three 2 hp vane-axial relief fans that respond and cycle to maintain proper building static air pressure. AC-1 has both a hot water preheating coil and a chilled water coil that is supplied from the campus main chilled water distribution system. AC-2, serving the south portion of the building, is a similar, but smaller 40 hp AHU with two similar relief fans.

To condition the spaces in the building, VAV terminals with hot water reheat coils are located throughout. According to facilities personnel, many of the reheat valves in the VAV terminal boxes leak.

Smaller constant volume AHUs AH-3 and AH-4 serve designated areas in the building providing both heating and cooling through hot water and chilled water coils. The building also has five split refrigerated cooling units that cool various telecommunications equipment rooms.

c. Control and Automation Systems

All AHUs and space temperatures in this building are under the direct control of the campus-wide building automation system. However there are electronic to pneumatic interfaces for the AHU dampers and valve actuators. Each of the VAV terminals is controlled by its own temperature sensor and the building-wide building automation system. This building has submetering capability for steam but not electric or chilled water usage.

d. Other Systems

There are a number of personal computers throughout this building and it appears that they are left on at all times.

14. Stromberg Athletic Office Complex (SD)

The lower level of this building houses locker and training facilities for athletes and associated laundry equipment. The second floor houses administrative/coaching offices for athletics. Built in 1966 the total area for the building is 21,391 square feet. Hours of operation for the building are 7:00 AM to 11:00 PM Monday through Friday throughout the year.

a. Lighting Systems

Lighting throughout the building is fluorescent that has been converted to T-8 lamps and electronic ballasts. A small number of fluorescent that still are equipped with older T-12 lamps and magnetic ballasts remain, particularly in the rest rooms. The typical fluorescent fixtures on the first floor are 2' x 4' surface mounted modulars with four lamps. The restrooms use two-lamp strip fixtures. The second level is lighted by 2' x 4' lay-in fixtures each having two lamps. The restrooms on this level are T-12, two-lamp strips. Exit signs are LED technology. Exterior lighting was not surveyed.

b. Heating, Ventilating and Air Conditioning (HVAC) Systems

Building heating and cooling systems are supplied with steam and chilled water from the main campus loops and central steam and chilled water plants. A complete HVAC system replacement was accomplished approximately 4 years ago. On the lower level, a single variable air volume (VAV) air handling unit (AHU) provides heating and cooling. Both the supply fan and return fan

are under control of variable speed drives. This AHU has a steam heating coil and a chilled water coil.

The second floor offices are heated and cooled by a single dual duct VAV AHU with supply and return fan motors under control of variable speed drives. A steam coil provides preheating of incoming air and a chilled water coil provides cooling. Hot water reheat coils are located in each zone. Occupants in the second level offices on the north end complained of chronic lack of air flow and being too hot pretty much year round.

c. Control and Automation Systems

A Johnson Controls Metasys[®] DDC system controls all temperature and operations functions of the HVAC equipment providing start/stop, temperature control, and communication to the campus-wide building automation system.

d. Other Systems

There is a laundry system on the lower level. The domestic hot water for the two washers is provided through a steam to hot water heat exchanger. This domestic hot water is also used in the laundry, the restrooms and showers. Three clothes dryers are heated with steam. The laundry operates year round so steam must be provided by the central plant year round. There is a sauna on the first floor but its condition is unknown. There are also a number of refrigerated water coolers within the building. A number of showers do not turn off completely.

15. Science Lab Building (SL)

The Science Lab was built in 1969 and comprises a total of 106,404 square feet used for classrooms, laboratories and faculty offices for the Science Department including Botany, Chemistry, Geosciences, Microbiology, Physics, Zoology, and Pre-med programs. This building consists of six floors and a basement with subbasement. The basement and subbasement of the building contain chillers and pumps for the central loop chilled water plant as described separately in this section. Nearly half of the first floor is occupied by the high bay from the basement mechanical equipment room. The remainder of the floor has shops, labs and work rooms.

Floors 2 through 5, while differing slightly in depending on department, are similar with large laboratory spaces, project rooms and storage areas occupying the majority of the floor. Faculty offices are located along the north wall. The second floor has computer labs. The sixth floor is considerably smaller than the others and is surrounded on three sides by the roof of the fifth floor. This area houses organic and biochemical laboratories. A greenhouse is located on the fifth floor roof adjacent to and accessible from the sixth floor space. Typical hours of

operation for the building are 7:00 AM to 10:00 PM Monday through Friday year round.

a. Lighting Systems

Lighting for the building is fluorescent fixtures that have been upgraded to high efficiency T8 lamps and electronic ballasts. Older T12 lamps and magnetic ballasts are still found in mechanical spaces. Recessed incandescent lamps in areas such as vestibules and elevator lobbies have been upgraded to compact fluorescent lamps (CFLs). Exterior lighting was not surveyed.

b. Heating, Ventilating and Air Conditioning (HVAC) Systems

Building heating and cooling systems are supplied with steam and chilled water from the main campus loops and central steam and chilled water plants. Two converters in the basement mechanical room provide hot water for heating the building. The converters are controlled for a fixed temperature and there is no staging for operation. A third converter serves the glycol radiation system on the North Mezzanine. Heating hot water to variable air volume (VAV) terminals throughout the building is circulated by three 15 hp and one 20 hp pumps. Two additional 1 hp pumps circulate heating water to the perimeter radiation. One 5 hp pump circulates water hot water for heating the greenhouse. Several of the motors are older vintage and none appear to be high efficiency motors. None of the pump motors are equipped with variable speed drives. The main campus chilled water loop supplies water directly to the chilled water coil in the air handling unit.

A single built-up air handling unit provides cooling to the majority of the building through a VAV system with hot water reheat coils in the VAV terminals. This unit has two 60 hp supply fans and chilled water coils. The fan motors are equipped with Allen Bradley variable speed drive. Outside air intake for the building is fixed at 50%. Throughout the building VAV terminals are installed above the ceiling. On each floor two small (1.0-1.5 hp) fans are installed apparently to move return air on the floor to the main return air chase. It is estimated that only about 50% of these fans are operational.

Additional heating for offices on the north perimeter on floors 2 through 6 is provided by hot water radiation installed on the exterior wall. Heating water for the radiation is on a reset schedule from 180°F at 0°F outdoor air temperature to 120°F at 60°F outdoor air temperature. Control of the radiation for space temperature is independent of VAV box control.

c. Control and Automation Systems

This building originally had a totally pneumatic control system. At some point a DDC overlay of the pneumatic actuators was installed for the air handling unit. The rest of the building is still controlled by pneumatic thermostats and

actuators. Some areas have DDC zone temperature sensors for reporting to the campus-wide building automation system but these do not control zone temperatures. Control air for the building is provided by a Quincy single compressor unit with a 5 hp motor.

Hood exhaust in lab areas is controlled by manual switches controlled locally by area occupants. They are not connected to the campus-wide building automation system.

The building is experiencing continual problems with the old pneumatic control system, mostly leaks in copper control air lines. Many of these are inaccessible. The building's control air compressor runs about every three minutes to overcome leakage in the system. There is no submetering capability installed for electric, steam or chilled water use.

d. Other Systems

A separate split system air conditioning serves the Laser Room.

The Greenhouse on 5th floor roof has hot water under-bench radiation for heating and a gas-fired unit heater for backup. Operable roof vents and four evaporative coolers provide cooling. Control is by an old greenhouse control system and it was noted that the radiant heat was on even though the roof vents were open on a sunny spring day.

On the second floor in lab spaces are laminar flow hoods connected to exhaust fans in penthouses on the lower roof. There appear to be a total of twelve of these fans which are vane-axial type and 2-3 hp each. It was noted that several of these fans were running during the survey although no activity was taking place in the labs due to Spring Break.

Hoods in the organic/biochemical laboratories are connected to (12) dome-type exhaust fans directly above on the upper roof. It was noted that several of these fans were also running although no activity was taking place in the labs.

Shop air for labs, etc. is provided by an 18.7 hp 460v 3ph Quincy single compressor unit.

There also are a number of refrigerated water coolers and vending machines within the building.

16. Social Sciences Building (SS)

The Social Sciences Building was built in 1972 and comprises a total of 119,787 square feet for classrooms, lecture halls and offices for the College of Social and Behavioral Sciences including Aerospace Studies, Criminal Justice, Geography,

History, Military Science or ARMY ROTC, Naval Science, Political Science and Philosophy, Psychology, Social Work and Gerontology, Sociology and Anthropology, and Women's Studies.

The ground floor is composed almost entirely of classrooms with a few offices. Computer labs are located on this floor along with an archaeology lab and an Anthropology Workroom. The mechanical and fan rooms are in the center area of this floor.

The first through third floor are similar with classrooms in the center core surrounded by a corridor and faculty offices around the perimeter on each floor. Hours of operation for the building are 7:00 AM to Midnight Monday through Friday throughout the year.

a. Lighting Systems

Lighting for the majority of the building is fluorescent fixtures that have been upgraded to high efficiency T8 lamps and electronic ballasts. Older T12 lamps and magnetic ballasts are still found in mechanical spaces. Recessed incandescent lamps in areas such as vestibules have been upgraded to compact fluorescent lamps (CFLs).

Occupancy sensors have been installed in the ceiling of three rooms (computer and testing labs) on the ground floor. Exterior lighting was not surveyed.

b. Heating, Ventilating and Air Conditioning (HVAC) Systems

Building heating and cooling systems are supplied with steam and chilled water from the main campus loops and central steam and chilled water plants. Two converters in the ground floor mechanical room provide hot water for heating the building. There is no staging for operation of the converters. Heating hot water to variable air volume (VAV) terminals is circulated by two 7.5 hp pumps. Additional pumps circulate heating water to the perimeter radiation loops. These include two 7.5 hp, four 3 hp, and 3 two hp pump motors. Several of the motors are older vintage and none appear to be high efficiency motors. None of the pumps are equipped with variable speed drives (VSDs). Secondary chilled water pumps installed in this building are valved off, bypassed, and no longer in use. The main campus chilled water loop supplies water directly to the chilled water coil in the air handling unit.

A single built-up air handling unit occupies the ground floor fan room and provides cooling to the majority of the building through a VAV system with hot water reheat coils in the VAV terminals. This unit has two 100 hp supply fans equipped with VSDs and chilled water coils. Throughout the building VAV terminals are installed above the ceiling. In the center core these

terminals each have a hot water reheat coil supplied from the building system. Perimeter VAV units are cooling only. A typical interior classroom will have a VAV terminal unit with reheat, ceiling diffusers, one return air grille in the ceiling, and a room sensor.

Heating for the perimeter offices on floors 1 through 3 is provided by hot water radiation in cabinets installed on the exterior wall. A typical office will have a slot diffuser for supply air from the VAV system, a ceiling return air grille, a sensor for control of the VAV terminal and hot water radiation.

The computer rooms (2) and testing room on the ground floor have a total of four free standing computer room air conditioning units.

Heating for vestibules is provided with hot water cabinet heaters.

Flow issues on the heating water systems in the building have been reported and leaking valves and controllers are reported to be an ongoing problem. In addition, the building has a tendency to over pressurize and this is a continual problem.

c. Control and Automation Systems

The control systems in this building are a mix of pneumatic actuators and a couple of generations of DDC controls. VAV boxes in classrooms and offices have pneumatic damper actuators that are controlled by Johnson Controls Metasys® space temperature sensors. The fan schedule provided by Facilities Management indicates the fans are turned on at 6:30 AM and off at 10:00 PM.

The mechanical room has a Metasys® overlay of pneumatics for control of the radiant heating pumps and loop temperature. Perimeter radiation serves each side of the building and is divided into four distinct vertical zones described as North, South, East and West. The temperature in each zone is controlled based on an average temperature for 10 rooms in that zone. Radiation is turned off entirely when outdoor ambient temperatures reach 70°F.

