

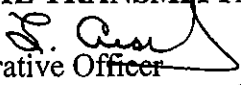
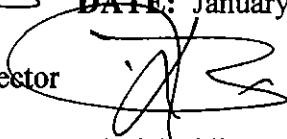
A. LOUIS ZUNGUZE
DIRECTOR

BRENT B. WILDE
DEPUTY DIRECTOR

SALT LAKE CITY CORPORATION
DEPT. OF COMMUNITY DEVELOPMENT
OFFICE OF THE DIRECTOR

ROSS C. "ROCKY" ANDERSON
MAYOR

CITY COUNCIL TRANSMITTAL

TO: Lyn Creswell, Chief Administrative Officer  **DATE:** January 29, 2007
FROM: Louis Zunguze, Community Development Director 
SUBJECT: The State of Utah, Department of Natural Resources, Utah Public Building Energy Efficient Pilot Program Grants and Department of Justice, Office of Justice Programs Grant

STAFF CONTACTS: Sherrie Collins, Grants Program Administrator, at 535-6150 or sherrie.collins@slcgov.com

ACTION REQUIRED: Adoption of Resolutions by City Council

DOCUMENT TYPE: Resolutions

BUDGET IMPACT: \$480,000 of grant revenue

DISCUSSION:

Issue Origin: Salt Lake City has received three new grants totaling \$480,000 of grant revenue. Following is the detailed information pertaining to the three grants.

Analysis: The State of Utah, Department of Natural Resources, under the Utah Public Building Energy Efficient Pilot Program, has awarded the Public Services Facilities Division two (2) \$15,000 grants, for a total of \$30,000 (see Attachment A). One \$15,000 grant was awarded for energy efficient upgrades to the Plaza 349 building at 349 South 200 East and the other \$15,000 grant will fund improvements to the Westside Senior Center at 868 West 900 South.

Plaza 349

The energy efficient upgrades to the Plaza 349 building consist of:

- installation of new rooftop Air Handling Units (AHUs) with economizers and evaporative condensers,
- upgrading to a Direct Digital Control (DDC) system which monitors the AHUs and automatically selects various zone temperatures for the building,
- upgrading the existing parking terrace lighting by replacing 25 metal halide fixtures with energy efficient T5HO fluorescent fixtures, and
- installing occupancy sensors in various parts of the building which automatically turn lights off and on depending on room occupancy.

Please note that in budget amendment #2 of fiscal year 2007, \$259,079 of fund balance was approved by the Council towards this project. This appropriation will be combined with the \$15,000 grant for equipment purchase and installation, engineering design and fees, and other construction expenses as necessary.

Westside Senior Center

The energy efficient upgrades to the Westside Senior Center include replacing the existing HVAC system, which provides both the heating and cooling needs of the facility, with new rooftop AHUs, upgrading to a DDC system, and installing occupancy sensors throughout the building.

A CIP application requesting \$170,347 has been submitted for consideration in the 2007/2008 CIP process. If approved, these funds would be combined with the grant funds for equipment purchase and installation, engineering design and fees, and other construction expenses as necessary.

The Department of Justice, Office of Justice Programs, under the FY2006 Law Enforcement Anti Trafficking Task Force, has awarded the Police Department and City Prosecutor's Office \$450,000 of grant funding to defray costs associated with developing and implementing a county-wide Anti Human Trafficking Task Force. These funds will support that effort for a three year period (see Attachment C).

Salt Lake City will serve as the lead agency in developing and implementing the Anti Human Trafficking Task Force. The Task Force will consist of the Salt Lake City Police Department, the City Prosecutor's Office, the U.S. Attorney's Office for the District of Utah, the Utah Health and Human Rights Project, the Salt Lake County District Attorney, the Salt Lake County Police Department, and other local service providers. The goal of the Task Force will be to provide a variety of social and law enforcement related services, as well as outreach and education for victims of human trafficking.

The \$450,000 of grant funds will be used as follows:

- \$84,190 will be used to pay one-year of salary and benefits for the Project Coordinator, who will be hired during the third year of the grant funding cycle;
- \$10,000 will be used for officer over-time related to training and law enforcement issues;
- \$299,250 will be used for travel and training to attend required grant conferences and to bring national presenters to Utah to train and educate members of the Task Force on human trafficking related issues;
- \$15,310 will be used to produce brochures and media news clips; and
- \$41,250 will be used to contract for video production, translation services, and billboards for the provision of an outreach campaign.

The grant requires a \$150,000 match, which will be met by the value of salary and benefits for the time committed by the City Prosecutor, an Assistant Prosecutor, and the Police Department Grants Program Administrator.

Recommendation: The Administration recommends the City Council adopt the necessary Resolutions authorizing grant acceptance.

PUBLIC PROCESS:

These grants require no public process other than Council adoption by Resolution and a Public Hearing pertaining to the budget opening.

RELEVANT ORDINANCES:

None

TABLE OF CONTENTS

- Attachment A: Resolution – Authorizing Salt Lake City Corporation to enter into two Agreements with the State of Utah, Department of Natural Resources
- Attachment B: State of Utah, Department of Natural Resources Award Letter and Applications
- Attachment C: Resolution – Authorizing Salt Lake City Corporation to enter into an Agreement with the US Department of Justice, Office of Justice Programs
- Attachment D: US Department of Justice Agreement

Attachment A
State of Utah,
Department of
Natural Resources
Resolution

RESOLUTION NO. _____ OF 2007

AUTHORIZING SALT LAKE CITY TO ACCEPT
THE STATE OF UTAH, DEPARTMENT OF NATURAL RESOURCES, UTAH PUBLIC
BUILDING ENERGY EFFICIENCY PILOT PROGRAM GRANT

WHEREAS, Title 11, Chapter 13 Utah Code Ann., as amended, allows public entities to enter into cooperative agreements to provide joint undertakings and services; and

WHEREAS, the attached Agreement has been prepared to accomplish said purposes;

THEREFORE, BE IT RESOLVED by the City Council of Salt Lake City, Utah:

1. It does hereby authorize and approve of Salt Lake City Corporation accepting the two (2) \$15,000.00 grants for a total of \$30,000.00 from the State of Utah Department of Natural Resources for the purposes of:

Energy efficient improvements to the Plaza 349 building located at 349 South 200 East, to consist of installation of new rooftop Air Handling Unit's (AHU's) with economizers and evaporative condensers, upgrades to the Direct Digital Control (DDC) building controls and the parking terrace lighting; and the Westside Senior Center located at 868 West 900 South, to consist of replacing the existing Heating and Air-conditioning Ventilation Control (HAVC) system including building and lighting controls.

2. Ross C. Anderson, Mayor of Salt Lake City, Utah, is hereby authorized to receive said awards and execute any and all subsequent agreements between the City and other entities resulting from the said Award on behalf of Salt Lake City Corporation, so long as such subsequent agreements do not depart substantively from the Agreement approved herein.

Passed by the City council of Salt Lake City, Utah, this day _____ day of _____, 2007.

Salt Lake City Council

By _____
Chairperson

ATTEST:

Approved as to Form
Salt Lake City Attorney's Office
By: Melanie H. [Signature]
Date: Jan. 17, 2007

CHIEF DEPUTY CITY RECORDER

Attachment B
State of Utah,
Department of
Natural Resources
Agreement and
Applications

Salt Lake City Corporation
CAMP DOCUMENT ROUTING FORM
CITY SIGNATURE AND ACTIVATION PROCESS

January 11, 2007

Contract Number:	06-5-07-2395	Project:	
Contractor:	04158	UTAH STATE NATURAL RESOURCES	
Contract Title:	UT PB ENERGY EFFICIENT PROG GRANT AWARD CC BLDG		
Monitor:	ALDEN BREINHOLT		

Please complete your Step and forward to the next Step.

STEP 1	ACCOUNTING DIVISION - Encumber Funds
<i>Award Documents</i> <i>No encumbrance necessary</i>	I certify that funds are available. _____ OR Accounting Signature _____ Date _____ I certify that no encumbrance is required at this time and any future encumbrance will be checked against available budget by the accounting system. <i>Elaine Helman</i> 1/18/07 Accounting Signature _____ Date _____ Funding Source: _____ Dept Cost Center Object Code \$ <u>0</u> Attach additional paperwork if more funding sources are needed. Limit \$ _____

STEP 2	CITY ATTORNEY'S OFFICE - Final Approval
<i>Leave Blank</i> <i>For</i> <i>Date Stamp</i>	Attorney: <u>Melanie Reef</u> Insurance Required: N Perf Bond Required: N Pmt Bond Required: N This document has been approved as to form. <u>Melanie Reef</u> Jan 17, 2007 Attorney's Signature _____ Date _____

STEP 3	MAYOR'S OFFICE - Sign Document
<i>Leave Blank</i> <i>For</i> <i>Date Stamp</i>	INSTRUCTIONS: <u>Sign ALL documents.</u> Authorized Signer: <u>None Required</u> Name _____ Dept/Div _____ <u>Forward ALL Signed documents to the Recorder's Office</u>

STEP 4	RECORDER'S OFFICE - Activate
<i>Leave Blank</i> <i>For</i> <i>Date Stamp</i>	INSTRUCTIONS: When activated, keep 1 signed document, send other signed document(s) to: <u>Shirley Collins</u> <u>HANO</u> <u>6150</u> Name _____ Department or Division _____ Phone _____



State of Utah

Department of Natural Resources

MICHAEL R. STYLER
Executive Director

Utah Geological Survey

RICHARD G. ALLIS, PH.D.
*State Geologist/
Division Director*

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

November 13, 2006

Mr. Alden Breinholt
Salt Lake City Corporation, Facilities
248 East 600 South
Salt Lake City, UT 84111

Dear Mr. Breinholt:

Our review team has completed its evaluation of the applications that the State Energy Program received for grants under the Utah Public Building Energy Efficiency Pilot Program. We received ten applications, of which four full and two partial awards were made.

Of the three projects that Salt Lake City Corporation submitted, we have decided to award two \$15,000 grants; one for the RTU and associated upgrades for the West Side Senior Center and the second for HVAC and lighting improvements at the Plaza 349 Building. The project proposed for the City/County Building was not selected.

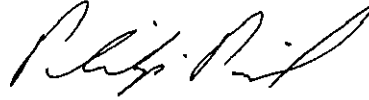
We will begin preparing contracts for the West Side Senior Center and Plaza 349 projects shortly. Included in each contract will be a Scope of Work that conforms with the project as outlined in the energy audits included with your applications. Please note that our grant program will operate on a reimbursement basis and that you will need to submit a request for reimbursement after each project is completed and has been verified. You may begin the projects at your convenience, however, please be aware that in the event that a contract is not completed we will not be legally bound to provide grant funds. If any project is dependent upon receiving our funding, you may wish to wait for the completion of a contract before proceeding. We expect to have contracts completed early in 2007. If, for some reason, you wish not to accept either grant, please inform us immediately, otherwise we will proceed with contracting.

Finally, please note that per the original RFP for the grant program that project reporting is required for two years after the completion of each project in order for us to measure actual energy savings and gauge the effectiveness of the program. The RFP contains a simple reporting format that can be used to report pre- and post-project energy use and costs. Reporting will be required quarterly.

Page 2
November 13, 2006
Subject:

Thank you for your applications and we look forward to working with you in the coming months.

Sincerely,

A handwritten signature in black ink, appearing to read "Philip Powlick". The signature is fluid and cursive, with the first name "Philip" and last name "Powlick" clearly distinguishable.