An older Johnson Controls DSC8500 system manages the operation and controls temperatures for the main air handling unit, the primary heating loop and the reheat loop. Actuators for dampers in the air handling unit and large control valves in the mechanical room are pneumatic.

Control air for actuators throughout the building is provided by a Quincy dual compressor unit, each compressor with a 3 hp motor. A smaller single-compressor Quincy unit in the mechanical room apparently provides control air for actuators in that space. There is submetering capability installed for electric usage but not for steam or chilled water use.

d. Other Systems

There are a number of refrigerated water coolers and vending machines within the building.

17. Swenson Building (SW) Pool Only

This building has recently undergone significant upgrades. The building and its systems were not included in the survey for that reason; however the building does have indoor pools which present potential for improvements in energy use and possibly the use of renewable energy.

a. Other Systems

This building contains a swimming pool and a hydrotherapy pool. The swimming pool is 75'x36' and holds 108,000 gallons of water maintained at a temperature of 85°F. There is no pool cover installed. Filter backwash sends treated and heated water down a drain. The University used 660 gallons of Sodium Hypochlorite (NaOCl) and 155 gallons of sulphuric acid for treatment last year at a cost of \$1,956.00

The Hydrotherapy Pool is 3-6' deep holding 50 to 1,000 gallons of water depending on whether baffle plates are installed. Water is maintained at a temperature of 82°F. This pool has replaceable filters so a backwash is not required. It does not have a pool cover.

18. Technical Education Building (TE)

This three story including basement level, 86,383 square foot building was built in 1957. It presently houses classrooms, offices, computer center, and some labs in its west wing, and a large automotive section in its east wing. Its typical hours of operation are 6:00 AM to 10:00 PM Monday through Friday during the school year.

Because of the age of the building, its envelope is not the most efficient construction. Built of brick, an estimated 30-35 percent of the west wing's wall area is comprised of single pane, steel framed windows. Window size in the automotive east wing is significantly smaller, but these are still single pane with steel frames.

a. Lighting Systems

Most general lighting in this building is fluorescent with a variety of fixture types using T-12 lamps and magnetic ballasts. There have been a few areas upgraded to high efficiency T-8 lamps and electronic ballasts including a number of the administrative offices and most of the second floor in the west wing. Commonly found fixture types in the west wing include 2'x 4' and 2'x 2' lay-ins, and open strip fixtures. For the most part, the 2'x 4' fixtures use two; three, or four T-12 4-foot lamps and the 2'x 2' fixtures use T-12 U-bend

lamps. In the automotive east wing, the automotive bays are lighted with suspended industrial fixtures that use 8-foot fluorescent lamps. Two of the automotive bays have had their lights upgraded to high efficiency 4-foot T-8 lamps and electronic ballasts. Most exit signs in this building are old incandescent signs.

During the building survey it was observed that many lights were operating despite areas being unoccupied.

Exterior lighting in the semi-enclosed area between the west and east wings is by a couple of old wall-pack lights that use inefficient mercury vapor lamps and ballasts.

b. Heating, Ventilating and Air Conditioning (HVAC) Systems

This building is served by the main steam and chilled water loops from the central plants. There are a considerable number of roof mounted packaged systems on the west and shop wings. The basement of the west wing is connected to the chilled water plant. Chilled water is distributed pressure from the loop chilled water pumps. Chilled water pumps originally installed in this building are no longer in use.

1.) West Wing

Heating in the west wing is accomplished with two systems. Using steam provided by the campus central heating plant, each perimeter area is heated with direct steam radiation units and controlled by zone pneumatic thermostats. Both floors of this wing recently had all new steam distribution piping installed. Additionally, three vintage 1957 variable inlet vane-controlled variable air volume (VAV) air handling units provide tempered ventilation air during cold weather and cooling when it is warm. Each of the units is equipped with zone reheat steam coils and a chilled water coil that is served by the campus central chilled water plant. According to facilities personnel, the discharge air temperature to each of the VAV terminal boxes is maintained at 55° F year round with the combination of outside air damper economizers and the chilled water coil.

The economizer operation is relatively ineffective on these AHUs. If occupants become too cold, they have the capability to turn up their zone thermostat to provide steam reheating to improve their comfort level. The presence of the two systems often results in simultaneous heating and cooling.

Computer labs are each equipped with stand alone split direct expansion cooling systems.

2.) East Wing

In the automotive shops, labs and offices heating is typically provided by AHUs located within the shops. The AHUs are each equipped with a steam heating coil. Some shops are also equipped with steam unit heaters.

c. Control and Automation Systems

Local control of HVAC systems in this building is mainly accomplished by an old pneumatic control system. The pneumatic system is interfaced with the campus-wide building automation system through a Johnson Controls DSC8500 system that provides monitoring with start/stop control for time and temperature dependent operating schedules of the building's systems. There is no submetering capability for electric, steam or chilled water use installed in this building.

1.) West Wing

The steam radiation system is equipped with night set-back capability through an electro-mechanical time clock that varies the pneumatic system's pressure to reduce the temperature setpoint during unoccupied times. Time of day scheduling is controlled by the campus-wide building automation system.

2.) East Wing

The steam heating coils in AHUs are controlled by manual electric thermostats. Cooling is not installed on these units. Each of the shop AHUs operating schedules are controlled by the campus-wide building automation system.

d. Other Systems

There are a number of personal computers throughout this building and it appears that they are left on at all times. Domestic hot water is provided with an instantaneous steam to hot water shell and tube heat exchanger. In addition there are refrigerated water coolers and soft drink vending machines within the building.

19. Edmund Orson Wattis Business Building (WB)

This 53,855 square foot building constructed in 1983 houses School of Business classrooms, lecture halls and offices. The 1st floor (lower level) consists of fifteen large classrooms like small lecture halls and two additional small classrooms. The 2nd floor has a large lecture hall that can be partitioned into two spaces, a learning center, library, student lounge, conference rooms and numerous small individual offices for faculty and staff.

Typical operating hours are as follows:

Classes: Monday, Wednesday, Friday 7:00 AM – 1:00 PM

and 5:30 PM – 9:00 PM

Tuesday, Thursday 7:30 AM – 1:00 PM and 5:30 PM – 9:00 PM

Public Lab/Learning Center: Monday through Thursday 7:30 AM – 8:00 PM

Friday 7:30 AM – 5:30 PM

Saturday 9:00 AM – 3:00 PM

a. Lighting Systems

The building has had a complete lighting retrofit to high efficiency T8 fluorescent lamps with electronic ballasts. All classrooms and most offices also have occupancy sensors. Lighting off times are reported to vary considerably during the day and some may exceed 60 minutes.

A typical classroom on the first floor will have (32) 2' x 4' 2-lamp flush mount ceiling fixtures with an occupancy sensor. Second floor faculty offices typically have (2) 2' x 4' 4-lamp flush mount ceiling fixtures. One will be on an occupancy sensor and the other on a manual wall switch. The principle behind this approach is that one fixture will come on automatically when the room is occupied and the other will be turned on manually only when needed.

b. Heating, Ventilating and Air Conditioning (HVAC) Systems

This building is served by the main steam and chilled water loops from the central plants. Heating and cooling is provided through a dual-duct system consisting of mixing boxes in the ceiling with heating and cooling air ducts to each, a ceiling diffuser, and a return air grille in the floor. Air handling equipment is in four mechanical rooms and is nearly identical consisting of one vane-axial supply fan, one vane-axial return fan, a chilled water coil and a steam heating coil. Three mechanical rooms were surveyed during the site visit. Two in the building (123 & 204) each had 1- 20 hp supply fan and 1-10 hp return fan. Both fan motors have variable speed drives and the integral fan inlet vanes appear to be locked in the open position. The third mechanical room within the building (229) is reported to be similar. A fourth mechanical room is located outside immediately adjacent to the building and has one 15 hp supply fan and one 7.5 hp return fan with variable speed drives and inlet vanes locked open. Steam and chilled water is supplied from the main campus loops through this room to the other mechanical rooms in the building.

c. Control and Automation Systems

Controls are original pneumatic Johnson Controls with an overlay of an early DSC8500 direct digital control system in the mechanical rooms for scheduling and temperature control on the air handling units and presumably some reporting functions to the campus-wide building automation system. Zones

and spaces within the building have mixing boxes with pneumatic actuators controlled by pneumatic space thermostats. The building has had some problems with water in pneumatic lines

Variable air volume boxes on the second floor are zoned for more than one office space. Classrooms on the 1st floor have one or more boxes each with its own thermostat. On the second floor comfort complaints typical of multiple spaces controlled by a single zone thermostat occur. During survey it was noted there was no return air grill in at least one of the second floor offices (228).

Control air is provided by an Ingersoll Rand dual compressor unit, each compressor with a 5 hp motor. The building has no submetering capability for electric, steam or chilled water use.

d. Other Systems

There are a number of personal computers throughout this building and it is unclear if they are left on at all times. The break room has a residential type refrigerator, microwave, and dishwasher. In addition there are refrigerated water coolers and soft drink vending machines within the building.

20. Stromberg Strength Training Facility (WR)

Built in the mid 1980s to provide a weight training facility for campus athletes, this building underwent a comprehensive renovation in 1998. The 4,891 square foot building houses a large weight training area and locker rooms. Hours of operation for the building are 7:00 AM to 11:00 PM seven days a week throughout the year.

a. Lighting Systems

The weight facility is lighted with efficient T-8 fluorescent lamps and electronic ballasts. The common fixture is a three-lamp 2' x 4' recessed fixture with deep cell parabolic louvers.

b. Heating, Ventilating and Air Conditioning (HVAC) Systems

There is a single packaged roof top unit that provides both heating and cooling to this facility. Heating is provided by an electric heating coil in the RTU. The cooling system is a split direct expansion (DX) refrigerated cooling system. An air side economizer is installed. The ductwork is located on the roof of the building and its insulation is old and in need of repair.

c. Control and Automation Systems

A single programmable thermostat controls the space temperature in the facility. The building has no submetering capability for electric, steam or chilled water use.

d. Other Systems

There are refrigerated water coolers and soft drink vending machines within the building.

21. Wasatch Hall (WH)

This 1964 vintage 50,233 square foot building is currently used as a Residence Hall and for temporary office spaces. A typical dormitory floor has a number of student rooms and common bathrooms. Each student room is set up for two students with individual desks and desk lights. Some of the building has been converted to office space for personnel displaced while the new Humanities Building is under construction. These may continue to be used as office space for construction of other new buildings on campus as it occurs. The building consists of two wings with the dormitory/office space and a ground floor lobby and common area in the center between the wings.

Typical operating hours for the office spaces is 8:00 AM to 5:00 PM. The balance of the building is residential.

a. Lighting Systems

Lighting throughout the building consists of older inefficient T12 fluorescent lamps with magnetic ballasts. Exit lighting is incandescent.

Building exterior lighting consists of a number of 175 watt HPS fixtures on exterior stairwell landings.

b. Heating, Ventilating and Air Conditioning (HVAC) Systems

Heating hot water is provided by an International Boiler Works (Volcano) boiler with 5,860,000 BTUH input. The boiler normally fires on natural gas but is capable of also operating on # 2 fuel oil. A small multizone unit (2 zones), also in the boiler room, serves the lobby area and the senior resident apartment. A second single zone air handling unit serves the game rooms and group rooms. Both units have heating and chilled water coils and a 0.5 hp pump for the heating water coil. Two 5 hp pumps in the boiler room circulate water to each side of the building with another 5 hp pump on the same manifold as a spare.

Depending on the season either hot or chilled water is circulated to univent units located in each individual dormitory room and temporary office spaces. Each of these units has an internal fan and an electric wall-mounted thermostat. Hot or chilled water is circulated continuously through all univents and the wall thermostats controls space temperature by turning the unit fan on or off.