Philip Powlick, Manager
State Energy Program

**Utah Public Building
Energy Efficiency
Pilot Program
Application Cover
Sheet**

Organization
Name: Salt Lake City Corporation, Facilities

Business Address: 248 East 600 South
Salt Lake City, UT. 84111

Business Phone: 801-535-7280

Primary Business Manager:* or Contact

Name: Alden Breinholt

Title: Facilities Services Director

Phone: 801-535-6163

E-Mail: alden.breinholt@slcgov.com

Primary Project Manager** or Contact

Name: Jim Cleland

Title: Energy Coordinator

Phone: 801-535-6631

E-Mail: jim.cleland@slcgov.com

Name of Building for
Project: Plaza 349

Project Building Address: 349 South 200 East
Salt Lake City, UT. 84111

Grant Amount Requested: \$15,000.00

**Utah Public Building Energy Efficiency Pilot Program
Cost Proposal and Budget**

<u>Cost Component</u>		<u>Item Cost</u>	<u>SEP Share</u>	<u>Applicant Cost Share*</u>
Equipment	(See Itemized sheet)	\$ 139,467.00	\$ (15,000.00)	\$ 233,100.00
Installation		\$ -		
Other Software / Hardware		\$ -		
Engineering & Design		\$ 10,000.00		\$ 10,000.00
Energy Audit		\$ -		\$ -
Other Expenses	(5%Contingency)	\$ 12,150.00		\$ 12,150.00
Total Costs		\$ 161,617.00	\$ (15,000.00)	\$ 255,250.00

ENERGY EFFICIENCY INITIAL SITE VISIT REPORT

**Energy Efficiency Measures For
Salt Lake City Corporation's Plaza 349
349 South Second East
Salt Lake City, Utah**



Presented to



SALT LAKE CITY

Sponsored by:



**Energy FinAnswer® Program
Project No.: 4700000416**

Submitted by:



DENVER • SALT LAKE CITY • ATLANTA

September 29, 2006

Disclaimer

The intent of this initial site visit report (ISVR) is to provide preliminary estimates of energy savings associated with recommended upgrades to the heating ventilating air conditioning (HVAC) systems, daylighting system controls, and building envelope for the Salt Lake City Corporation's Plaza 349 building. While the preliminary recommendations in this report have been reviewed for technical accuracy and are believed to be reasonably accurate, the findings are preliminary estimates and actual results may vary. As a result, E M C Engineers, Inc. and Rocky Mountain Power are not liable if projected estimated savings or economics are not actually achieved. All savings and cost estimates in the report are estimated and for informational purposes, and are not to be construed as a design document or as guarantees.

Salt Lake City Corporation shall independently evaluate any advice or direction provided in this report. In no event will Rocky Mountain Power and/or E M C Engineers, Inc. be liable for the failure of the customer to achieve a specified amount of energy savings, the operation of the customer's facilities, or any incidental or consequential damages of any kind in connection with this report or the installation of recommended measures.

Contacts

Salt Lake City Corporation - Contacts:

The contact assisting in the preparation of this report:

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Energy Coordinator
Salt Lake City Corporation
248 E. 600 So.
Salt Lake City, UT. 84111
Phone: 801-535-6631
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Jim.Cleland@slcgov.com

Rocky Mountain Power Contacts:

The project manager is:

Mr. Trig Soleim
PacifiCorp
825 NE Multnomah, Suite 600
Portland, Oregon 97232
Phone: 503-813-5109
Fax : 503-813-5230
Trig.Soleim@PacifiCorp.com

Report Preparation

This report was prepared by:

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Cell Phone: 303-910-1193
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aniemeyer@emcengineers.com

Report Review:

This report was reviewed by:

Jim Hood
E M C Engineers, Inc.
3404 Marinda Way
Salt Lake City, Utah 84121
Phone: 801-783-4465
Cell Phone: 801-703-8578
jhood@emcengineers.com

Executive Summary

This report presents the initial evaluation of proposed Energy Efficiency Measures (EEMs) for Salt Lake City Corporation's building, Plaza 349, located at 349 South 200 East, Salt Lake City, Utah. Plaza 349 is a six story, 71,000 sq. ft. office building. The building has an attached three level parking garage.

Jim Hood from EMC Engineers participated in an initial orientation meeting with Salt Lake City Corporation staff, Jim Cleland, Terry Manning and Ross Whitaker. Mr. Hood conducted other visits with Ross Whitaker to analyze the existing operations of the building.

The following EEMs were identified for the HVAC systems, facility lighting control, and building envelope.

EEM #1 – Install New Rooftop AHUs with Economizers and Evaporative Condensers

This building was built around 1979 and has the original rooftop air handling units, two (2) 90 ton McQuay applied rooftop systems. As the compressors were replaced two years ago, there is no urgent replacement requirement. Each AHU has a variable volume fan system with a blow-through cooling coil. Variable air volume (VAV) boxes are located throughout the building and are controlled by the DDC system. This EEM predicates the energy savings of replacing these units based on the improved efficiency and better operations of the new AHUs. The new AHUs will include an optional component, the evaporative condenser, which provides energy savings by improving the kW/ton for an air-cooled system. The new units with the evaporative condenser will have an efficiency of 0.8 kW/ton; whereas, the existing unit has an efficiency of 1.3 kW/ton. With the newer models, fan horsepower has also improved.

Rooftop AHU	Existing	New
Supply Fan (36,000 CFM)	48 HP	36 HP
Return Fan (33,000 CFM)	26 HP	22 HP

Outside air control for ventilation purposes will also be improved. Low leak dampers and the adjustable set point for minimum fresh air from 0% to 30% provide for additional savings. The existing AHUs are providing 47% minimum fresh air. The new units will be set for 5%.

EEM #2 – Upgrade DDC System

The existing DDC system is a Johnson Controls Companion system that has the ability to monitor the rooftop air handlers and select zone temperatures. This EEM proposes to upgrade or replace the existing, tiered text-based DDC system with one that is a robust, Web-based operating system. An upgraded DDC system will improve the building operations by optimizing zone control, centralizing the control of space temperature and allowing implementation of energy efficiency measures, such as setbacks and reset schedules, through control algorithms. As part of this EEM, the following energy efficiency measures are also included:

- Reset space temperatures for the cooling season from 72°F to 76°F.
- Provide night setback controls for AHUs, where the space temperature set points are set at 88 °F for cooling and 55 °F for heating.

- Provide supply air temperature reset schedule varying with outside air temperature, such that as outside air temperature varies from 35°F to 85°F, the supply air temperature varies proportionately from 65°F to 55°F.
- Incorporate "unoccupied" and "semi-occupied" modes into AHU control. "Unoccupied" mode will shutdown AHU until night setback temperatures are reached. "Semi-occupied" mode has the AHU maintaining space temperatures, but outside air is shut off. The recommended new schedule would be:
 - Occupied: 0800-1700 M-F
 - Semi-Occupied: 0700-0800 & 1700-1900 M-F

Note:

The access control system can be cross-connected into the HVAC control system to enable after-hours control of individualized space conditions or override switches on the thermostats could be utilized.

EEM #3 – Upgrade Parking Garage Lighting

Replace the twenty-five 175W metal halide fixtures with T5HO fluorescent fixtures.

EEM #4 – Install Occupancy Sensors for Lighting Control

Install occupancy sensors in lobbies, hallways, and the parking garage. This measure involves the installation of 18 occupancy sensors in the hallways and elevator lobbies of Plaza 349, and the installation of 12 occupancy sensors on the first two levels of the parking garage.

EEM #5 – Install Window Film

This EEM proposes to modify the application of the window film measure evaluated by Nexant in their May 2006 ISVR. Whereas Nexant evaluated the application of window film to the entire building's fenestration, this EEM evaluates the application of film to windows to all exposures except the North side. The costs are reduced by reducing the square footage of application and as the primary cooling load penalties result from the East and West exposures.

This EEM was reevaluated by Nexant. For consistency and comprehensiveness, the Nexant analysis is presented below and shows their analysis for four different film applications.

Window Film Analysis (by Nexant)

Utah Power Rate Schedule	8
Energy Cost	\$0.02650 \$ / kWh
Demand Cost	\$ 13.143 \$ / kW May - Sept \$ 10.547 \$ / kW Oct - April

						Annual Cost Savings			Installed Cost ² [\$]	Simple Payback before Program Incentive [yr]
EEM No.	Energy Efficiency Measure (EEM)	Include in package?	Peak Demand Savings ¹ [kW]	Average Hourly Demand Savings [kW]	Annual Electric Savings [kWh / yr]	Demand Charges [\$ / yr]	Energy Charges [\$ / yr]	Total [\$ / yr]		
1	3M P-18ARL	NO	32.0	16.0	77,861	\$ 2,233	\$ 2,063	\$ 4,296	\$ 55,673	13.0
2	CP Films R20	NO	35.4	17.7	86,057	\$ 2,470	\$ 2,281	\$ 4,750	\$ 62,492	13.2
3	CP Films R35	NO	25.3	12.7	61,489	\$ 1,765	\$ 1,629	\$ 3,394	\$ 62,492	18.4
4	CP Films DR25	NO	21.1	10.6	51,224	\$ 1,472	\$ 1,357	\$ 2,830	\$ 62,492	22.1

1. Average monthly on-peak summer demand savings between 7 AM & 11 PM, Monday thru Friday for UT
2. EEM installed costs reflect incremental costs for the EEM.

Energy Incentive Rate	\$ 0.12	\$/kWh Energy Savings
Peak-Period Demand	\$ 50	\$/kW Peak-Period Demand Savings
Incentive Cap	50%	Percent of Total EEM Installed Cost

Utah Power Incentive Calculation										
EEM No.	Energy Efficiency Measure (EEM)	Include in package?	Energy Incentive (a)	On-Peak Demand Incentive (b)	Incentive Based on Savings (c=a+b)	50% EEM Cost Incentive Cap (d)	Estimated Utah Power Incentive (e=min c,d)	Estimated EEM Installed Cost after Incentive (f=d/cap-e)	Estimated Incentive as % of EEM Installed Cost (g=e/2*d)	Simple Payback after Program Incentive [yr]
1	3M P-18ARL	NO	\$ 9,343	\$ 800	\$ 10,143	\$ 27,836	\$ 10,143	\$ 45,530	18%	10.6
2	CP Films R20	NO	\$ 10,327	\$ 885	\$ 11,212	\$ 31,246	\$ 11,212	\$ 51,280	18%	10.8
3	CP Films R35	NO	\$ 7,376	\$ 633	\$ 8,009	\$ 31,246	\$ 8,009	\$ 54,483	13%	16.1
4	CP Films DR25	NO	\$ 6,147	\$ 528	\$ 6,674	\$ 31,246	\$ 6,674	\$ 55,817	11%	19.7

Notes:

- | | |
|---|-------------------------|
| 1 Baseline glass SC 0.66 | 4 CP Films-R20: SC0.24 |
| 2 P-18ARL SC: 0.28 | 5 CP Films R35: SC0.36 |
| 3 P-18ARL film installed cost is \$4/ft2. | 6 CP Films DR25: SC0.41 |

EEM Energy Savings and Costs

Table 1 below summarizes the budget level estimated energy savings and costs for the proposed EEMs. These numbers are intended for planning purposes only. Further analysis is required to refine these numbers for an investment decision and implementation. Please note that EEMs #1 and #2 are interactive, but the savings expressed in this report show results that do not respect the interaction. Total savings would be somewhat less if both measures are implemented.

Table 1. Budget Level Estimated Electric Energy Savings and Costs

Utility Rate Schedule: Utah Schedule	8
Energy Unit Cost:	\$ 0.028296 /kWh
Demand Unit Cost:	\$ 11.534 /kW-month

EEM No.	EEM Description	Recommended Package (Yes / No)	Estimated Peak Demand Reduction (kW/mo)	Estimated Annual Energy Savings (kWh/yr)	Estimated Annual Demand Cost Savings (\$)	Estimated Annual Energy Cost Savings (\$)	Estimated Total Annual Electric Cost Savings (\$)	Estimated Installed Cost (\$)	Estimated Pre-Incentive Payback (yrs)	Estimated Utah Power Incentive (\$)	Estimated Installed Cost after Incentive (\$)	Incentive % of Estimated Installed Cost	Estimated Payback After Incentive (yrs)
1	New RTUs w/ Evaporative Condensers	Yes	88.7	268,900	\$12,272	\$7,071	\$19,343	\$147,700	7.6	\$36,702	\$110,998	24.8%	5.7
2	DDC System Upgrade	Yes	72.4	360,130	\$10,021	\$9,470	\$19,491	\$74,400	3.8	\$37,200	\$37,200	50.0%	1.9
3	Upgrade Parking Garage Lighting	Yes	2.2	19,340	\$306	\$509	\$814	\$6,400	7.9	\$2,431	\$3,969	38.0%	4.9
4	Install Occupancy Sensors for Lighting Control	Yes	0.0	28,800	\$0	\$757	\$757	\$4,600	6.1	\$2,300	\$2,300	50.0%	3.0
5	Install Window Solar Film	No	16.0	77,860	\$2,215	\$2,047	\$4,263	\$55,673	13.1	\$10,143	\$45,530	18.2%	10.7
Total for Recommended Package:			163.3	677,170	\$22,599	\$17,807	\$40,406	\$233,100	5.8	\$78,633	\$154,467	33.7%	3.8

Table 2 provides the budget level, estimated natural gas energy savings and costs for the Existing EEMs, along with the electric energy savings. These numbers are intended to show the effect of natural gas savings on the overall project economics.

Table 2. Budget Level Estimated Natural Gas Energy Savings and Costs

EEM No.	EEM Description	Recommended Package (Yes / No)	Estimated Annual Nat Gas Energy Savings (MMBtu/yr)	Estimated Annual Nat Gas Cost Savings (\$)	Estimated Total Annual Electric Cost Savings (\$)	Total Cost Savings w/ Elec & Nat Gas (\$)	Estimated Installed Cost after Incentive (\$)	Estimated Payback After Incentive w/ Nat Gas Svgs (yrs)
1	New RTUs w/ Evaporative Condensers	Yes	457	\$4,279	\$19,343	\$23,622	\$110,998	4.7
2	DDC System Upgrade	Yes	792	\$7,421	\$19,491	\$26,912	\$37,200	1.4
3	Upgrade Parking Garage Lighting	Yes	0	\$0	\$814	\$814	\$3,969	4.9
4	Install Occupancy Sensors for Lighting Control	Yes	0	\$0	\$757	\$757	\$2,300	3.0
5	Install Window Solar Film	No	0	\$0	\$4,263	\$4,263	\$45,530	10.7
Total for Recommended Package:			1,249	\$11,700	\$40,406	\$52,105	\$154,467	3.0

Nat Gas (\$/MMBtu): \$ 9.3700 from latest Commercial Utah rates

What to do now?

1. Review this report with key staff including the person/people with the budget approval level for a project of this size.
2. Determine if some/all of the Existing energy efficiency measures have a high likelihood of receiving Lowe's Home Improvement Warehouse funding approval within 1-6 months of completion of a more detailed energy analysis report.
3. Contact Rocky Mountain Power to discuss this Initial Site Visit report, implementation budgets, and plans. Based on input regarding commitment to the project from Lowe's Home Improvement Warehouse, Rocky Mountain Power will determine if the project will proceed to the energy analysis phase.

About Rocky Mountain Power's Incentives

Rocky Mountain Power incentives may be available for eligible energy efficiency measures with a simple payback greater than one year (before incentive). These incentives are summarized below:

Schedule 125

Energy incentive:	\$0.12/kWh annual electric savings
Demand incentive:	\$50/KW average monthly on-peak demand savings
Incentive cap:	50% of energy efficiency measure costs

Incentives are calculated separately for each measure. In the case of new construction and some retrofits, the measure cost is the incremental cost of energy efficiency upgrades over the cost of standard or "baseline" equipment. Commissioning according to guidelines provided by Rocky Mountain Power in the Energy Analysis report is required for many measures to be eligible for a full incentive. Commissioning helps ensure measures are operating as intended and delivering the expected savings. *To be eligible for incentives, customers must receive an Energy Analysis report and sign a Rocky Mountain Power incentive agreement prior to signing equipment purchase orders or making other financial commitments to proceed with the project.*

Note: This report contains a preliminary incentive estimate for planning purposes, but it does not contain an incentive offer from Rocky Mountain Power. Rocky Mountain Power will provide any incentive offer in an Energy Analysis report. The incentive paid will be per the terms of a fully executed incentive agreement and based on Rocky Mountain Power's post-installation inspection report findings of costs and savings.

The electric utility rate schedule used in the analysis is Utah Schedule 6. The unit costs for electricity are \$0.026296 per kWh and \$ 11.534 per kW. The natural gas rate is \$9.37 per million Btu (MMBtu).

Initial Estimated EEM Energy Savings

Energy efficiency measures #1 and #2 were analyzed using a temperature bin model. Lighting measures #3 and #4 were analyzed using a spreadsheet.

The electric energy savings were estimated at 677,170 kWh annually for the recommended EEM package. The electric demand reduction was estimated at 163.3 kW, and the natural gas energy savings were estimated at 1,249 MMBtu annually. The total annual cost savings for electric and natural gas were estimated at \$52,105.

Initial Estimated Implementation Cost Estimates

EEM #1 – Install New Rooftop AHUs with Economizers and Evaporative Condensers

The total retrofit cost for the replacing the rooftop air handler units is approximately \$144,000 and another \$3,700 for commissioning. The implementation of this EEM also includes programming of the economizer and the minimum fresh air setting at 5%.

EEM #2 – Upgrade DDC System

The total cost for this measure is estimated as \$74,400. It is based on the following breakdown.

- The cost to install the DDC space temperature sensors for the 68 zones presently in the building and to program the DDC system is estimated as \$62,900. Of this amount, \$1,700 is budgeted for commissioning.
- The cost for programming the night setback cooling set point to 88 °F and the heating set point to 55 °F and is estimated to be \$1,200.
- The cost for implementing a supply air temperature reset schedule is based on installing the DDC temperature sensors and programming the DDC system and is estimated to be \$7,300.
- To optimize the air handler scheduling, the cost involves the expense of a controls technician to program into DDC system. \$2,000 is estimated for programming and \$1,000 for commissioning for a total cost of \$3,000.

EEM #3 – Upgrade Parking Garage Lighting

The total implementation cost for upgrading the parking garage lighting is approximately \$6,400. The implementation would include the removal of twenty-five 175W metal halide fixtures and replacing them with T5HO fluorescent fixtures.

EEM #4 – Install Occupancy Sensors for Lighting Control

The cost for this measure is based on the installation of 18 occupancy sensors in the hallways and elevator lobbies of Plaza 349, and the installation of 12 occupancy sensors on the first two levels of the parking garage. The estimated cost for this measure is \$4,600.

Steps for the Energy FinAnswer program:

1. Review this report and assess interest/commitment to proceed

- ❑ Review this Initial Site Visit report with key staff including the person with the budget approval level for a project of this size.
- ❑ Determine if some/all of the Existing energy efficiency measures have a good likelihood of receiving funding approval within approximately 1-6 months of completion of a more detailed energy analysis report.
- ❑ Contact Rocky Mountain Power to discuss this Initial Site Visit report and implementation budgets and plans. Based on your input, Rocky Mountain Power will determine if the project will proceed to the energy analysis phase.

2. Energy Analysis to refine preliminary estimates

- ❑ If appropriate, Rocky Mountain Power will provide you with an energy analysis proposal for your review. It will include an energy analysis scope, costs and a schedule. Rocky Mountain Power pays for the energy analysis report.
- ❑ If appropriate, Rocky Mountain Power will contract with a consultant to complete the energy analysis report. The report will include recommended energy efficiency measures, estimated implementation costs and savings, an incentive offer, and commissioning requirements.

3. Implementation decision and sign incentive agreement

- ❑ Review the content of the Energy Analysis report and make a decision on implementation. Rocky Mountain Power and our engineering consultant are available to answer questions.
- ❑ Contact Rocky Mountain Power to discuss your decision and implementation schedule. Request an incentive agreement if you plan to proceed with implementation.
- ❑ **To be eligible for incentives, sign the Rocky Mountain Power Incentive Agreement prior to signing purchase orders for equipment.**

4. Procurement, installation, and commissioning

- ❑ Provide Rocky Mountain Power with copies of purchase orders/signed contracts with installers by the date specified in your incentive agreement.
- ❑ Contact Rocky Mountain Power during project implementation if there are changes affecting the energy savings potential of the project, costs, or the schedule.
- ❑ Complete the installation and provide written notice of completion to Rocky Mountain Power by the date specified in your incentive agreement.
- ❑ Complete commissioning according to plan provided by Rocky Mountain Power. (The customer pays for commissioning as part of the implementation cost of the measures.)

5. Post-Installation inspection and incentive payment

- ❑ Provide Rocky Mountain Power with commissioning submittals and a cost summary plus copies of invoices documenting costs by EEM with labor and material itemized
- ❑ Rocky Mountain Power (or a consultant hired by Rocky Mountain Power) will contact you to schedule a post-installation inspection of installed energy efficiency measures
- ❑ Rocky Mountain Power will review the inspection results, commissioning submittals, and invoices. Rocky Mountain Power will mail an incentive payment within 45 days of satisfactory review of the inspection results and project invoices. Rocky Mountain Power will send you the inspection report.

Salt Lake City Corporation
CAMP DOCUMENT ROUTING FORM
CITY SIGNATURE AND ACTIVATION PROCESS

January 11, 2007

Contract Number:	06-5-07-2394	Project:	
Contractor:	04158 UTAH STATE NATURAL RESOURCES		
Contract Title:	UTAH PUB BLDG ENERGY EFFICIENCY PROG. GRANT AWARD		
Monitor:	ALDEN BREINHOLT		

Please complete your Step and forward to the next Step.

STEP 1	ACCOUNTING DIVISION - Encumber Funds
<i>Account Document</i> <i>No encumbrance</i> <i>Necessary</i>	I certify that funds are available. _____ Date _____ OR Accounting Signature I certify that no encumbrance is required at this time and any future encumbrance will be checked against available budget by the accounting system. _____ Date _____ <i>Elmer D. Heilman</i> 1/15/07 Accounting Signature Date Funding Source: _____ Dept Cost Center Object Code \$ <u>0</u> Attach additional paperwork if more funding sources are needed. Limit \$ _____

STEP 2	CITY ATTORNEY'S OFFICE - Final Approval
<i>Leave Blank</i>	Attorney: <u><i>Melanie Reif</i></u> Insurance Required: N Perf Bond Required: N Pmt Bond Required: N This document has been approved as to form. <u><i>Melanie Reif</i></u> Jan. 17, 2007 Attorney's Signature Date

STEP 3	MAYOR'S OFFICE - Sign Document
<i>Leave Blank</i>	INSTRUCTIONS: Sign ALL documents. Authorized Signer: <u><i>None Required</i></u> Name Dept/Div <u>Forward ALL Signed documents to the Recorder's Office</u>

STEP 4	RECORDER'S OFFICE - Activate
<i>Leave Blank</i>	INSTRUCTIONS: When activated, keep 1 signed document, send other signed document(s) to: <u><i>Sherrin Collins</i></u> <u><i>HAND</i></u> <u><i>60150</i></u> Name Department or Division Phone

December 11, 2006

Mr. Philip Powlick, Manager

Utah Energy Program
1594 West North Temple, Suite 3110
P.O. Box 146100
Salt Lake City, UT. 84114-6100

Dear Mr. Powlick:

.The purpose of this letter is to respond to the Request for Proposals issued in July of 2006 for grant funds for projects involving energy efficiency upgrades to existing public buildings. We are applying for grant funds for an HVAC upgrade project for the Westside Senior Citizen's Center located at 868 West 900 South, Salt Lake City, UT. Please find the enclosed application documents outlining this project. If you have any questions you can contact me at 801-535-6631.