Chilled water is supplied from two Carrier Model 30GX air cooled rotary screw chillers located adjacent to the building. These chillers are manually staged. Two 20 hp pumps, operated alternately, circulate chilled water from the chiller plant.

c. Control and Automation Systems

Controls within the boiler room, including on air handling units are pneumatic. An older Johnson Controls DSC8500 panel provides start/stop control and monitoring of the domestic hot water system. Individual room thermostats (univent) are electric. This building has no submetering capability for electric, steam or chilled water use.

d. Other Systems

There are a number of personal computers throughout this building and it is unclear if they are left on at all times. There are also refrigerated water coolers and soft drink vending machines within the building. In addition there is some residential laundry equipment.

22. Stewart Stadium (Field Lights)

Stewart Stadium is home to the Weber State Wildcats football team and was one of the first structures built on campus starting with seating located only on the hillside on the east side of the field. Permanent concrete bleachers were later installed and the seating has been through three expansions. When the west stands were added 1966 the total seating in the Stadium was increased to over 17,000. Also added were locker rooms, training rooms and athletics department offices built in the space underneath the west side stands. These include the C. William & Bernice C. Stromberg Athletic Office Complex (SD) and the C. William & Bernice C. Stromberg Strength Training Facility (WR) described separately in this section. The playing surface is natural grass, surrounded by a 400 Meter track.

In 2001 the six-story, 38,000 square foot Sky Suites & Press Box Facility was opened including 26 sky suites, press facilities, a conference level and a Wildcat All-American room. This building and its systems were not included in the survey due to its recent construction.

a. Field Lighting Systems

Field lights include four poles each with (24) 1,500 watt metal halide and (4) 750 watt incandescent fixtures, one pole with (24) 1,500 watt metal halide fixtures and one building mounted rack with (24) 1,500 watt metal halide fixtures. The present connected electric load for the 144 metal halide fixtures is approximately 242 kilowatts. According to facilities electrical personnel, the switches for the field lights are now located at the top of pole requiring staff to climb the pole merely to turn the lights on and off.

B. Davis Campus

1. WSU Davis Building 2 (D2)

WSU Davis offers a full schedule of general education classes and classes for complete degree programs in a single, three-story, 113,275 square foot building completed in 2003. The first floor has classrooms, offices, and a large lecture hall that can be divided into two spaces. On the second floor are computer classrooms, a common area, library, bookstore, and offices. The third floor consists of additional computer classrooms, other classrooms, physics and life sciences labs, a lecture hall, and faculty offices.

Typical operating hours vary by space as shown below. All areas are closed on Sunday.

Area	Monday-Thursday	Friday	Saturday
General	7:30AM-7:00PM	7:30AM-5:00PM	Closed
Library	7:00AM-9:00PM	8:00AM-4:00PM	9:00AM-3:00PM
Computer Lab	7:00AM-11:00PM	7:00AM-11:00PM	8:00AM-4:00PM
Test Center	7:30AM-8:00PM	7:30AM-7:00PM	9:00AM-4:30PM

a. Lighting Systems

The building has high efficiency T8 fluorescent lamps with electronic ballasts from new construction. Building exterior lighting was not surveyed at this time.

b. Heating, Ventilating and Air Conditioning (HVAC) Systems

Heating and cooling for interior spaces is provided through a single duct variable air volume (VAV) system. Three air handling units located in a roof penthouse supply air to VAV boxes with hot water terminal reheat. Each serves all three floors in vertical zones for the North, Southwest, and Southeast exposures of the building. The air handling units are equipped with outdoor air economizers, chilled water coils, and variable speed drives on the supply and relief fan motors. Each also has a preheat coil for outside air intake. Heating for this coil is with a water/glycol solution from a heat exchanger on the building heating hot water system.

Two 50 HP Bryan natural gas fired Flex Tube Hot Water Boilers rated at 1,968,700 BTU Input and 1,673,400 BTU Output (85% efficiency) located in a 1st floor mechanical room provide hot water for heating the building. Heating water is circulated by two 3-hp pumps. It is assumed that the modern DDC system is programmed for hot water reset based on outdoor temperature. The operating boiler was short cycling when this site survey was conducted.

Chilled water for the cooling coils in air handling units is provided by a Carrier air-cooled chiller equipped with two rotary screw compressors. The chiller is located on the ground outside of and adjacent to the first floor mechanical room. This unit has (16) condenser fan motors rated at 1.9 hp each.

c. Control and Automation Systems

Staefa Direct Digital Controls with Talon[®] JACE panels provide building automation and communication. This system is fully web-based and accessible from the main Ogden campus.

d. Other Systems

There are a number of personal computers throughout this building and it is unclear if they are left on at all times. There are also refrigerated water coolers and soft drink vending machines within the building. In addition there are (6) Liebert DX split A/C systems with condensing units on the roof. Exhaust fans for the Wet Lab and Chemical Prep areas are also installed on the roof.

III. UTILITY BILL ANALYSIS AND ENERGY BASELINE

As part of the initial energy survey an analysis of twelve consecutive months of utility bills provided by the University was also performed. This analysis examined the main electric and gas meters for the Ogden Campus, the electric and gas meters for the Dee Events Center, and the electric and gas meters for the Davis Campus. The purpose of the utility bill analysis was to evaluate the utility rate structure and energy usage over a twelve month period and to develop an initial preliminary baseline of energy use for development of the ESIP. In addition, water usage was analyzed for the Main Campus meter at the Science Lab, Business and Education Buildings, Technical Education Building, the Heat Plant, and the Dee Events Center. The water analysis was performed using spreadsheet data provided by the University. This analysis and the energy and water use baselines are a high level look at a twelve-month period for the purposes of developing the ESIP. Sewer usage and costs were not evaluated in the scope of the initial survey.

A. Baseline Energy Use

With the exception of the Dee Events Center, the buildings on the Ogden Campus assessed are served by a single electric meter and a single natural gas meter. Some buildings are presently equipped with submeters, but they are not regularly utilized for individual building energy use tracking at this time. Therefore, baseline energy use for the Ogden Campus is represented only by data for the campus main electric and natural gas meters as provided by the University for the period from September 2005 through August 2006.

The Dee Events Center is individually metered for both electricity and natural gas. Meter and billing information provided by the University for the period September 2005 through August 2006 is used for Dee Events Center baseline.

The Davis Campus is metered for both electricity and natural gas. Electric and natural gas meter data for the period July 2005 through June 2006 is used for Davis Campus baseline.

Figures 1 and 2 illustrate baseline energy use for the Ogden and Davis Campuses respectively. Graphical representations of the distribution for electric use and cost, natural gas use and cost, Energy Use Index, and Energy Cost Index are presented in Figures 3 through 8.

Weber State University Ogden Campus						
Electric and Gas			September 2005 - August 2006			
Building Name	Area (sf)	Electricity Cost (\$/yr)	Natural Gas Cost (\$/yr)	Total Energy Cost (\$/yr)	Total Energy Cost per SF (\$/sf/yr)	
Main Campus	1,907,123	\$1,067,746	\$1,217,321	\$2,285,066	\$1.20	
Dee Events Center	152,670	\$153,389	\$39,332	\$192,721	\$1.26	
Total/Average	2,059,793	\$1,221,135	\$1,256,652	\$2,477,787	\$1.20	
Building Name	Electricity (kBtu/SF/yr)	Electricity (\$/SF/yr)	Nat. Gas (kBtu/SF/yr)	Nat. Gas (\$/SF/yr)	Total (kBtu/SF/yr)	Total (\$/SF/yr)
Main Campus	44.2	\$ 0.56	76.3	\$ 0.64	120.5	\$ 1.20
Dee Events Center	41.4	\$ 1.00	26.9	\$ 0.26	68.3	\$ 1.26
Average	44.0	\$ 0.59	6.7	\$ 0.61	50.6	\$ 1.20
Conversion factors:		3.412 kBtu/kWh	1000 kBtu/Dth natural gas	100 kBtu/therm		
		106 kBtu/CCF	91.69 kBtu/gallon propane			
Annual Energy Usage						
Building Name	Area (sf)	Electricity use (kWh)	Natural Gas use (DTherms)			
Main Campus	1,907,123	24,692,400	145,470			
Dee Events Center	152,670	1,851,040	4,114			
Total	2,059,793	26,543,440	149,584			
Building Name	Blended electricity cost (\$/kWh)	Average natural gas cost (\$/DTherm)				
Main Campus	\$0.043	\$8.368				
Dee Events Center	\$0.083	\$9.560				
Total Average	\$0.046	\$8.401				

Figure 1

Weber State University Davis Campus					
Electric & Gas		July 2005 - June 2006			
Building Name	Area (sf)	Electricity Cost (\$/yr)	Natural Gas Cost (\$/yr)	Total Energy Cost (\$/yr)	Total Energy Cost per SF (\$/sf/yr)
Davis Campus	113,275	\$108,746	\$70,358	\$179,104	\$1.58
Total/Average	113,275	\$108,746	\$70,358	\$179,104	\$1.58

July 2005 - June 2006						
Building Name	Electricity (kBtu/SF/yr)	Electricity (\$/SF/yr)	Nat. Gas (kBtu/SF/yr)	Nat. Gas (\$/SF/yr)	Total (kBtu/SF/yr)	Total (\$/SF/yr)
Davis Campus	49.2	\$ 0.96	0.0	\$ 0.62	49.2	\$ 1.58
Average	49.2	\$ 0.96	6.2	\$ 0.62	55.4	\$ 1.58

Conversion factors: 3.412 kBtu/kWh 1000 kBtu/Dth natural gas 100
106 kBtu/CCF 91.69 kBtu/gallon propane kBtu/therm

Annual Energy Usage July 2005 - June 2006			
Building Name	Area (sf)	Electricity use (kWh)	Natural Gas use (DTherms)
Davis Campus	113,275	1,633,600	7,644
Total	113,275	1,633,600	7,644

July 2005 - June 2006		
Building Name	Blended electricity cost (\$/kWh)	Average natural gas cost (\$/DTherm)
Davis Campus	\$0.067	\$9.205
Total Average	\$0.067	\$9.205

Figure 2

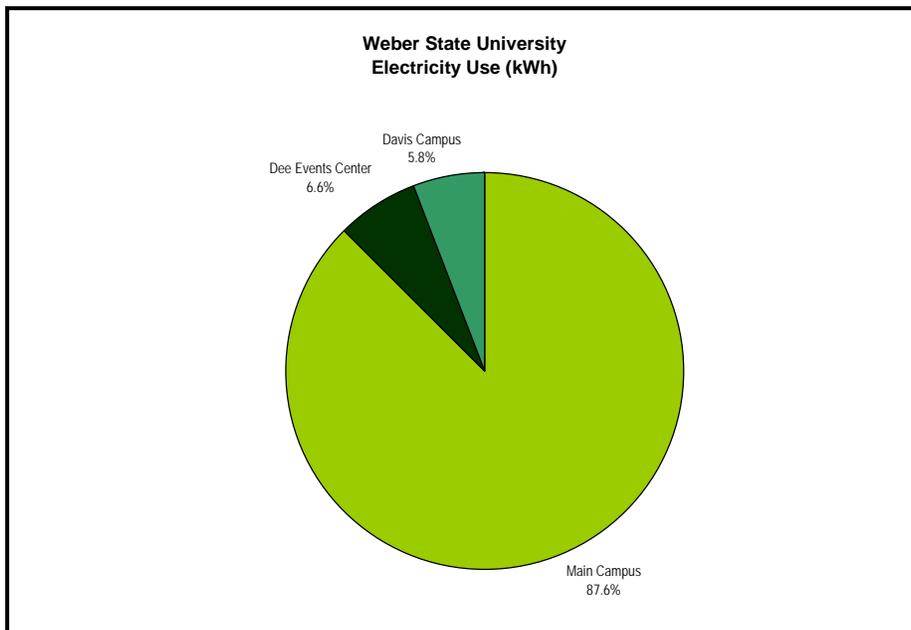


Figure 3

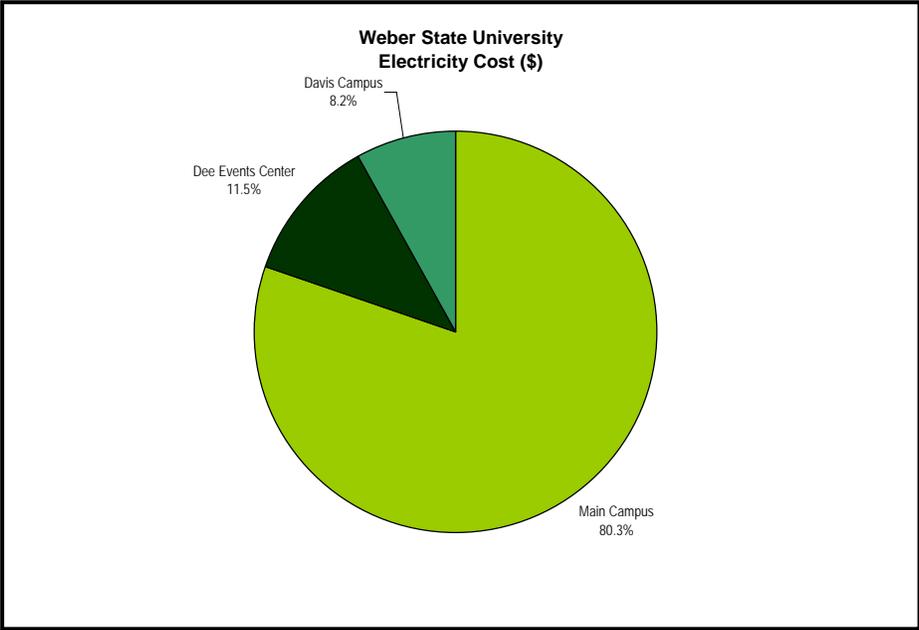


Figure 4

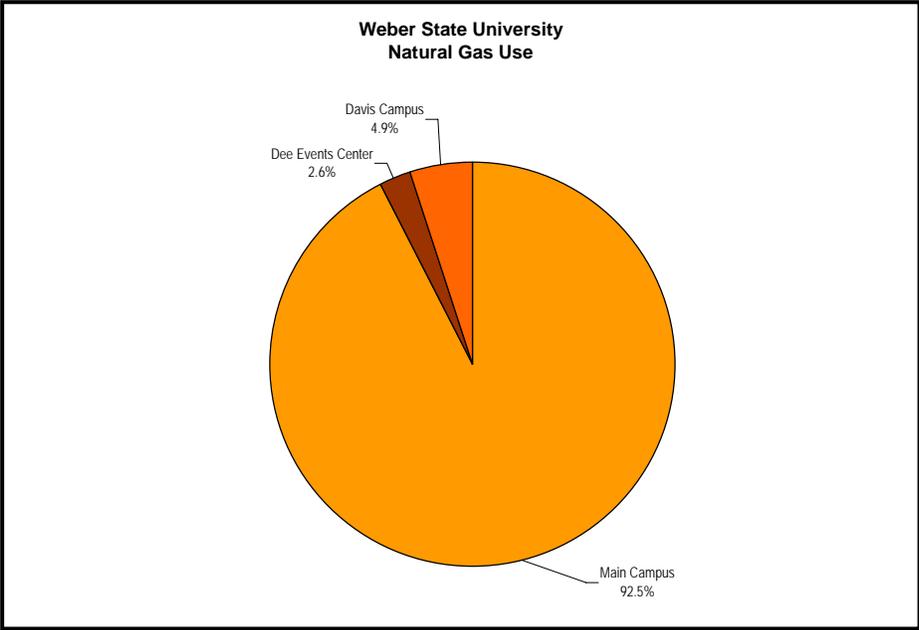


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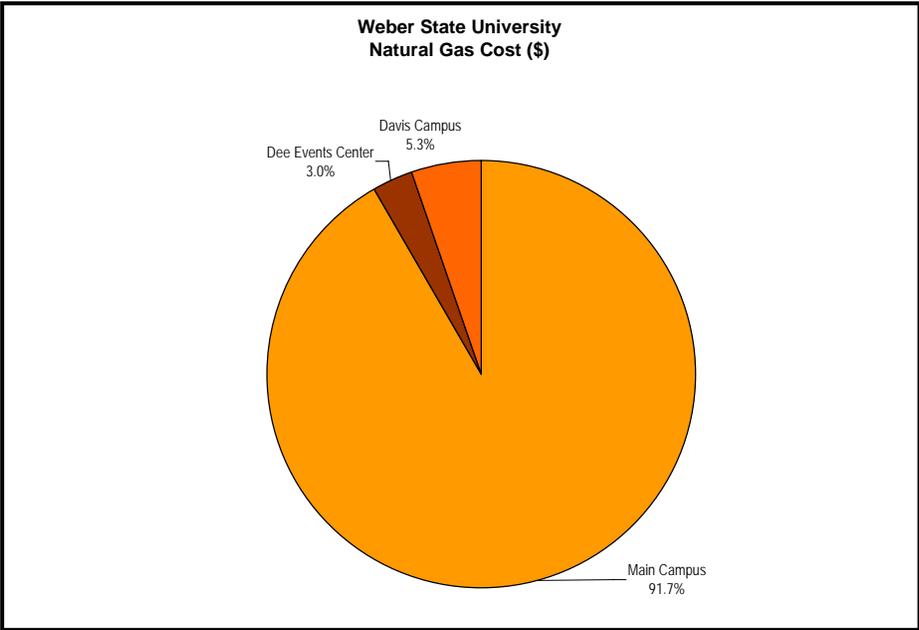


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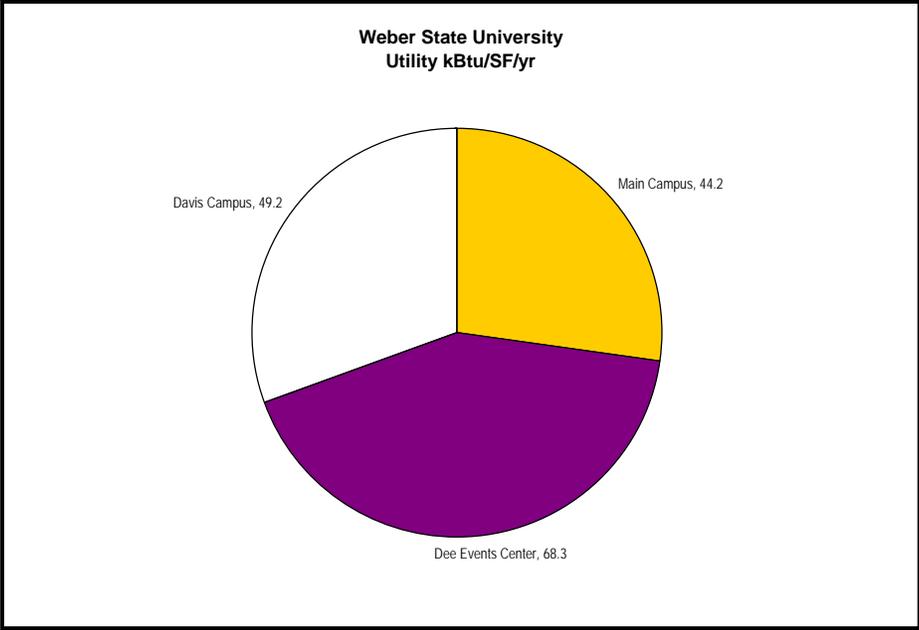


Figure 7

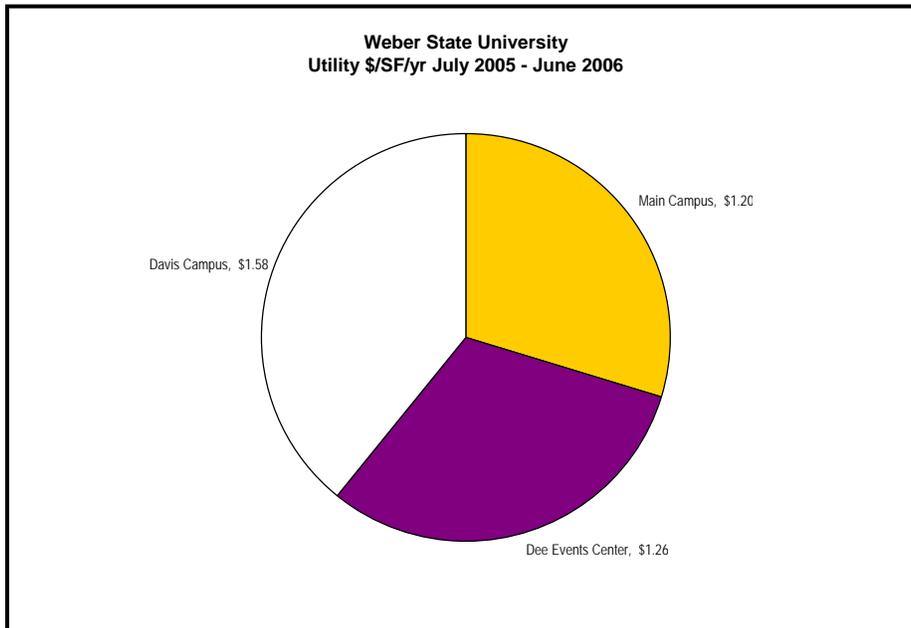


Figure 8

B. Baseline Water Use

Multiple water meters serve the buildings on the Ogden Campus. For the purposes of this level of analysis only those meters serving major buildings were considered. Meters and data analyzed included the main campus meter at the Science Lab, Business and Education Buildings, Technical Education Building, and the Heat Plant. Therefore, baseline water use for the Ogden Campus at this time is represented only by data for those meters as provided by the University for the period from July 2005 through June 2006. A detailed investment grade audit should include data from all meters potentially impacted by a water conservation project. A list of water meters and their locations is included in Appendix B.

The Dee Events Center is individually metered for water. Meter and billing information provided by the University for the period July 2005 through June 2006 is used for Dee Events Center baseline.

Water is provided to the Davis Campus by Layton City Corporation. Water usage and cost data was not analyzed for the Davis Campus.

Figure 9 illustrates baseline water use for the Ogden Campus. Figures 10 and 11 present graphical representations of the distribution of water use and cost.