Sincerely,

Jim Cleland
Energy Coordinator

CC: K. Bergstrom
V. Bennett
A. Breinholt



Table of Contents

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	Itemized Costing Sheet	8
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	Initial Site Visit Report	16
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Appendix A	Calculations	
Appendix B	Vendor Quotes	

**Utah Public Building
Energy Efficiency
Pilot Program
Application Cover
Sheet**

Organization Name: Salt Lake City Corporation, Facilities
Business Address: 248 East 600 South
Salt Lake City, UT. 84111
Business Phone: 801-535-7280

Primary Business Manager:* or Contact

Name: Alden Breinholt
Title: Facilities Services Director

Phone: 801-535-6163

E-Mail: alden.breinholt@slcgov.com

Primary Project Manager or Contact**

Name: Jim Cleland

Title: Energy Coordinator

Phone: 801-535-6631

E-Mail: jim.cleland@slcgov.com

Name of Building for Project: Westside Senior Citizen's Center
Project Building Address: 868 West 900 South
Salt Lake City, UT. 84104

Grant Amount Requested: \$15,000.00

Comments: Energy incentives will be paid by Rocky Mountain Power.
SEP Grant funds are tentative upon review and selection committee approval

Project Narrative

The building identified and targeted by Facilities Services for energy efficiency improvement is the Westside Senior Citizens Center located at 868 West 900 South, Salt Lake City, Utah. This facility is owned by the Salt Lake City Corporation and the programs are provided by Salt Lake County Department of Aging Services. The Center is the place where local Senior Citizens come to receive community services such health, nutrition and education programs, legal services, organized trips, social activities and other social interactions.

The building was originally constructed in 1977. The roof structure had a pitched section in the center and a large section of flat roof in the front of the building. All three packaged heating and cooling units serving the building were located on the flat section of the roof outdoors. The pitched roof drained onto the flat section overwhelming the roof drains and flooding into the building. The structural integrity of the building is adequate. The internal systems of the building are sound and in good condition. In 1993 a significant improvement was made to the exterior envelope with a roof conversion. The flat roof section was converted to a pitched roof. Skylights were extended to meet the new pitched roof and all of the roof-top packaged heating and cooling units were enclosed within the attic structure. The original 1977 Lennox heating and cooling units were designed before significant energy efficiency technology was integrated into HVAC systems. These units were also designed to be operated in an open air environment. After these units were enclosed the airflow and intake air temperature was significantly altered.

The purpose of this project is to reduce energy consumption thereby reducing overall operational expenses. The scope of work would include the engineering and replacement of the antiquated heating and cooling units. Installation of a DDC control system for heating and cooling. Lighting controls for occupancy and operational control.



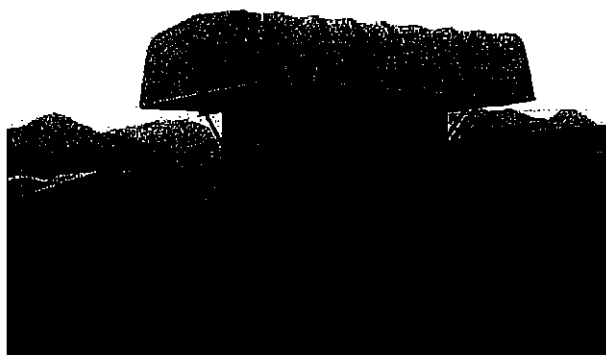
South Facing building entrance



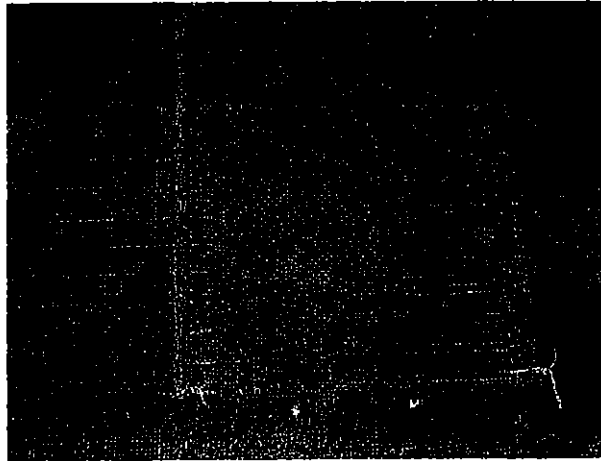
South Facing Windows



Skylights



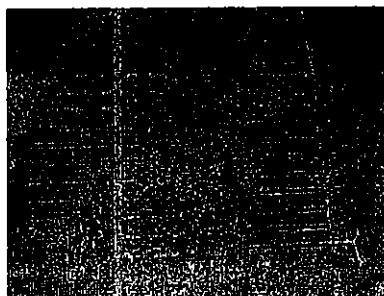
Attic Roof Exhaust Fan



Attic Gable Exhaust Fan



Heating and Cooling Units in the attic



Restricted air-flow in attic

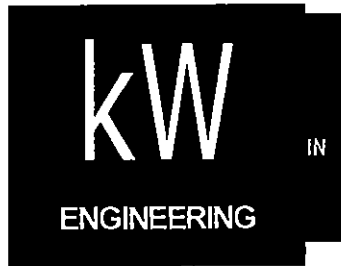
**Utah Public Building Energy Efficiency Pilot Program
Cost Proposal and Budget**

<u>Cost Component</u>		<u>Item Cost</u>	<u>SEP Share</u>	<u>Applicant Cost Share*</u>	<u>Incentives & 3rd Party Cost Share</u>
Equipment	(See Itemized sheet)	\$ 107,888	\$ (15,000)	\$ 89,808	\$ (3,080)
Installation		\$ -			
Other Software / Hardware		\$ -			
Engineering & Design		\$ 4,000		\$ 4,000	
Energy Audit		\$ 2,810		\$ 2,810	
Other Expenses	(5%Contingency)	\$ 5,538		\$ 5,538	
Total Costs		\$ 102,236	\$ 15,000	\$102,156	\$ 3,080

Comments: Energy incentives will be paid by Rocky Mountain Power.
SEP Grant funds are tentative upon review and selection committee approval

**Utah Public Building Energy Efficiency Pilot Program
Itemized Cost Proposal and Budget**

Item Description	Company Name	Qty	Price	Extended Price
Initial Site Visit Report	Rocky Mountain Power	1	\$ -	\$ -
Energy Analysis	KW Engineering	1	\$ 2,810.00	\$ 2,810.00
Lennox High Efficiency System 50.5Ton	Comfort Systems USA	1	\$ 87,560.00	\$ 87,560.00
Site Preparation	Comfort Systems USA	1	\$ 3,943.00	\$ 3,943.00
Direct Digital Controls	Utah Controls	1	\$ 14,850.00	\$ 14,850.00
Lighting Controls		1	\$ 1,320.00	\$ 1,320.00
Engineering and Re-commissioning	EMC	1	\$ 4,000.00	\$ 4,000.00
Contingency		1	\$ 5,538.00	\$ 5,538.00
Inflation 1.5%		1	\$ 1,804.00	\$ 1,804.00
				\$ -
Total Estimated Expenses				\$ 121,825.00



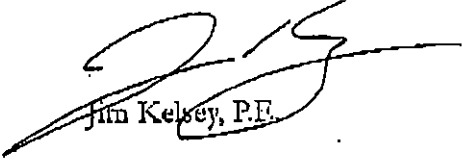
October 10, 2006

Salt Lake City Corporation
Attn: Jim Cleland, Energy Coordinator 248 E. 600 South
Salt Lake City, UT 84111

Dear Mr. Cleland:

Attached is our invoice for work performed through October 2006 for the . Westside Senior Citizen Center project, cinder Purchase Order Number 07]=.0080.

Please give me a call if you have any questions regarding the invoice, Sincerely,



Jim Kelsey, P.E.

Enclosure: Invoice

Invoice

Date	Invoice #	Project	Westside Senior Citizen
10/10/2006	1472	kW Job #	2010-06bz8
		Period	All

Bill To		Clients	Westside Senior Citizen Center PO Number: 07E0080	
Salt Lake City Corporation c/o Jim Cleland Energy Coordinator 2 4 8 E. 600 S. Salt Lake City, UT 84111			Terms	Net 30
Item	Qty	Description	Rate	Amount
Consulting	4	Hourly Labor - Sean	117.50	470.00
Consulting	24	Hourly Labor - Sanjiv Devnani	97.50	2,340.00
Thank you for your business	Total			\$2,810.00

10-10-06

SLC Corporation
Jim Cleland
SLC, Utah 84116
RE: SLC Senior Center TAC Building Automation System

Dear Mr. Cleland,

Thank you for the opportunity to provide you with this proposal. We appreciate the opportunity to work with you and look forward to helping you with your facilities control system needs.

It is the intent of this proposal to provide a TAC LonWorks DDC control system for the new AHU systems being installed in this facility. The system will be controlled from the city's control host computer.

This proposal base bid includes the following scope of work

1. Control of new Roof Top Units (RTU) to include start/stop, heating and cooling stages, discharge air temp, status and remote temp sensor.
2. Interface router to allow remote access and operator control of the system from the city's TAC network including graphics.

Sequence of operation programming,

We will program, validate, review and modify each sequence of operation to ensure proper operation and compliance to your requirements. If necessary we will reprogram any system that does not meet or comply with the written sequence of operation.

Graphics package,

We will design and create a graphic representation for system in the DDC System. Graphics pages will be linked to the main page for detailed information. We will review our proposed graphic package with you prior to the creation, to gain your approval.

Calibrate and functional test all devices

We will perform a calibration on each sensor and or analog device to verify accuracy and functionality. Each device in the system will be evaluated and tested for proper application and operation in the system.

Perform a point-to-point check out of all equipment and validate accuracy

We will perform a point-to-point check out including documentation of all equipment related to the DDC control system to validate accuracy and compliance to your requirements.

Commissioning

Verification of proper installation of all equipment, point verification

and calibration, system/sequence of operation verification with respect to specified operation, and network/workstation verification.

Documentation

Provide commissioning step documentation as required and updated maintenance drawings.

Training

On site training curriculum consisting of a review of the project, the control system software layout, and a walk through of the facility to identify panel and device locations.

Cost Estimate \$ 14,850.00

This proposal specifically excludes the following

It is our understanding that all control peripheral devices (valves, damper actuators, sensor wells, and like items) are installed, terminated, and functional.

If any additional devices are required to meet the system requirements, sequence of operation, or if any device is in need of repair, these items shall be provided under a separate contract mutually agreed upon with the owner.

We understand that the information obtained for our base bid was preliminary and is subject to change. Work requested outside this proposal will be billed at our State of Utah contract rate \$ 67.50 per hour and cost plus 15%on materials.

Thank you again for your interest in having our company provide this addition to your automated control system. By selecting our company to commission and complete your DDC control system for your facility, you will be assured that your systems demands will be well supported in the future.

Sincerely,

David Rossiter
President



Comfort Systems USA Intermountain

A Comfort Systems USA Company

Agreement: Page 1 of 5

Company

Comfort Systems USA, Intermountain
2035 S. Milestone Drive
Salt Lake City, UT 84104

Proposal Date: October 09, 2006

Proposal Number: P00128

Phone: (801)-412-4122

Fax:

Bill To Identity

Salt Lake City - Public Services
Facilities Services
248 East 600 South
Salt Lake City, UT 84111
ATTN: Jim Cleland

Agreement Location

Westside Senior Center
875 West 900 South
Salt Lake City, UT
% Sanjiv "Sunny" Devnani
Facilities

WE ARE PLEASED TO SUBMIT OUR PROPOSAL TO PERFORM THE FOLLOWING :

OUR PROPOSAL INCLUDES:

1. Install Lennox, Carrier or Trane (see options below) rooftop units to replace the existing 3 units - 13, 18 and 22 ton systems. We will:
 - a. Provide curbs for each unit
 - b. Smoke Detectors
 - c. Thermostats
 - d. Economizers for each system.
2. Ductwork - Connect to existing ductwork using:
 - a. 22 Ga Sheetmetal. Estimated 50 sheets
 - b. Fiberglass insulation of all ductwork and transitions.
 - c. Duct Mate - Approximately 600' required.
 - d. Misc. Items, installation of systems - roughly 60' per unit required for both return air and supply air.
3. Electrical
 - a. Provide new 3 phase disconnects
 - b. Extend power through the roof to new disconnects and units.
 - c. Wire and conduit
 - d. Labor to install.

Upon execution as provided below, this agreement, including the following pages attached hereto (collectively, the "Agreement"), shall become a binding and enforceable agreement against both parties hereto. Customer, by execution of this Agreement, acknowledges that it has reviewed and understands the attached terms and conditions and has the authority to enter into this Agreement.

CONTRACTOR

CUSTOMER

Signature (Sales Representative)

Signature (Authorized Representative)

Approved for Contractor:

Signature

Name (Print/Type)

Mike Ditty

Title

Name & Title

Date

Date

COMFORT SYSTEMS USA
Quality People. Proving Value.



Comfort Systems USA Intermountain
A Comfort Systems USA Company

SUPPLEMENT TO PROJECT AGREEMENT

Agreement: Page 2 of 5

Proposal Date: October 09, 2006

Proposal Number: P00128

WE ARE PLEASED TO SUBMIT OUR PROPOSAL TO PERFORM THE FOLLOWING (continued):

4. Gas Lines
 - a. Run gas from existing lines to new rooftop units.
 - b. Provide fittings, install and test.

5. Provide crane to lift new units to roof.

6. All permits, freight and taxes included.

Prices for various options:

7. Demolition - We estimate will take two guys 4 days to cut the ductwork where needs to be cut and then start demolition of existing equipment using lifts for the compressors, etc. To get to the roof and then loaded on cartage for removal. All freon will be removed per ARI guidelines. If city decides to demo, then we will need to review with the city as to where to cut the ductwork, wiring, gas lines etc.

Cost for us to demo and prep for new installation.....\$3,943.00 Yes ___ No ___

Options on Equipment:

8. Lennox Standard System for a 20 ton, 17.5 ton and 13 ton.....\$81,347.00 Yes ___ No ___

9. Lennox Hi Efficiency System or 20 ton, 17.5 ton and 13 ton.....\$87,560.00 Yes ___ No ___

10. Trane Hi Efficiency System 25 ton, 17.5 ton, 12.5 ton.....\$87,750.00 Yes ___ No ___

11. Carrier Standard Efficiency 25 ton, 17.5 ton, 12 ton.....\$83,022.00 Yes ___ No ___

12. Carrier Hi Efficiency System 25 ton, 18 ton, 12 ton.....\$94,716.00 Yes ___ No ___

13. Carrier Ultra Hi Efficiency 20 ton, 18 ton, 15 ton.....114,312.00 Yes ___ No ___

CLARIFICATIONS & EXCLUSIONS:

1. The units are expected to go roughly straight above the existing units on the new roof portion with 24" centers. Depending upon the unit chosen, we will lay-out the units to span as many trusses as possible. Any load questions will need to be referred to a structural engineer and cost is not part of this agreement.

2. Control work other than thermostat as provided by mfg is not included.

3. Changes in electrical other than extending existing. If existing electrical will not handle or there are problems with electrical, we'll discuss options and pricing.

4. Any items not specifically mentioned above.

WARRANTY: Our warranty on work performed is one (1) year, parts and labor.

TERMS OF PAYMENT: Monthly Progress Billing. Material and equipment furnished under this proposal shall remain the property of the seller until final payment has been received.

THE SERVICES ABOVE ARE GOVERNED BY THE TERMS AND CONDITIONS OF THE PROGRAM OF WHICH THIS SUPPLEMENT IS A PART.

COMFORT
SYSTEMS USA
Quality People. Building Solutions

Initial Site Visit Report

Westside Senior Citizen Center

Presented to

Salt Lake City Corporation

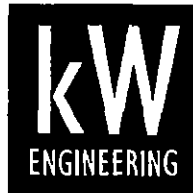
Sponsored by



Rocky Mountain Power Energy FinAnswer program

Project Number: 7452

Submitted By:



287 17th Street, Suite 300

Oakland, CA 94612

(510) 834-6420

September 12, 2006

INITIAL REPORT

Initial Site Visit Report

Westside Senior Citizen Center

Presented to

Salt Lake City Corporation

Sponsored by



Rocky Mountain Power Energy FinAnswer program

Project Number: 7452

Submitted By:



287 17th Street, Suite 300

Oakland, CA 94612

(510) 834-6420

September 12, 2006

INITIAL REPORT

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Project Understanding	21
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Initial Energy Consumption Estimates.....	22
Initial Energy Savings Measures	22
Steps for the Energy FinAnswer Program	24

Disclaimer

The intent of this initial site visit report is to provide preliminary estimates of energy savings associated with recommended upgrades to the lighting and HVAC systems at the Westside Senior Citizen Center in Salt Lake City, Utah. While the preliminary recommendations in this report have been reviewed for technical accuracy and are believed to be reasonably accurate, the findings are preliminary estimates and actual results may vary. As a result, kW Engineering, Inc. and Rocky Mountain Power are not liable if projected estimated savings or economics are not actually achieved. All savings and cost estimates in the report are for informational purposes, and are not to be construed as a design document or as guarantees.

Salt Lake City Corporation shall independently evaluate any advice or direction provided in this report. In no event will Rocky Mountain Power or kW Engineering, Inc. be liable for the failure of the customer to achieve a specified amount of energy savings, the operation of the customer's facilities, or any incidental or consequential damages of any kind in connection with this report or the installation of recommended measures.

Contacts

The following parties assisted with the development of this report:

Rocky Mountain Power Contacts

Trig Soleim
Project Manager
Utah Power
825 NE Multnomah Suite 600
Portland, OR 97232
Phone: (503) 813-5109
Email: Trig.Soleim@pacificorp.com

Customer Contact

Site Address

Jim Cleland	Westside Senior Citizen Center
Facilities Manager	868 West 900 South
Salt Lake City Corporation	Salt Lake City, UT
451 South State Street	
Salt Lake City, UT 84111	
Phone: 801-535-6631	

Energy Consultant Contact

Sanjiv Devnani
Engineer
kW Engineering, Inc.
10 West Broadway Suite 800B
Salt Lake City, UT 84101
Phone: 801-355-9312
Email: devnani@kw-engineering.com

Executive Summary

A kW Engineering Inc. representative visited Westside Senior Citizen Center in Salt Lake City, Utah to perform a preliminary evaluation of energy efficiency opportunities there. A visit to the site was performed on August 29, 2006 to collect basic information on the site and obtain copies of the as-built drawings of the facility. Two energy efficiency measures (EEMs) were developed as a result of this site visit. This document summarizes the opportunities found to date, including some costs and savings estimates for the identified EEMs.

kW Engineering identified potential EEMs in the areas of lighting and HVAC and upgrades. These recommendations are summarized in Table 1 on the following page. Installing all of the recommended measures would result in an estimated annual cost savings of \$4,649, with an overall simple payback of 2.0 years. Based on this information, we believe that there are reasons to proceed towards adoption of these measures.

Table 1 Budget Level Costs, Savings, Incentive Estimates

Rocky Mountain Power Rate Schedule **6A**
Account Number **17917866 046 002**

EEM	Measure Description	Include?	Electricity	Demand	Annual Cost	Incremental	Pre-	FinAnswer	Payback	
			Savings (kWh/yr)	Reduction (kW)	Savings	Cost	Incentive Payback (Years)	Express Incentive Net Cost	After Incentive (Years)	
1	Lighting Controls	Yes	5,996	0	\$ 456	\$ 1,320	2.9	\$ 330	\$ 990	2.2
2	Premium Efficiency RTUs	Yes	9,311	5.6	\$ 1,058	\$ 10,429	9.9	\$ 2,650	\$ 7,779	7.3
3	Programmable Thermostats	Yes	80,161	0	\$ 3,134	\$ 594	0.2	\$ 150	\$ 444	0.1
TOTAL RECOMMENDED			95,468	5.6	\$ 4,649	\$ 12,343	2.7	\$ 3,130	\$ 9,213	2.0

What to do now?

- Review this report with key staff including the person/people with the budget approval level for a project of this size.
- Determine if some/all of the proposed energy efficiency measures have a high likelihood of receiving funding approval within 1-6 months of completion of a more detailed energy analysis report.
- Contact Rocky Mountain Power to discuss this Initial Site Visit Report and implementation budgets and plans. Rocky Mountain Power will determine if the project will proceed to the energy analysis phase.

Note: This report contains a preliminary incentive estimate for planning purposes, but it does not contain and is not an incentive offer from Rocky Mountain Power. Rocky Mountain Power will provide any incentive offer once an energy analysis report is finalized. To be eligible for incentives, customers must receive an energy analysis report and sign a Rocky Mountain Power incentive agreement prior to signing equipment purchase orders or making other financial commitments to proceed with the project.

Project Understanding

Westside Senior Citizen Center is a single-story building in Salt Lake City, Utah with an approximate footprint of 16,000 ft². The facility serves as a place for approximately 80 to 100 persons to gather during the day and take part in a variety of activities and classes. The facility houses a multipurpose room, kitchen, small gymnasium, small library, offices, restrooms, and a number of classrooms. The facility is occupied Monday thru Friday from 8:00 AM to 4:00 PM except on Wednesday's when the facility is occupied till 6:00 PM.

The facility was built in 1977. The original roof on the building was in the shape of two consecutive side-gabled-roofs connected with a narrow flat-roof (shaped like an inverted "W"). The mechanical equipment is located on the flat portion of the roof. In 1993 facility personnel built an enclosure to cover the flat-roof (and HVAC equipment) to prevent accumulation of snow/water during winter months.

Lighting

The primary lighting fixtures in the building are linear T8 fluorescent fixtures. All lights in the facility are manually controlled.

HVAC

The facility is served by three packaged rooftop units (RTUs) with a total cooling capacity of 53 tons. The units operate continuously to meeting the heating and cooling needs of the facility.

At the time of the site visit we noticed that the enclosed space that houses the RTUs was considerably warmer than ambient, thus reducing the efficiency of RTUs and preventing the units from operating in economizer mode when ambient conditions allow.

Baseline Development

Lighting

The baseline for energy savings for lighting measures is based on the existing "as is" equipment and operating schedules of the facility.

HVAC

The existing equipment is old at the end of its useful life. Therefore the baseline criterion for HVAC equipment is considered to be code. The criterion is defined by the 2003 International Energy Conservation Code (IECC), Table 803.2.2 (1).

The baseline operating hours for the HVAC units is the existing operating schedule, i.e. 8760 hours/year.

Rate Schedule

The facility is on Rocky Mountain Power Rate Schedule 6A and is summarized in the table below:

Schedule 6A		
	On-Peak (\$/kWh)	Off-Peak (\$/kWh)
May-Sept	\$ 0.084174	\$ 0.025342
Oct-Apr	\$ 0.070360	\$ 0.021183
Blended Rate	\$ 0.076116	\$ 0.022916
	Demand (\$/kW)	
May-Sept	\$ 4.61	
Oct-Apr	\$ 3.86	
Blended Rate	\$ 4.1725	

Initial Energy Consumption Estimates

Baseline energy consumption is based on billing data for the past two years from Rocky Mountain Power. The annual energy consumption of the facility is summarized in the table below:

	On Hours [kWh]	Off Hours [kWh]	On-Peak Demand (kW)	Off-Peak Demand (kW)
2005	138,421	71,803	125	85
2004	134,448	58,962	126	88

Initial Energy Savings Measures

The savings estimates are based on the following potential measures. Estimated energy savings are based on brief calculations, observations, and results from similar previous projects.

EEM-1 Install Occupancy Sensors

Occupancy sensors can save energy by turning off lights in unoccupied rooms. The sensors detect the presence of people and keep the lights on as long as the room is occupied. Lights are turned off automatically, following a pre-set time interval, after the room is vacated.

Specific equipment changes

- Specify ceiling-mounted PIR sensors for classrooms, multipurpose hall and library.
- Specify wall-box, PIR sensors for private offices and storage areas.

EEM-2: Install Premium Efficiency Rooftop Units

We recommend installing high efficiency rooftop package units to meet the heating and cooling requirements of the facility. The new units must be installed on the roof of the facility and be open to ambient conditions.

The energy savings are estimated as the difference in energy use between the proposed and code compliant RTU's. The cost savings shown in Table 1 are similarly based on the difference in code compliant and proposed RTU's. Actual energy and cost savings at the site will be much higher because the existing RTU's are not as efficient as is required by code for a replacement. Additionally the client will see natural gas savings due to the reduced operating hours of RTU's.