Annual Water Usage		July 2005 - June 2006	
Building Name	Water Use (kgal/yr)	Water Cost (\$/yr)	Average water cost (\$/kgal)
Main Campus, SL, WB/ED, TE, HP	44,527	168,236	3.78
Dee Events Center	2,345	15,146	6.46
Davis Campus	-	-	-
Total	46,872	183,382	3.91

Figure 9

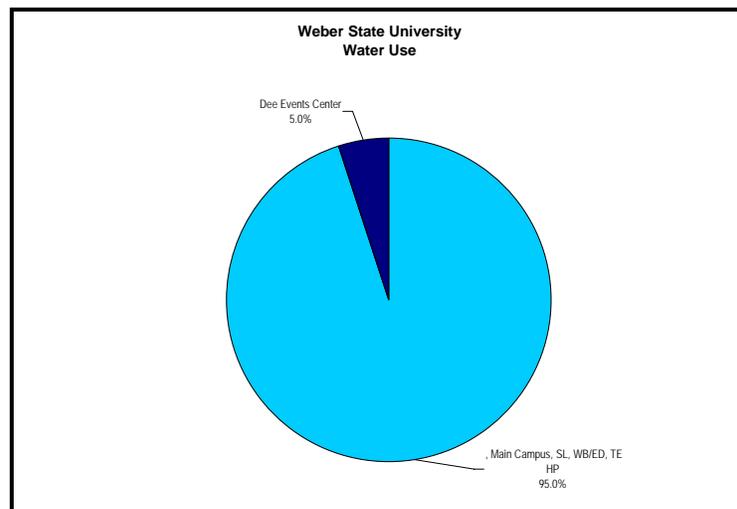


Figure 10

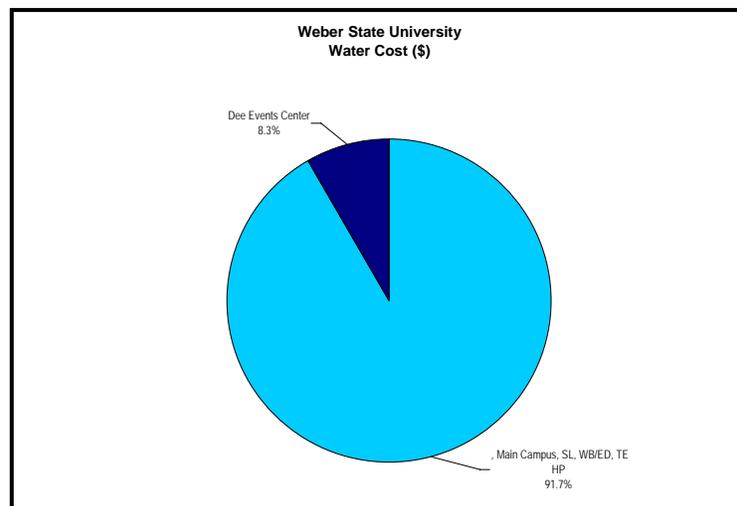


Figure 11

C. Utility Rate and Usage Analysis

1. Ogden Campus Main Electric Meter

a. Rate

Weber State purchases electric power from Rocky Mountain Power, a division of Pacificorp. Power for the main campus electric meter that serves many buildings is presently on Electric Service Schedule No. 9, General Service – High Voltage. The current rate went into effect on December 11, 2006. The campus is able to benefit from this lower cost primary or high voltage rate because it owns and maintains its own transformers that reduce the voltage for further distribution to most of the campus buildings.

Schedule 9 charges for electricity use, or energy, in kilowatt-hours (kWh) and instantaneous connected load, or demand, in kilowatts (kW). This schedule also incorporates both seasonal and time-of-day rate adjustments. The seasonal adjustments are based on wintertime use defined as October through April, and summertime use defined as May through September. The time-of-day adjustments divide use periods into On-Peak and Off-Peak times. Wintertime On-Peak time is between 7:00 AM and 11:00 PM while summertime On-Peak time is between 1:00 PM and 9:00 PM. The shift in these On-Peak times reflects the times when the utility experiences the greatest demand levels.

Both the energy (kWh) and demand (kW) unit cost vary based on these two time parameters, with both being a higher unit rate during the summertime and during On-Peak times. Additionally, electrical demand cost is the sum of the cost of two distinct demand billing parameters described by the utility as follows:

- **Facilities kW:** All kW as shown by or computed from the reading of Company's Power meter for the 15-minute period of Customer's greatest use at any time during the month, adjusted for Power Factor to the nearest kW.
- **Power:** All kW as shown or computed from the reading of Company's Power meter for the 15-minute On-Peak period of Customer's greatest use during the month, adjusted for Power Factor as specified, determined to the nearest kW.

This rate also penalizes for low Power Factor (PF). The term "Power Factor" refers to how "efficiently" the campus' electrical equipment uses the power provided by the utility. A power factor of 1.0 signifies that there is no "waste" of power. Any value below 1.0 represents "inefficiencies" in the electrical

equipment. The lower the PF, the greater the amount of power the utility must provide to compensate for the inefficiencies and therefore will charge for the inefficiencies. Under this rate for every 1 percent the PF is less than 0.9, an additional 0.0075 percent will be added to the measured power (kW) and billed to the University.

In addition to the above usage charges, a Demand Side Management surcharge of 2.12 percent is assessed each month to the Power Charge, Energy Charge, Facilities Charge and Voltage Discount. The DSM charge is designed to recover the utility's cost incurred since August 2001 associated with the Commission-approved demand side management expenditures. The surcharge is valid from April 1, 2004 and expires March 31, 2014. A monthly Customer Service Charge of \$170 is also assessed.

b. Usage

For the time period analyzed, electrical energy use totaled 24,692,400 kWh which accounted for \$518,303 in expenditures while electrical demand for the same period accounted for \$562,099 of the total \$1,067,746 annual expenditure. The demand kW varied from a low 4,057 kW or 4 megawatts in January 2006 to an annual high peak of 7,074 kW (7 megawatts) in August of 2006. This is a typical scenario due to the increase in cooling electrical use in warm weather.

For this time period, the electrical energy utilization index, a metric of Btus per square foot per year, was 44,200 Btu/SF/yr, which appears to be very reasonable for a university setting.

It is important to note that for the analyzed time period between September 2005 and August 2006 that the total electrical demand cost accounted for more than 50 percent of the total annual utility expenditures. Knowing how demand affects the campus' electricity expenditures will provide incentive to improve the control of simultaneous electrical use and reduce its associated electrical cost. The utility graphs and tables in Figure 12 illustrate main campus electrical usage and demand.

Utility History - Electricity
Weber State University
Main Campus
September 2005 - August 2006

Utility: Utah Power
 Location: 3800 Harrison
 Meter No.: 81957072 Premise #:
 Account/Rate: 4458 1426-015 1 Rate: Schedule 9
 Bldg. Sq. Ft.: 1,907,123

Average cost per kWh	\$0.043
Electricity \$ / ft ² -yr	\$0.56
Elec. & gas \$ / ft ² -yr	\$1.20
Electricity kBtu / ft ² -yr	44.2
Elec. & gas kBtu / ft ² -yr	44.2

Usage Date	Usage (On/Off pk kWh)	kWh Cost	On-Peak Demand	On-Peak Demand (\$)	Cost/kWh (\$)	Demand Cost/kW (\$)	On-Peak + Facilities Demand (\$)	Total Cost	Blended Cost (\$/kWh)
Sep-05	2,710,800	\$58,649.04	5,976.00	\$ 52,469.28	\$ 0.0216	\$ 8.78	\$ 60,835.68	\$130,614.69	\$ 0.0482
Oct-05	2,246,400	\$46,527.62	5,425.00	\$ 34,396.37	\$ 0.0207	\$ 6.34	\$ 41,991.37	\$96,720.12	\$ 0.0431
Nov-05	2,210,400	\$45,335.79	5,260.00	\$ 31,297.00	\$ 0.0205	\$ 5.95	\$ 38,661.00	\$91,784.51	\$ 0.0415
Dec-05	2,055,600	\$41,932.85	4,151.00	\$ 24,698.45	\$ 0.0204	\$ 5.95	\$ 30,509.85	\$79,108.50	\$ 0.0385
Jan-06	1,882,800	\$38,356.50	4,057.00	\$ 24,139.15	\$ 0.0204	\$ 5.95	\$ 29,818.95	\$74,516.55	\$ 0.0396
Feb-06	2,030,400	\$41,193.28	4,212.00	\$ 25,061.40	\$ 0.0203	\$ 5.95	\$ 30,958.20	\$78,855.89	\$ 0.0388
Mar-06	1,890,000	\$38,609.46	4,151.00	\$ 24,698.45	\$ 0.0204	\$ 5.95	\$ 30,509.85	\$75,546.66	\$ 0.0400
Apr-06	2,062,800	\$42,196.62	5,598.00	\$ 33,308.10	\$ 0.0205	\$ 5.95	\$ 41,145.30	\$91,068.87	\$ 0.0441
May-06	2,581,200	\$56,033.97	5,940.00	\$ 49,834.56	\$ 0.0217	\$ 8.39	\$ 58,150.56	\$125,328.71	\$ 0.0486
Jun-06	2,883,600	\$61,977.00	5,998.00	\$ 52,662.44	\$ 0.0215	\$ 8.78	\$ 61,059.64	\$134,390.73	\$ 0.0466
Jul-06	3,772,800	\$80,526.35	6,527.00	\$ 57,307.06	\$ 0.0213	\$ 8.78	\$ 66,444.86	\$160,622.36	\$ 0.0426
Aug-06	3,322,800	\$72,141.05	7,074.00	\$ 62,109.72	\$ 0.0217	\$ 8.78	\$ 72,013.32	\$156,522.92	\$ 0.0471
Total/Average:	24,692,400	\$ 518,302.87		\$ 471,981.98	\$ 0.0210	\$ 7.13	\$ 562,098.58	\$ 1,067,745.70	\$ 0.0432
Max Demand:			7,074.00						

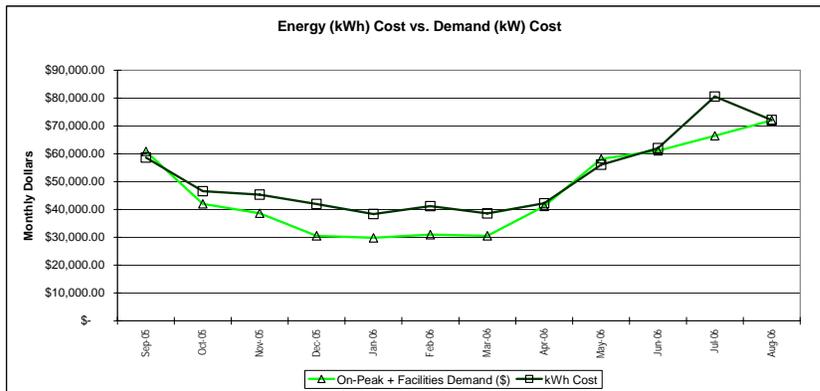
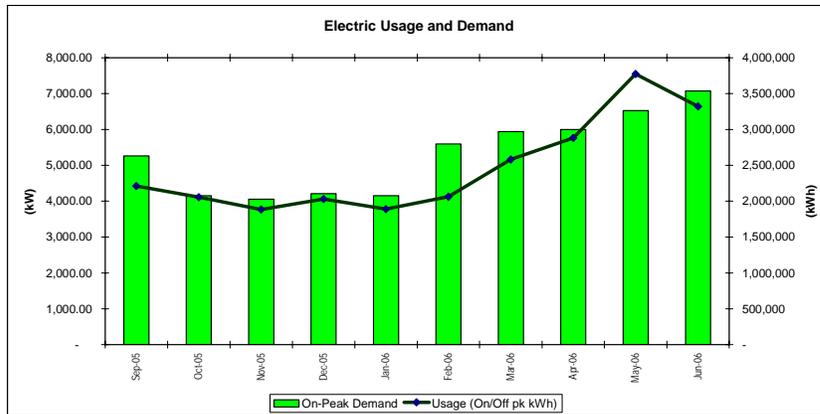


Figure 12

2. Ogden Campus Main Natural Gas Meters

a. Rate

Natural gas is provided to the campus by Questar Gas. A large meter located in the campus central heating plant measures the natural gas use of the plant's heating boilers. The current Questar rate for the main meters is the Low Load Telemetry UTF1 rate. The billing unit of natural gas for this rate is the Decatherm which represents one million Btus.

b. Usage

For the September 2005 to August 2006 period analyzed the central heating plant boilers consumed 145,470 Decatherms at a cost of \$1,217,321. July 2006 showed the lowest use for the year at just under 6,500 Decatherms and the highest monthly use was in December 2005 at slightly over 20,000 Decatherms. Similar to with electric use, the seasonal variations are typical as cold weather requires more natural gas use due to heating demand.

For this time period, the natural gas energy utilization index was 76,300 Btu/SF/yr, which also appears to be very reasonable for a university setting.

The utility graphs and tables in Figure 13 illustrate main campus natural gas usage.