Specific equipment changes

The proposed RTU's must have energy efficiency ratios (EERs) that meet or exceed the minimum efficiency requirements set forth by Rocky Mountain Power's FinAnswer Express program. The minimum efficiency requirements are listed in the table below:

Rooftop Unit ID	Capacity (tons)	Base Case EER	Minimum Efficiency Requirements (EER)
A	22	9.5	10.0
B	13	9.7	10.8
C	18	9.7	10.8

EEM-3: Install Programmable Thermostats

There is no need for the RTU's to operate when the facility is unoccupied. We recommend installing three programmable time-thermostats to turn-on the RTUs one hour prior to normal operating hours and turn-off the RTU's when the facility is unoccupied.

Specific controls setpoints or algorithms

The RTU's should be programmed to turn-on from 8:00 AM to 4:00 PM Monday thru Friday except on Wednesday's when the units will remain on till 6:00 PM.

Steps for the Energy FinAnswer Program

1. Review this report and assess interest/commitment to proceed

- ☐ Review this Initial Site Visit report with key staff including the person with the budget approval level for a project of this size
- ☐ Determine if some/all of the proposed energy efficiency measures have a good likelihood of receiving funding approval within approximately 1-6 months of completion of a more detailed energy analysis report.
- ☐ Contact Rocky Mountain Power to discuss this Initial Site Visit report and implementation budgets and plans. Rocky Mountain Power will determine if the project will proceed to the energy analysis phase.

2. Energy Analysis to refine estimates

- ☐ If appropriate, Rocky Mountain Power will provide you with an energy analysis proposal for your review. It will include energy analysis scope, costs and a schedule. Rocky Mountain Power pays for the energy analysis report.
- ☐ If appropriate, Rocky Mountain Power will contract to get the energy analysis report completed. The report will include recommended energy efficiency measures, estimated implementation costs and savings, an incentive offer, and commissioning requirements.

3. Implementation decision and sign incentive agreement

- ☐ Review the content of the Energy Analysis report and make a decision on implementation. Rocky Mountain Power and our engineering consultant are available to answer questions.
- ☐ Contact Rocky Mountain Power to discuss your decision and implementation schedule. Request an incentive agreement if you plan to proceed with implementation.
- ☐ ***To be eligible for incentives, sign the Rocky Mountain Power Incentive Agreement prior to signing purchase orders for equipment.***

4. Procurement, installation and commissioning

- ☐ Provide Rocky Mountain Power with copies of purchase orders/signed contracts with installers by the date specified in your incentive agreement.
- ☐ Contact Rocky Mountain Power during project implementation if there are changes affecting the energy savings potential of the project, the project cost, or the schedule.
- ☐ Complete the installation and provide written notice of completion to Rocky Mountain Power by the date specified in your incentive agreement.
- ☐ Complete commissioning according to plan provided by Rocky Mountain Power. (The customer pays for commissioning as part of the implementation cost of the measures.)

5. Post-installation inspection and incentive payment

- ☐ Provide Rocky Mountain Power with commissioning submittals and project invoices documenting costs by energy efficiency measure with labor and material itemized.
- ☐ Rocky Mountain Power (or a consultant hired by Rocky Mountain Power) will contact you to schedule an inspection of installed energy efficiency measures
- ☐ Rocky Mountain Power will review the inspection results, commissioning submittals, and invoices. Rocky Mountain Power will mail an incentive payment within 45 days of satisfactory review of the inspection results and project invoices

September 15, 2006

Jim Cleland
Energy Coordinator
Salt Lake City Corporation
248 East 600 South
Salt Lake City, Utah 84111

Subject: Energy Analysis Proposal for Westside Senior Citizen Center

Dear Jim,

Per our discussion, this letter provides a brief proposal for kW Engineering to complete an energy analysis report for the Westside Senior Citizen Center. We will use information collected during our initial site visit and the mechanical plans your have provided to evaluate the energy savings (electric and natural gas) from implementing the following energy efficiency measures. The savings will be based on the difference between the proposed energy use and the existing energy usage.

Anticipated Energy Efficiency Measures

The following measures are anticipated:

- Lighting Controls
- Install Premium Efficiency Rooftop Units
- Programmable Thermostats (DDC Controls)

For further background on the project, please refer to the Initial Site Visit Report dated September 12, 2006.

Analysis Plan

Lighting Controls

Annual savings for lighting measures will be determined by using spreadsheet analysis. Our analysis will evaluate the energy savings from implementing controls in all areas (including restrooms, offices and small classrooms) in the building. The baseline hours of operation will be established from previously gathered information.

Energy Analysis Report

Westside Senior Citizen Center

Mechanical Equipment Upgrade

Presented to

Salt Lake City Corporation

Submitted By:



287 17th Street, Suite 300

Oakland, CA 94612

(510) 834-6420



focus on energy

October 20, 2006

FINAL REPORT

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Disclaimer

The intent of this energy analysis report (EAR) is to estimate energy savings associated with recommended changes at Westside Senior Citizen Center in Salt Lake City, Utah. Appropriate detail is included in Sections 2 thru 5 of this report to serve as a guide to implementation decisions. However, this report is not intended to serve as a detailed engineering design document, as the description of the improvements are diagrammatic in nature only in order to document the basis of cost estimates and savings, and to demonstrate the feasibility to construct the improvements. It should be noted that detailed design efforts might be required in order to implement several of the improvements evaluated as part of this energy analysis. As appropriate, costs for those design efforts are included as part of the cost estimate for each measure.

While the recommendations in this report have been reviewed for technical accuracy and are believed to be reasonably accurate, the findings are estimates and actual results may vary. As a result, kW Engineering, Inc. is not liable if projected estimated savings or economics are not actually achieved. All savings and cost estimates in the report are for informational purposes, and are not to be construed as a design document or as guarantees.

Salt Lake City Corporation shall independently evaluate any advice or direction provided in this report. In no event will kW Engineering, Inc. be liable for the failure of the customer to achieve a specified amount of energy savings, the operation of customer's facilities, or any incidental or consequential damages of any kind in connection with this report or the installation of recommended measures.

Contacts

The following personnel assisted with the development of this report:

Customer Contact

Jim Cleland
Facilities Manager
Salt Lake City Corporation
451 South State Street
Salt Lake City, UT 84111
Phone: 801-535-6631

Site Address

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Vendor

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Salt Lake City, Utah 84104
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President
Utah Controls
11075 South State Building 1
Sandy, Utah 84070
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Energy Consultant Contact

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Salt Lake City, Utah 84101
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Email: devnani@kw-engineering.com

1.0

Executive Summary

1.1 Introduction and Background

A kW Engineering Inc. representative visited Westside Senior Citizen Center in Salt Lake City, Utah to identify potential energy efficiency opportunities there. A visit to the site was performed on August 29, 2006 to collect basic information on the site and obtain copies of the as-built drawings of the facility. Two energy efficiency measures (EEMs) were developed as a result of this site visit. This document summarizes the opportunities found to date, including some costs and savings estimates for the identified EEMs.

kW Engineering identified potential EEMs in the areas of lighting and HVAC upgrades. These recommendations are summarized in Table 1.1 on this page. Installing all of the recommended measures would result in an estimated annual cost savings of \$10,704, with an overall simple payback of 9.8 years. Based on this information, we believe that there are reasons to proceed towards adoption of these measures.

1.2 Summary of Findings and Recommendations

Based on our evaluation, we recommend the owner implement the following energy-efficiency measures (EEMs):

- *EEM-1 Lighting Controls*
- *EEM-2 Premium Efficiency Rooftop Units and DDC Controls*

Table 1.1 summarizes the annual savings, incremental cost and payback periods for these projects.

Table 1.1 Estimated Electric Savings and Costs Summary

Rocky Mountain Power Rate Schedule	6A	Questar Gas Acct:	8267310000
Cost of Energy	\$ 0.05838 /kWh	Cost of Natural Gas / Dth	\$ 8.64188
Demand Cost	\$ 4.1725 /kW		

EEM	Measure Description	Include?	Electricity Savings (kWh/yr)	On-Peak Demand Reduction (kW)	Annual Electric Cost Savings	Natural Gas Savings (Dth)	Annual Natural Gas Cost Savings	Total Cost Savings	Total Incremental Cost	Pre-Incentive Payback (Years)	Rocky Mountain Power Incentive	Net Cost	Payback After Incentive (Years)
1	Lighting Controls	Yes	5,996	0	\$ 350	-	\$ -	\$ 350	\$ 1,535	4.4	\$ 330	\$ 1,205	3.4
2	Premium Efficiency RTUs & Controls	Yes	84,738	14.1	\$ 5,655	544	\$ 4,699	\$ 10,354	\$ 106,353	10.3	\$ 2,600	\$ 103,753	10.0
	TOTAL RECOMMENDED		90,734	14.1	\$ 6,005	544	\$ 4,699	\$ 10,704	\$ 107,888	10.1	\$ 2,930	\$ 104,958	9.8

Notes:

- (1) EEM-1 incentive is determined using Rocky Mountain Power's lighting Calculator
 (2) EEM-2 incentive is based upon Rocky Mountain Power's FinAnswer Express program guidelines

2.0

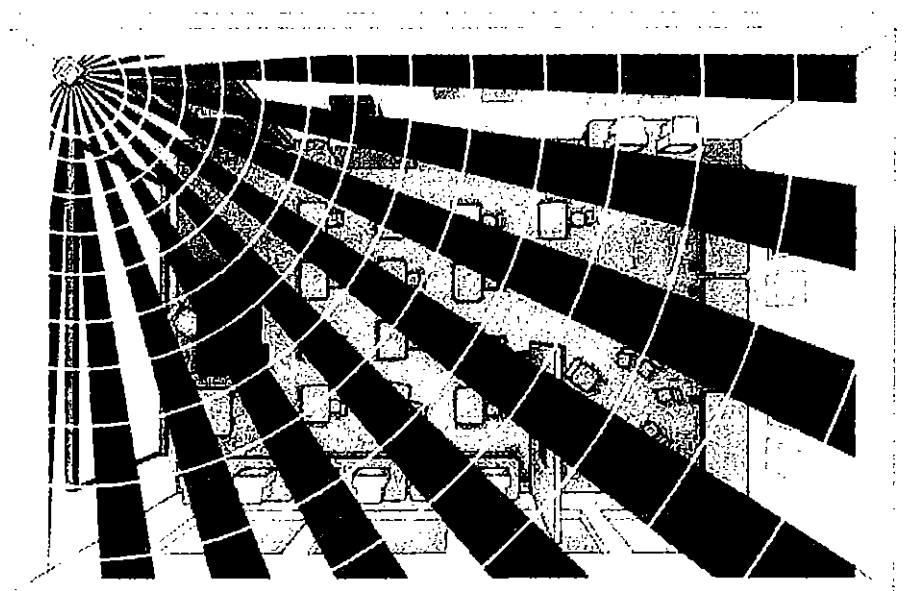
Detailed Description of Proposed Equipment and Operation

The energy savings reported in Section 2.0 are the incremental energy savings from installing the following EEMs on the proposed system.

2.1 EEM-1: Occupancy Sensors

2.1.1. Source of energy savings

Occupancy sensors can save energy by turning off lights in unoccupied rooms. The sensors detect the presence of people and keep the lights on as long as the room is occupied. Lights are turned off automatically, following a pre-set time interval, after the room is vacated.



Source: <http://www.sensorswitch.com/prodbyapp.htm>

Passive infrared (PIR) sensors detect movement of warm bodies; ultrasonic sensors use sound waves to detect motion. Dual-technology sensors employ both PIR and ultrasonic technologies.

Energy savings depend on the amount of installed lighting wattage, pre-existing hours of operation, and occupancy patterns. Estimates of reduction in operating hours typically range from 10-60%.

Summary - EEM 1

Measure Description	Annual Electricity Savings (kWh/yr)	Peak Demand Savings (kW)	Natural Gas Savings (Dth)	Annual Cost Savings	Estimated Installed Cost	Simple Payback Period (Years)
Lighting Controls	5,996	-	-	\$ 350	\$ 1,535	4.4

2.1.2. Specific equipment changes

1. Specify ceiling-mounted PIR sensors for classrooms.
2. Specify ceiling-mounted or high wall-mounted PIR sensors for the multipurpose hall and lounge.
3. Specify wall-box, PIR sensors for private offices and storage areas.

A list of the rooms identified to have occupancy sensors installed and the number of fixtures in each room is summarized in the table below:

Lighting Controls			
Room	No. of Fixtures	Fixture Type	Sensor Type
Multipurpose	36	4LF32T8Elec	Ceiling mounted PIR
Kitchen	9	4LF32T8Elec	Ceiling mounted PIR
Lounge	18	4LF32T8Elec	Ceiling mounted PIR
Room 101	17	4LF32T8Elec	Wall mounted PIR
Room 102 A	6	4LF32T8Elec	Wall mounted PIR
Room 102 B	6	4LF32T8Elec	Wall mounted PIR
Room 104	8	4LF32T8Elec	Wall mounted PIR
Room 105	7	4LF32T8Elec	Wall mounted PIR
Room 106	8	4LF32T8Elec	Wall mounted PIR
Room 107	7	4LF32T8Elec	Wall mounted PIR
Room 109	4	4LF32T8Elec	Wall mounted PIR

2.2 EEM-2: Premium Efficiency Rooftop Units and DDC Controls

2.2.1. Source of energy savings

We recommend installing high efficiency packaged rooftop units (RTUs) to meet the heating and cooling requirements of the facility. The new units must be installed on the roof of the facility and be open to ambient conditions to take advantage of economizer operation when ambient conditions allow.

Additionally there is no need for the RTUs to operate when the facility is unoccupied. We recommend installing an energy management system (EMS) to control the HVAC equipment in the facility. The EMS system will tie into Salt Lake City's existing network system and allow the facility manager to control the unit from a remote location.

Electric energy and natural gas savings will be due to increased efficiency as well as the reduced operating hours of the HVAC units.

Summary - EEM 2

Measure Description	Annual Electricity Savings (kWh/yr)	Peak Demand Savings (kW)	Natural Gas Savings (Dth)	Annual Cost Savings	Estimated Installed Cost	Simple Payback Period (Years)
Premium Efficiency RTU's & Controls	84,738	14.1	544	\$ 10,354	\$ 106,353	10.3

2.2.2. Specific equipment changes

HVAC

We recommend installing the proposed RTUs (see table below). Model specifications were obtained from the lists on packaged RTUs that meet or exceed the Tier 2 efficiency criteria set forth by the Consortium for Energy Efficiency (CEE).

Rooftop Unit ID	Make & Model	Cooling Capacity (kBtu)	Unit EER	Heating Input (kBtu)	Heating Output (kBtu)	Heating Efficiency	Max CFM
A	Lennox, LGA248H2B	257	11.7	480	384	80%	10,080
B	Lennox, LGA120H2B	125	11.0	240	192	80%	4,800
C	Lennox, LGA248H2B	257	11.7	480	384	80%	10,080
Total		639		1,200	960		24,960

For more information on units that meet the CEE Tier 2 criteria refer to the following

http://www.cee1.org/com/hecac/ac_tiers/acsp999.htm

http://www.cee1.org/com/hecac/ac_tiers/acsp240.htm

Controls

We recommend installing an energy management system (EMS) to control the proposed HVAC equipment. The proposed LonWorks Control system will connect onto the existing city's network system and allow the mechanical systems in the building to be controlled from a remote location.

2.2.3. Specific Control Setpoint

- Turn on at 7:00 AM Monday thru Friday
- Turn off at 4:00 PM Monday, Tuesday, Thursday and Friday
- Turn off at 6:00 PM on Wednesday

3.0 Energy Efficiency Measure Costs

3.1 EEM-1: Install Occupancy Sensors

Cost estimates for installing occupancy sensors were obtained using reference cost data. (RS Means, 2005)

Table 3.1 EEM 1 Summary of Incremental Implementation Costs

Item	Qty	Total Implementation Cost	
Lighting Controls	-	\$	1,320
Direct Construction Sub-Total \$ - \$ 1,320			
Sales Tax	6.3%	\$	83
Overhead	5.0%	\$	66
Contingency	5.0%	\$	66
Design and Engineering	0.0%		
Miscellaneous	0.0%		
Commissioning		\$	-
		\$	1,535

3.2 EEM-2: Premium Efficiency Rooftop Units and DDC Controls

Cost estimates for the RTU's were obtained from Comfort Systems USA Intermountain, Inc. and include the cost for removing the existing units, installing the new units on the roof and any associated ductwork. Cost for the DDC controls were obtained from Utah Controls and include the cost associated with connecting the system to the city's network system. Cost is inclusive of permits, freight and taxes (See Appendix B).

Table 3.2 EEM 2 Summary of Incremental Implementation Costs

Item	Qty	Total Implementation Cost	
Premium Efficiency RTU's	3	\$	87,560
Site Preparation	-	\$	3,943
DDC Controls	1	\$	14,850
Direct Construction Sub-Total \$ - \$ 106,353			
Sales Tax	0.0%	\$	-
Overhead	0.0%	\$	-
Contingency	0.0%	\$	-
Design and Engineering	0.0%	\$	-
Miscellaneous	0.0%	\$	-
Commissioning		\$	-
		\$	106,353

4.0

Baseline and Analysis Overview

4.1 Baseline Description

Westside Senior Citizen Center is a single-story building in Salt Lake City, Utah with an approximate footprint of 16,000 ft². The facility serves as a place for approximately 80 to 100 persons to gather during the day and take part in a variety of activities and classes. The facility houses a multipurpose room, kitchen, small gymnasium, small library, offices, restrooms, and a number of classrooms.

The facility was built in 1977. The original roof on the building was in the shape of two consecutive side-gabled-roofs connected with a narrow flat-roof (shaped like an inverted "W"). The mechanical equipment is located on the flat portion of the roof. In 1993 facility personnel built an enclosure to cover the flat-roof (and HVAC equipment) to prevent accumulation of snow/water during winter months.

Lighting

The primary lighting fixtures in the building are linear T8 fluorescent fixtures. All lights in the facility are manually controlled.

HVAC

The facility is served by three packaged rooftop units (RTUs) with a total cooling capacity of 53 tons. The units operate continuously to meeting the heating and cooling needs of the facility. At the time of the site visit we noticed that the enclosed space that houses the RTUs was considerably warmer than ambient, thus reducing the efficiency of RTUs and preventing the units from operating in economizer mode when ambient conditions allow.

A summary of the existing rooftop units is provided in the table below:

Rooftop Unit ID	Cooling Capacity (kBtu)	Heating Input (kBtu)	Heating Output (KBtu)	Max CFM
A	268	500	315	10,159
B	162	400	252	6,951
C	212	500	315	8,000
Total	641	1,400	882	25,110

Since the units are old and we could not obtain information regarding the efficiency of these units we have assumed the units to be 5% less efficient than the efficiency criteria defined by the 2003 International Energy Conservation Code (IECC), Table 803.2.2 (1).

4.2 List of Key Inputs

The following table lists several baseline model inputs:

Table 4.1 Baseline Model Inputs

Parameter	Description	Source
Fan operating hours	8760 hours annually	Site visit
Rooftop Units Cooling Efficiency	EER assumed to be 5% less than code compliant units	Per discussion with vendors
Adjusted Outside Air Temperature	5°F adjustment	Site Visit

Weather

Weather data from the National Renewable Energy Laboratory's Typical Meteorological Years (TMY2) was used in the simulations. Weather data for Salt Lake City, Utah for the site.

5.0**Site Information and Analysis Methodology****5.1 General Project Information****5.1.1 Building Schedule**

The facility is occupied Monday thru Friday from 8:00 AM to 4:00 PM except on Wednesday's when the facility is occupied till 6:00 PM. However, the HVAC systems in the building operate continuously.

5.1.2 Utility Rate Schedule**Electric Energy**

The facility is on Rocky Mountain Power Rate Schedule 6A and is summarized in the table below:

Schedule 6A		
	On-Peak (\$/kWh)	Off-Peak (\$/kWh)
May-Sept	\$ 0.084174	\$ 0.025342
Oct-Apr	\$ 0.070360	\$ 0.021183
Blended Rate	\$ 0.076116	\$ 0.022916
Demand (\$/kW)		
May-Sept	\$ 4.61	
Oct-Apr	\$ 3.86	
Blended Rate	\$ 4.1725	

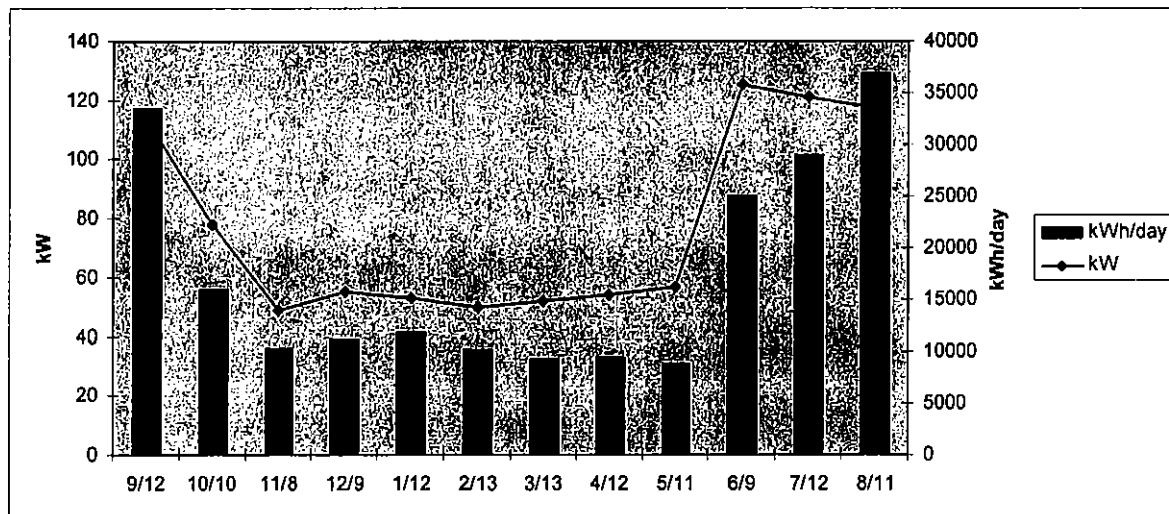
Natural Gas

The facility is on Questar Gas UTGS1 Rate Schedule and is summarized in the table below:

Questsar Gas	
Account Number	8267310000
Cost (\$/ Dth)	\$ 8.64188

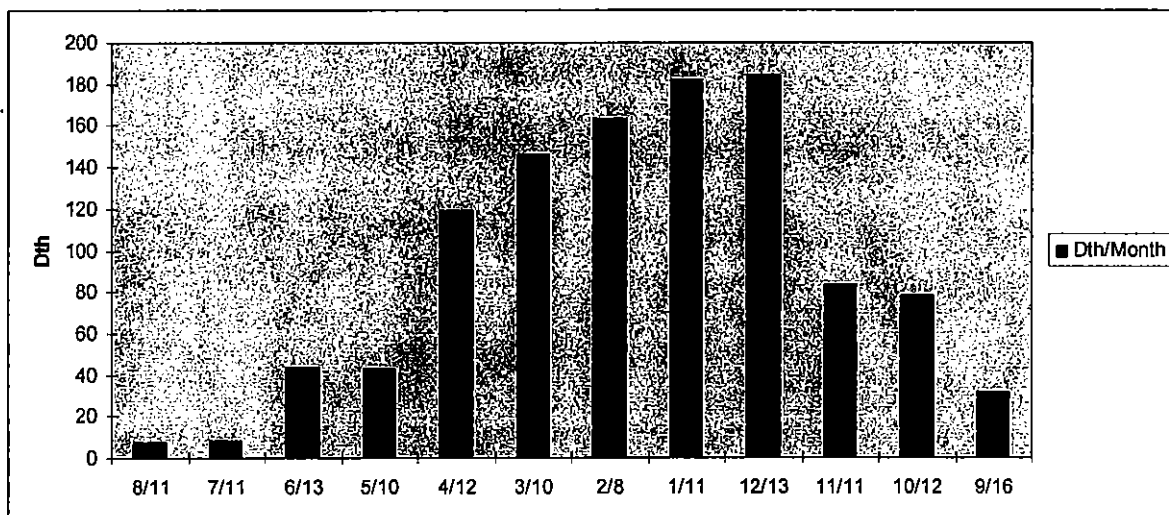
5.1.3 Electric Energy Usage History

The graph below summarizes the energy use of the facility from September, 2005 to August, 2006.