Utility History - Natural Gas
Weber State University
Main Campus
September 2005 - August 2006

Utility Questar Gas
 Location 3800 Harrison
 Meter No.
 Account/Rate 5434300000
 Bldg. Sq. Ft. 1,907,123

Avg. cost per DTherm	\$8.37
Gas \$ / ft ² -yr	\$0.64
Elec. & gas \$ / ft ² -yr	\$1.20
Gas kBtu / ft ² -yr	0.0
Elec. & gas kBtu / ft ² -yr	44.2

Usage Month	Usage (DTherm)	Total Cost	Cost/DTherm
Sep-05	8,282.0	\$ 60,328.29	\$ 7.28
Oct-05	11,079.0	\$ 80,505.51	\$ 7.27
Nov-05	14,508.0	\$ 143,735.82	\$ 9.91
Dec-05	20,045.0	\$ 198,371.75	\$ 9.90
Jan-06	19,283.0	\$ 190,852.76	\$ 9.90
Feb-06	17,247.0	\$ 153,416.98	\$ 8.90
Mar-06	15,754.0	\$ 140,106.72	\$ 8.89
Apr-06	10,825.0	\$ 86,072.79	\$ 7.95
May-06	7,461.0	\$ 58,902.80	\$ 7.89
Jun-06	6,846.0	\$ 53,954.20	\$ 7.88
Jul-06	6,483.0	\$ 51,124.03	\$ 7.89
Aug-06	7,657.0	\$ 60,277.27	\$ 7.87
Total/Average:	145,470	\$ 1,217,320.63	\$ 8.37

Note: Btu content of natural gas is 1000 kBtu/Dtherm

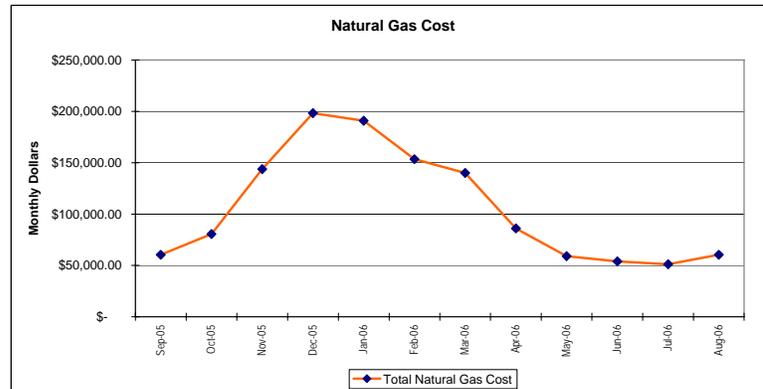
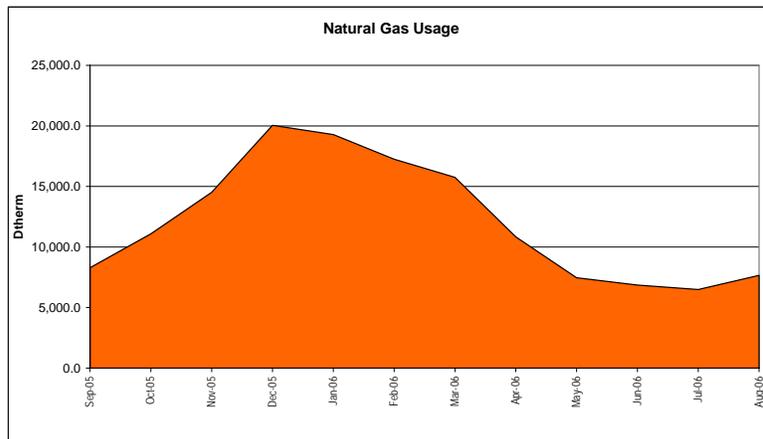


Figure 13

3. Dee Events Center Electric Meter

a. Rate

Rocky Mountain Power provides electricity to this building under its Electric Service Schedule No. 6A, General Service – Energy Time-of-Day Option. The main difference with this rate is that power is provided at reduced, or distribution level, voltage rather than high voltage.

Schedule 6A also charges for electricity use, or energy, in kilowatt-hours (kWh) and instantaneous connected load, or demand, in kilowatts (kW). This schedule incorporates seasonal rate adjustments, and time-of-day adjustments. The seasonal adjustments are based on wintertime use defined as October through April, and summertime use defined as May through September.

The time-of-day adjustments divide use periods into On-Peak and Off-Peak times. Wintertime On-Peak time is between 7:00 AM and 11:00 PM while summertime On-Peak time is between 1:00 PM and 9:00 PM. The shift in these On-Peak times reflects the times when the utility experiences the greatest demand levels. The energy (kWh) and demand (kW) unit cost vary based on the seasonal parameters with both being a higher unit rate during the summertime and during On-Peak times.

Electrical demand cost is billed similar to the Main Campus. There is no “Power Charge” but there is a “Facilities kW” charge and the monthly demand charge is based on the metered peak power described by the utility as follows:

- **Facilities kW:** All kW as shown by or computed from the reading of Company’s Power meter for the 15-minute period of Customer’s greatest use at any time during the month, adjusted for Power Factor to the nearest kW.

In addition to the above usage charges, a Demand Side Management surcharge of 2.13 percent is assessed each month to the Energy Charge, Facilities Charge and Voltage Discount. The DSM charge is designed to recover the utility’s cost incurred since August 2001 associated with the Commission-approved demand side management expenditures. The surcharge is valid from April 1, 2004 and expires March 31, 2014. A monthly Customer Service Charge of \$25 is also assessed.

b. Usage

For the time period analyzed, electrical energy use in the Dee Events Center totaled 1,851,040 kWh which accounted for \$47,639 in expenditures while electrical demand for the same period accounted for \$92,079 of the total

\$153,389 annual expenditure. The demand kW varied from a low 617 kW in December 2005 and January and February 2006, to an annual high peak of just over 845 kW in May of 2006.

For the September 2005 to August 2006 time period analyzed the total electrical demand cost accounted for more than 60 percent of the total annual utility expenditures. Knowing how demand affects the Dee Events Center's electricity expenditures will provide incentive to improve the control of simultaneous electrical use, particularly the large number of high wattage lights, and reduce its associated electrical cost.

The utility graphs and tables in Figure 14 illustrate electrical usage and demand for the Dee Events Center.

Utility History - Electricity
Weber State University
Dee Events Center
September 2005 - August 2006

Utility: Utah Power
 Location: 4300 Harrison Blvd
 Meter No.: 28266296 Premise #:
 Account/Rate: 4458 1426-016 9 Rate: Schedule 6
 Bldg. Sq. Ft.: 152,670

Average cost per kWh	\$0.083
Electricity \$ / ft ² -yr	\$1.00
Elec. & gas \$ / ft ² -yr	\$1.26
Electricity kBtu / ft ² -yr	41.4
Elec. & gas kBtu / ft ² -yr	41.4

Based on previous month rate

Usage Date	Usage (kWh)	kWh Cost	On-Peak Demand (Billed kW)	On-Peak Demand (\$)	Cost/kWh (\$)	Demand Cost/kWh (\$)	Total Demand (\$)	Total Cost	Blended Cost (\$/kWh)
Sep-05	212,000	\$5,456.88	806.00	\$ 10,284.56	\$ 0.0257	\$ 12.76	\$ 10,284.56	\$17,011.32	\$ 0.0802
Oct-05	155,000	\$3,989.70	744.00	\$ 7,877.16	\$ 0.0257	\$ 10.59	\$ 7,877.16	\$12,620.50	\$ 0.0814
Nov-05	127,000	\$3,268.98	703.00	\$ 7,198.72	\$ 0.0257	\$ 10.24	\$ 7,198.72	\$11,314.93	\$ 0.0891
Dec-05	167,000	\$4,298.58	617.00	\$ 6,318.08	\$ 0.0257	\$ 10.24	\$ 6,318.08	\$11,367.36	\$ 0.0681
Jan-06	147,000	\$3,783.78	617.00	\$ 6,318.08	\$ 0.0257	\$ 10.24	\$ 6,318.08	\$10,965.85	\$ 0.0746
Feb-06	132,000	\$3,397.68	617.00	\$ 6,318.08	\$ 0.0257	\$ 10.24	\$ 6,318.08	\$10,442.17	\$ 0.0791
Mar-06	110,000	\$2,831.40	388.00	\$ 3,973.12	\$ 0.0257	\$ 10.24	\$ 3,973.12	\$7,426.97	\$ 0.0675
Apr-06	104,040	\$2,676.96	548.00	\$ 5,611.52	\$ 0.0257	\$ 10.24	\$ 5,611.52	\$8,741.66	\$ 0.0840
May-06	148,000	\$3,803.60	845.00	\$ 8,652.80	\$ 0.0257	\$ 10.24	\$ 8,652.80	\$16,066.27	\$ 0.1086
Jun-06	195,000	\$5,019.30	835.00	\$ 10,654.60	\$ 0.0257	\$ 12.76	\$ 10,654.60	\$16,577.46	\$ 0.0850
Jul-06	195,000	\$5,019.30	827.00	\$ 10,552.52	\$ 0.0257	\$ 12.76	\$ 10,552.52	\$17,777.78	\$ 0.0912
Aug-06	159,000	\$4,092.66	652.00	\$ 8,319.52	\$ 0.0257	\$ 12.76	\$ 8,319.52	\$13,077.16	\$ 0.0822
Total/Average:	1,851,040	\$ 47,638.82		\$ 92,078.76	\$ 0.0257	\$ 11.11	\$ 92,078.76	\$ 153,389.43	\$ 0.0829
Max Demand:			845.00						

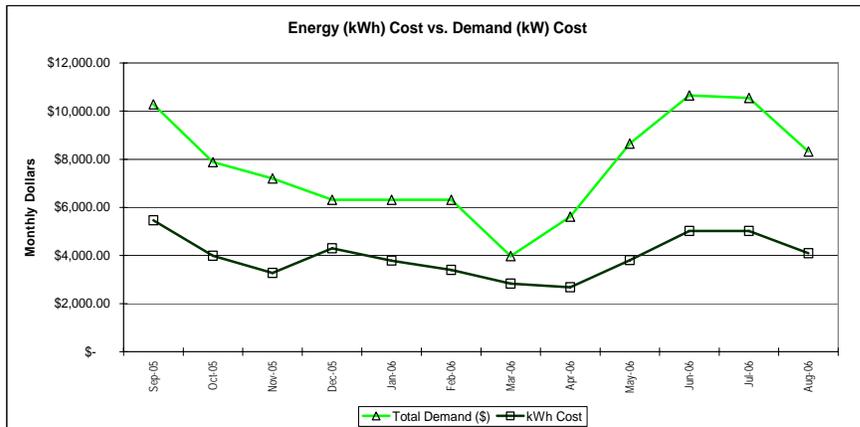
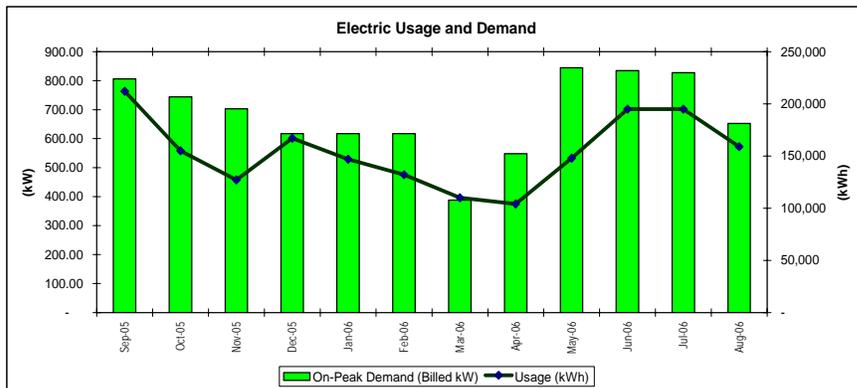


Figure 14

4. Dee Events Center Natural Gas Meter

a. Rate

Natural gas is provided to the Dee Events Center by Questar Gas. The current Questar rate for this building is the Commercial Gas Service UTGS1 rate. The billing unit of natural gas for this rate is the Decatherm which represents one million Btus.

b. Usage

For the September 2005 to August 2006 time period analyzed the building used 4,114 Decatherms at a cost of \$39,332. July 2006 showed the lowest use for the year at just under 109 Decatherms and the highest monthly use was in December 2005 at just over 709 Decatherms. The seasonal variations are typical as cold weather requires more natural gas use.

The utility graphs and tables in Figure 15 illustrate natural gas usage for the Dee Events Center.

Utility History - Natural Gas
Weber State University
Dee Events Center
September 2005 - August 2006

Utility Questar Gas
 Location 4300 Harrison Blvd
 Meter No.
 Account/Rate 925400000
 Bldg. Sq. Ft. 152,670

Avg. cost per DTherm	\$9.56
Gas \$ / ft ² -yr	\$0.26
Elec. & gas \$ / ft ² -yr	\$1.26
Gas kBtu / ft ² -yr	0.0
Elec. & gas kBtu / ft ² -yr	41.4

Usage Month	Usage (Dtherms)	Total Cost	Cost/ DTherm
Sep-05	279.2	\$ 2,104.47	\$ 7.54
Oct-05	203.0	\$ 1,627.91	\$ 8.02
Nov-05	266.0	\$ 2,637.56	\$ 9.92
Dec-05	708.7	\$ 7,384.59	\$ 10.42
Jan-06	589.9	\$ 6,346.95	\$ 10.76
Feb-06	567.7	\$ 5,536.66	\$ 9.75
Mar-06	462.9	\$ 4,438.56	\$ 9.59
Apr-06	387.4	\$ 3,467.35	\$ 8.95
May-06	216.8	\$ 1,927.29	\$ 8.89
Jun-06	165.4	\$ 1,475.01	\$ 8.92
Jul-06	108.8	\$ 990.96	\$ 9.11
Aug-06	158.5	\$ 1,394.37	\$ 8.80
Total/Averag	4,114	\$ 39,331.68	\$ 9.56

Note: Btu content of natural gas is 1000 kBtu/Dtherm

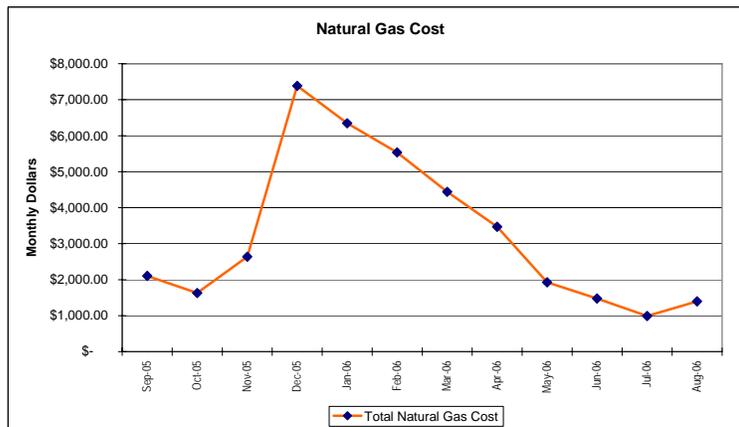
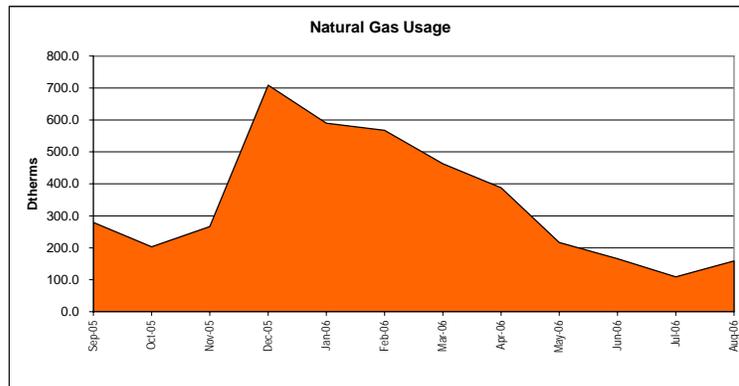


Figure 15

5. Davis Campus Electric Meter

a. Rate

Rocky Mountain Power provides electricity to the Davis Campus under its Electric Service Schedule No. 6, General Service – Distribution Voltage at reduced, or distribution level, voltage rather than high voltage. This is the same rate as the Dee Events Center.

Schedule 6 also charges for electricity use, or energy, in kilowatt-hours (kWh) and instantaneous connected load, or demand, in kilowatts (kW). This schedule incorporates seasonal rate adjustments, but not time-of-day adjustments. The seasonal adjustments are based on wintertime use defined as October through April, and summertime use defined as May through September. The energy (kWh) and demand (kW) unit cost vary based on the seasonal parameters with both being a higher unit rate during the summertime.

There is no “Facilities kW” charge so the monthly demand charge is based only on the metered peak power described by the utility as follows:

- **Power:** All kW as shown or computed from the reading of Company’s Power meter for the 15-minute On-Peak period of Customer’s greatest use during the month, adjusted for Power Factor to the nearest kW.

In addition to the above usage charges, a Demand Side Management surcharge of 2.13 percent is assessed each month to the Power Charge, Energy Charge, Facilities Charge and Voltage Discount. The DSM charge is designed to recover the utility’s cost incurred since August 2001 associated with the Commission-approved demand side management expenditures. The surcharge is valid from April 1, 2004 and expires March 31, 2014. A monthly Customer Service Charge is also assessed.

b. Usage

For the time period analyzed, electrical energy use for the Davis Campus totaled 1,633,600 kWh which accounted for \$42,043 in expenditures while electrical demand for the same period accounted for \$54,968 of the total \$108,746 annual expenditure. The demand kW varied from a low 255 kW in December 2005 to an annual high peak of 536 kW in September of 2005.

For the July 2005 to June 2006 time period analyzed the total electrical demand cost accounted for over 50 percent of the total annual utility expenditures. Knowing how demand affects the Davis Campus electricity expenditures will provide incentive to improve the control of simultaneous electrical use and reduce its associated electrical cost. The utility graphs and tables in Figure 16 illustrate electrical usage for the Davis Campus.

Utility History - Electricity
Weber State University
Davis Campus
July 2005 - June 2006

Utility Rocky Mountain Power
 Location Layton, Co
 Meter No. 21180923 Premise #:
 Account/Rate 17061603 003 002 Rate: Schedule 6
 Bldg. Sq. Ft. 113,275

Average cost per kWh	\$0.067
Electricity \$ / ft ² -yr	\$0.96
Elec. & gas \$ / ft ² -yr	\$1.58
Electricity kBtu / ft ² -yr	49.2
Elec. & gas kBtu / ft ² -yr	49.2

Billing Date	Usage (kWh)	kWh Cost	On-Peak Demand (Billed kW)	On-Peak Demand (\$)	Cost/kWh (\$)	Demand Cost/kWh (\$)	Total Demand (\$)	Total Cost*	Blended Cost (\$/kWh)*
Jul-05	142,880	\$ 3,677.73	531	\$ 6,775.56	\$ 0.0257	\$ 12.76	\$ 6,775.56	\$12,266.28	\$ 0.0859
Aug-05	176,320	\$ 4,538.48	624	\$ 6,606.65	\$ 0.0257	\$ 10.59	\$ 6,606.65	\$14,789.93	\$ 0.0839
Sep-05	216,160	\$5,563.96	536	\$ 5,488.64	\$ 0.0257	\$ 10.24	\$ 5,488.64	\$12,354.41	\$ 0.0572
Oct-05	133,920	\$3,447.10	440	\$ 4,505.60	\$ 0.0257	\$ 10.24	\$ 4,505.60	\$9,251.49	\$ 0.0691
Nov-05	111,680	\$2,874.64	384	\$ 3,932.16	\$ 0.0257	\$ 10.24	\$ 3,932.16	\$7,453.68	\$ 0.0667
Dec-05	119,200	\$3,068.21	255	\$ 2,611.20	\$ 0.0257	\$ 10.24	\$ 2,611.20	\$6,161.80	\$ 0.0517
Jan-06	118,240	\$3,043.50	257	\$ 2,631.68	\$ 0.0257	\$ 10.24	\$ 2,631.68	\$6,217.14	\$ 0.0526
Feb-06	110,720	\$2,848.84	259	\$ 2,652.16	\$ 0.0257	\$ 10.24	\$ 2,652.16	\$6,028.16	\$ 0.0544
Mar-06	107,520	\$2,763.26	284	\$ 2,908.16	\$ 0.0257	\$ 10.24	\$ 2,908.16	\$6,217.73	\$ 0.0578
Apr-06	96,960	\$2,495.75	376	\$ 4,797.76	\$ 0.0257	\$ 12.76	\$ 4,797.76	\$6,949.53	\$ 0.0717
May-06	132,960	\$3,422.39	423	\$ 5,397.48	\$ 0.0257	\$ 12.76	\$ 5,397.48	\$9,068.61	\$ 0.0682
Jun-06	167,040	\$4,299.61	522	\$ 6,660.72	\$ 0.0257	\$ 12.76	\$ 6,660.72	\$11,987.47	\$ 0.0718
Total/Average:	1,633,600	\$ 42,043.47		\$ 54,967.77	\$ 0.0257	\$ 11.11	\$ 54,967.77	\$ 108,746.23	\$ 0.0666
Max Demand:			624.00						

Note: Dollar values for kWh Cost and On-Peak Demand Cost were estimated using monthly rates from same Schedule 6 Rate at Dee Events Center.

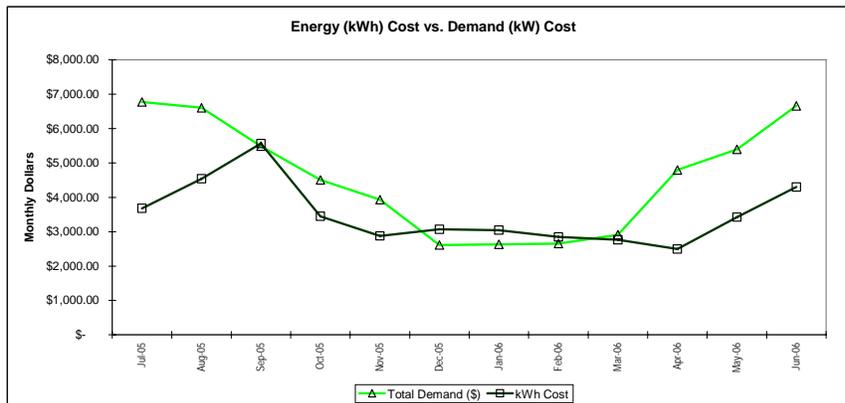
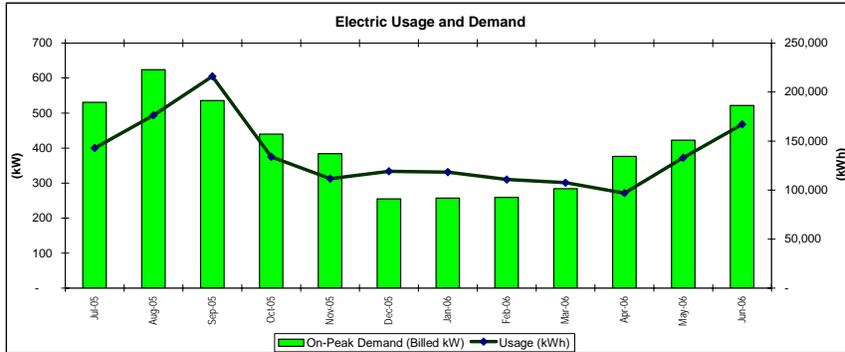


Figure 16

6. Davis Campus Natural Gas Meter

a. Rate

Natural gas is provided to the Davis Campus by Questar Gas. The current Questar rate for this building is the Commercial Gas Service UTGS1 rate. The billing unit of natural gas for this rate is the Decatherm which represents one million Btus.

b. Usage

For the July 2005 to June 2006 time period analyzed the building used 7,644 Decatherms at a cost of \$70,358. July 2006 showed the lowest use for the year at slightly over 289 Decatherms and the highest monthly use was in December 2005 at just over 1,346 Decatherms. The seasonal variations are typical as cold weather requires more natural gas use.

The utility graphs and tables in Figure 17 illustrate natural gas usage for the Davis Campus.

Utility History - Natural Gas
Weber State University
Davis Campus
July 2005 - June 2006

Utility Questar Gas
 Location Layton, UT
 Meter No.
 Account/Rate 5827301000 UTGS1
 Bldg. Sq. Ft. 113,275

Avg. cost per DTherm	\$9.20
Gas \$ / ft ² -yr	\$0.62
Elec. & gas \$ / ft ² -yr	\$1.58
Gas kBtu / ft ² -yr	0.0
Elec. & gas kBtu / ft ² -yr	49.2

Usage Month	Usage (DTherm)	Total Cost	Cost/DTherm
Jul-05	392.9	2922.62	\$ 7.44
Aug-05	289.2	2,191.97	\$ 7.58
Sep-05	434.7	3,226.10	\$ 7.42
Oct-05	519.3	3,944.43	\$ 7.60
Nov-05	681.5	6,426.27	\$ 9.43
Dec-05	1,346.2	13,920.69	\$ 10.34
Jan-06	994.1	10,556.59	\$ 10.62
Feb-06	649.5	6,411.18	\$ 9.87
Mar-06	764.8	7,238.32	\$ 9.46
Apr-06	645.3	5,718.58	\$ 8.86
May-06	462.4	3,922.03	\$ 8.48
Jun-06	463.7	3,879.19	\$ 8.37
Total/Average:	7,644	\$ 70,357.97	\$ 9.20

Note: Btu content of natural gas is 1000 kBtu/Dtherm

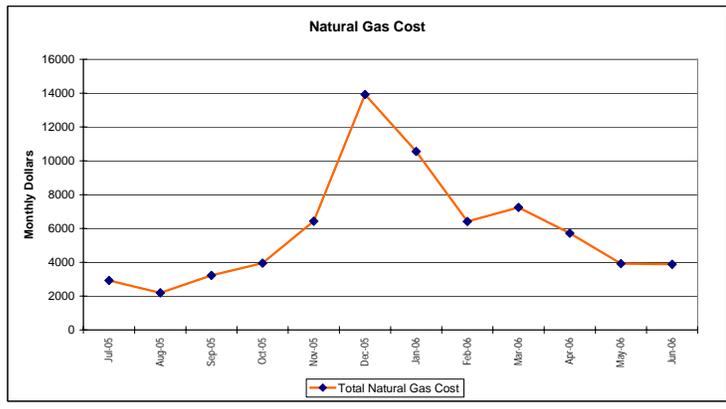
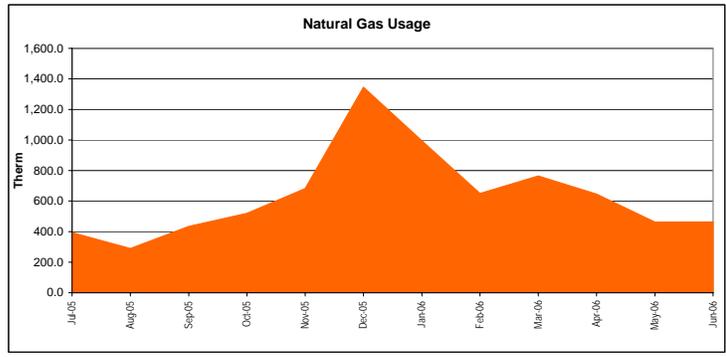


Figure 17

7. Ogden Campus Water Meters

a. Rate

Water is provided to the campus by Ogden City Water. A total of fifteen meters measure water use according to a list provided by the University. The billing unit for this rate is the gallon. Water usage and cost data was provided in spreadsheet form by the University; actual water bills for the Main Campus were not analyzed. For the purpose of this initial survey water usage was analyzed for the Main Campus meter and individual meters serving the Science Lab, Business and Education Buildings, Technical Education Building, and the Heat Plant.

b. Usage

For the July 2005 to June 2006 period analyzed these meters show a consumption of 44,527 kgal at a cost of \$168,236. March 2006 showed the lowest use for the year at 762 kgal and the highest monthly use was in November 2005 at nearly 8,100 kgal. The extremely low usage indicated in March 2006 appears to be an anomaly and may be related to data input or meter reading error. There are considerable variations in usage throughout the year for which data was available. This translates into differences in cost per kgal due to the City's rate structure. An investment grade audit effort under the ESIP should examine multiple consecutive years of data to account for anomalies and variations.

The utility graphs and tables in Figure 18 illustrate water usage in the main campus buildings selected for analysis.

**Utility History - Water
Weber State University
Main Campus
July 2005 - June 2006**

Utility Ogden City Water
Location Main Campus
Meter No. Main 18-9000-01 SL 18-9633-15
WB/ED 189635-01TE 18-9686-07
HP 18-9696-01

Month Ending	Water Usage (kgal)	Water Cost*	Water Cost/kgal
Jul-05	4,102	\$ 14,552.40	\$ 3.55
Aug-05	6,233	\$ 17,518.20	\$ 2.81
Sep-05	2,797	\$ 12,734.49	\$ 4.55
Oct-05	5,221	\$ 16,103.43	\$ 3.08
Nov-05	8,094	\$ 20,096.53	\$ 2.48
Dec-05	2,637	\$ 12,513.18	\$ 4.74
Jan-06	2,448	\$ 12,250.62	\$ 5.00
Feb-06	2,482	\$ 12,460.51	\$ 5.02
Mar-06	762	\$ 9,906.60	\$ 13.00
Apr-06	2,755	\$ 12,677.07	\$ 4.60
May-06	3,725	\$ 14,027.24	\$ 3.77
Jun-06	3,269	\$ 13,395.28	\$ 4.10
Total/Average:	44,527	\$ 168,235.55	\$ 3.78

Avg. cost per kgal: \$ 3.78

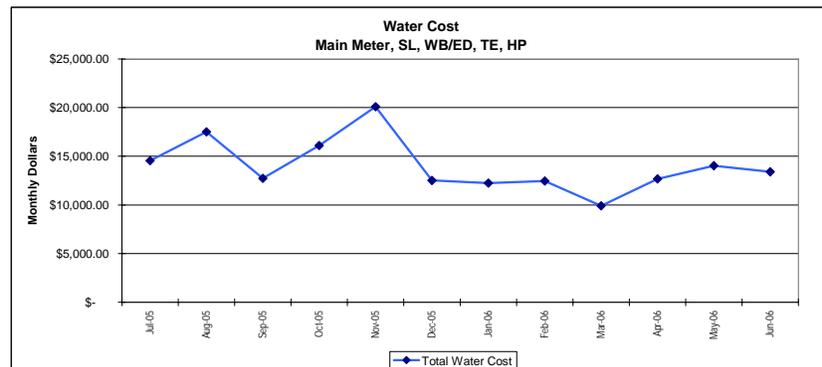
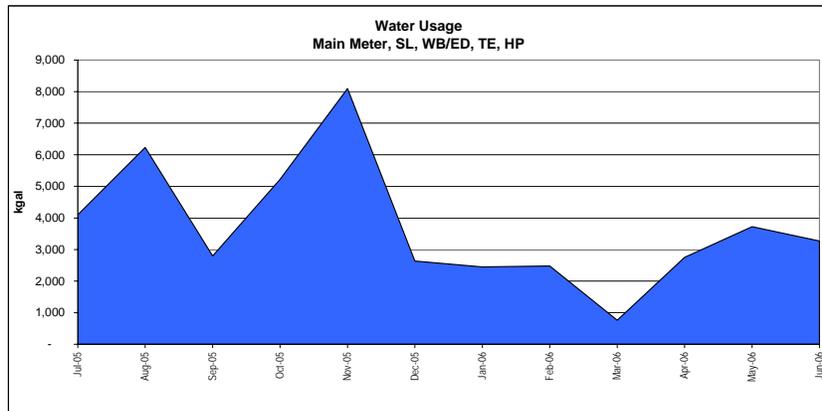


Figure 18

8. Dee Events Center Water Meter

a. Rate

Water is provided to the Dee Events Center by Ogden City Water through a single meter. The billing unit for this rate is the gallon. Water usage and cost data was provided in spreadsheet form by the University; actual water bills for the Dee Events Center were not analyzed.

b. Usage

For the July 2005 to June 2006 period analyzed this meter shows a consumption of 2,345 kgal at a cost of \$15,146. The lowest use for the year was in March 2006 at 53 kgal and the highest monthly use was in July 2005 at nearly 475 kgal. There are considerable variations in cost per kgal throughout the year for which data was available. This is probably due to the City's rate structure which includes a number of fixed costs that are billed regardless of actual use. An investment grade audit effort under the ESIP should examine multiple consecutive years of data to account these variations.

The utility graphs and tables in Figure 19 illustrate water usage in the Dee Events Center.

**Utility History - Water
Weber State University
Dee Events Center
July 2005 - June 2006**

Utility Ogdan City Water
Location Dee Events Center
Meter No. 19-9620-08

Month Ending	Water Usage (kgal)	Water Cost	Water Cost/kgal
Jul-05	475	\$ 1,676.26	\$ 3.53
Aug-05	387	\$ 1,526.14	\$ 3.94
Sep-05	167	\$ 1,220.34	\$ 7.31
Oct-05	112	\$ 1,143.89	\$ 10.21
Nov-05	125	\$ 1,161.96	\$ 9.30
Dec-05	124	\$ 1,160.57	\$ 9.36
Jan-06	124	\$ 1,160.57	\$ 9.36
Feb-06	85	\$ 1,106.36	\$ 13.02
Mar-06	53	\$ 1,061.88	\$ 20.04
Apr-06	130	\$ 1,168.91	\$ 8.99
May-06	172	\$ 1,227.43	\$ 7.13
Jun-06	391	\$ 1,532.12	\$ 3.92
Total/Average:	2,345	\$ 15,146.43	\$ 6.46

Avg. cost per kgal: \$ 6.46

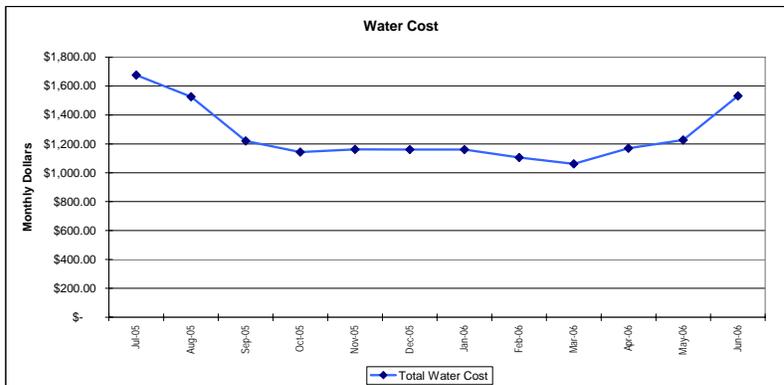
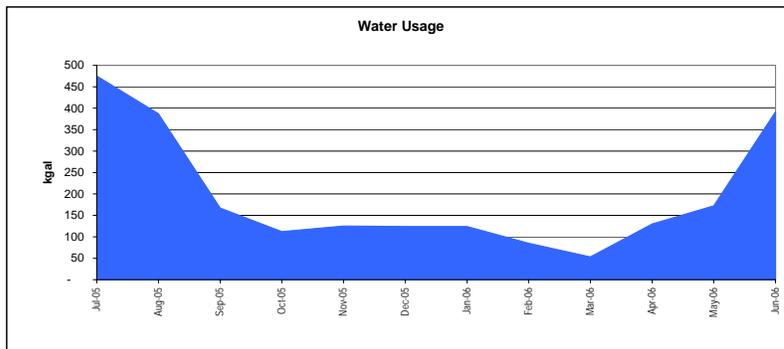


Figure 19