5.1.3 Natural Gas Usage History

The graph below summarizes the energy use of the facility from August, 2005 to August, 2006.



5.2 Analysis Methodology

5.2.1 Methodology

Energy savings have been calculated based on data obtained from our site audit and mechanical plans of the building. To estimate the savings associated with the proposed EEMs, several steps were required which included:

- Audit of the facility buildings to collect information about the existing equipment.
- Establish baseline energy use using specifications from the mechanical plans of the facility.
- Calculate energy savings and demand savings from the proposed EEMs.

Facility Audit

An energy audit of the facility was conducted to obtain name plate information regarding

the mechanical systems at the facility and to understand the operating sequence of these systems. The following information was obtained:

- Quantity and type of light fixtures in each room
- Quantity and size of the existing HVAC units serving the facility.

Baseline Energy Use

The baseline is considered the “as is” condition of the facility. Using information gathered during the site audit and the mechanical plans spreadsheet models were developed to estimate the baseline annual energy usage of the mechanical systems.

Energy Savings

Salt Lake City Corporation has expressed interest in installing units with the highest possible efficiency (*EER*) available. We identified the best available units that meet or exceed the Tier 2 efficiency criteria set forth by the CEE and have used the proposed efficiencies in spreadsheet models to determine annual energy usage.

Energy savings are based on the difference between the baseline energy use and the proposed energy usage.

Appendix A: Calculations

Appendix B: Vendor Quotes & Documentation

Attachment C
US Department of
Justice, Office of
Justice Programs
Resolution

RESOLUTION NO. _____ OF 2007

AUTHORIZING SALT LAKE CITY TO ACCEPT
THE DEPARTMENT OF JUSTICE, OFFICE OF JUSTICE PROGRAMS, SALT LAKE AREA
ANTI-HUMAN TRAFFICKING TASK FORCE

WHEREAS, Title 11, Chapter 13 Utah Code Ann., as amended, allows public entities to enter into cooperative agreements to provide joint undertakings and services; and

WHEREAS, the attached Agreement has been prepared to accomplish said purposes;

THEREFORE, BE IT RESOLVED by the City Council of Salt Lake City, Utah:

1. It does hereby authorize and approve of Salt Lake City Corporation accepting the \$450,000.00 grant from the Department Of Justice, Office of Justice Programs for the purposes of:

Defraying costs associated with the Police Department and City Prosecutor's Office creating and implementing a Task Force to provide services, outreach and education to victims of human trafficking.

2. Ross C. Anderson, Mayor of Salt Lake City, Utah, is hereby authorized to receive said awards and execute any and all subsequent agreements between the City and other entities resulting from the said Award on behalf of Salt Lake City Corporation, so long as such subsequent agreements do not depart substantively from the Agreement approved herein.

Passed by the City council of Salt Lake City, Utah, this day _____ day of _____, 2007.

Salt Lake City Council

By _____
Chairperson

ATTEST:

Approved as to Form
Salt Lake City Attorney's Office
By: January 22, 2007
Date: Melanie By

CHIEF DEPUTY CITY RECORDER

Attachment D
US Department of
Justice Agreement

Salt Lake City Corporation Contract Activation

Contract Nbr: 06 5 07 2290 Status: A City Wide: N

Title: US DEPT OF JUSTICE TRAFFICING TASK FORCES

Vendor 21178 U S DEPARTMENT OF JUSTICE

Dept Contact: KRISTA DUNN

Starts: 9/1/2006 Ends:

Term: Units:

Limit: \$0.00

Contract Activation was successful.



U.S. Department of Justice
Office of Justice Programs
Office of the Comptroller

810 Seventh Street, N.W. NOV 06 2006
Washington, DC 20531

CITY RECORDER

FAX COVER SHEET

TO: Simarjit Gill
Salt Lake Corporation

DATE: 10/18/06

Direct No: () -

Fax No: (801) 535-7251

FROM: Dorrett Phipps

Phone No: 1-800-458-0786 option 2

Fax No: (202) 353-9279

Priority: Standard

Rush X

Subject: Award document; 2006-VT-BK-0002

Total Pages Including Cover Page: 10

If you don't receive all pages, call 1-800-458-0786 option 2 immediately.

Note: This correspondence is not a legal obligation, duty, or commitment between the recipient hereof and the Office of Justice Programs or any other Department, Agency, or Instrumentality of the United States, and is neither intended, expressly or impliedly, to constitute an offer to enter into form of legal obligation, duty, or Commitment between the recipient hereof and the Office of Justice Programs or any other Department, Agency, or Instrumentality of the United States, now or in the future, notwithstanding representations of employees, contractors, or other agents of the government unless made pursuant to express authorization of the appropriate contracting authority designated by agency rules and regulations.



Department of Justice
Office of Justice Programs

Office of the Assistant Attorney General

Washington, D.C. 20531

September 29, 2006

The Honorable Ross C. Anderson
Salt Lake City
451 South State Street, Room 306
Salt Lake City, UT 84111

Dear Mayor Anderson:

On behalf of Attorney General Alberto Gonzales, it is my pleasure to inform you that the Office of Justice Programs has approved your application for funding under the FY 2006 Law Enforcement and Service Provider Multidisciplinary Anti-Trafficking Task Forces in the amount of \$450,000 for Salt Lake City.

Enclosed you will find the Grant Award and Special Conditions documents. This award is subject to all administrative and financial requirements, including the timely submission of all financial and programmatic reports, resolution of all interim audit findings, and the maintenance of a minimum level of cash-on-hand. Should you not adhere to these requirements, you will be in violation of the terms of this agreement and the award will be subject to termination for cause or other administrative action as appropriate.

If you have questions regarding this award, please contact:

- Program Questions, Lon R. McDougal, Program Manager at (202) 307-3678; and
- Financial Questions, the Office of the Comptroller, Customer Service Center (CSC) at (800) 458-0786, or you may contact the CSC at ask.oc@usdoj.gov.

Congratulations, and we look forward to working with you.

Sincerely,

Regina B. Schofield
Assistant Attorney General

Enclosures



**Department of Justice
Office of Justice Programs
Office for Civil Rights**

Washington, D.C. 20531

September 29, 2006

The Honorable Ross C. Anderson
Salt Lake City
451 South State Street, Room 306
Salt Lake City, UT 84111

Dear Mayor Anderson:

Congratulations on your recent award. In establishing financial assistance programs, Congress linked the receipt of Federal funding to compliance with Federal civil rights laws. The Office for Civil Rights (OCR), Office of Justice Programs (OJP), U.S. Department of Justice is responsible for ensuring that recipients of financial aid from OJP, its component offices and bureaus, the Office on Violence Against Women (OVW), and the Office of Community Oriented Policing Services (COPS) comply with applicable Federal civil rights statutes and regulations. We at OCR are available to help you and your organization meet the civil rights requirements that come with Justice Department funding.

Ensuring Access to Federally Assisted Programs

As you know, Federal laws prohibit recipients of financial assistance from discriminating on the basis of race, color, national origin, religion, sex, or disability in funded programs or activities, not only in respect to employment practices but also in the delivery of services or benefits. Federal law also prohibits funded programs or activities from discriminating on the basis of age in the delivery of services or benefits.

Providing Services to Limited English Proficiency (LEP) Individuals

In accordance with Department of Justice Guidance pertaining to Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d, recipients of Federal financial assistance must take reasonable steps to provide meaningful access to their programs and activities for persons with limited English proficiency (LEP). For more information on the civil rights responsibilities that recipients have in providing language services to LEP individuals, please see the website at <http://www.lep.gov>.

Ensuring Equal Treatment for Faith-Based Organizations

The Department of Justice has published a regulation specifically pertaining to the funding of faith-based organizations. In general, the regulation, Participation in Justice Department Programs by Religious Organizations; Providing for Equal Treatment of all Justice Department Program Participants, and known as the Equal Treatment Regulation 28 C.F.R. part 38, requires State Administering Agencies to treat these organizations the same as any other applicant or recipient. The regulation prohibits State Administering Agencies from making award or grant administration decisions on the basis of an organization's religious character or affiliation, religious name, or the religious composition of its board of directors.

The regulation also prohibits faith-based organizations from using financial assistance from the Department of Justice to fund inherently religious activities. While faith-based organizations can engage in non-funded inherently religious activities, they must be held separately from the Department of Justice funded program, and customers or beneficiaries cannot be compelled to participate in them. The Equal Treatment Regulation also makes clear that organizations participating in programs funded by the Department of Justice are not permitted to discriminate in the provision of services on the basis of a beneficiary's religion. For more information on the regulation, please see OCR's website at <http://www.ojp.usdoj.gov/ocr/etfbo.htm>.

State Administering Agencies and faith-based organizations should also note that the Safe Streets Act, as amended; the Victims of Crime Act, as amended; and the Juvenile Justice and Delinquency Prevention Act, as amended, contain prohibitions against discrimination on the basis of religion in employment. These employment provisions have been specifically incorporated into 28 C.F.R. Part 38.1(f) and 38.2(f). Consequently, in many circumstances, it would be impermissible for faith-based organizations seeking or receiving funding authorized by these statutes to have policies or practices that condition hiring and other employment-related decisions on the religion of applicants or employees. Programs subject to these nondiscrimination provisions may be found on OCR's website at <http://www.ojp.usdoj.gov/ocr/>. Questions about the regulation or the statutes that prohibit discrimination in employment may be directed to this Office.

Enforcing Civil Rights Laws

All recipients of Federal financial assistance, regardless of the particular funding source, the amount of the grant award, or the number of employees in the workforce, are subject to the prohibitions against unlawful discrimination. Accordingly, OCR investigates recipients that are the subject of discrimination complaints from both individuals and groups. In addition, based on regulatory criteria, OCR selects a number of recipients each year for compliance reviews, audits that require recipients to submit data showing that they are providing services equitably to all segments of their service population and that their employment practices meet equal employment opportunity standards.

Complying with the Safe Streets Act or Program Requirements

In addition to these general prohibitions, an organization which is a recipient of financial assistance subject to the nondiscrimination provisions of the Omnibus Crime Control and Safe Streets Act (Safe Streets Act) of 1968, 42

U.S.C. § 3789d(c), or other Federal grant program requirements, must meet two additional requirements: (1) complying with Federal regulations pertaining to the development of an Equal Employment Opportunity Plan (EEO Plan), 28 C.F.R. § 42.301-.308, and (2) submitting to OCR Findings of Discrimination (see 28 C.F.R. §§ 42.205(5) or 31.202(5)).

1) Meeting the EEO Plan Requirement

In accordance with Federal regulations, Assurance No. 6 in the Standard Assurances, COPS Assurance No. 8.B, or certain Federal grant program requirements, your organization must comply with the following EEO Plan reporting requirements:

If your organization has received an award for \$500,000 or more and has 50 or more employees (counting both full- and part-time employees but excluding political appointees), then it has to prepare an EEO Plan and submit it to OCR for review within 60 days of the date of this letter. For assistance in developing an EEO Plan, please consult OCR's website at <http://www.ojp.usdoj.gov/ocr/eop.htm>. You may also request technical assistance from an EEO specialist at OCR by dialing (202) 616-3208.

If your organization received an award between \$25,000 and \$500,000 and has 50 or more employees, your organization still has to prepare an EEO Plan, but it does not have to submit the EEO Plan to OCR for review. Instead, your organization has to maintain the EEO Plan on file and make it available for review on request. In addition, your organization has to complete Section B of the Certification Form and return it to OCR. The Certification Form can be found at <http://www.ojp.usdoj.gov/ocr/eop.htm>.

If your organization received an award for less than \$25,000; or if your organization has less than 50 employees, regardless of the amount of the award; or if your organization is a medical institution, educational institution, nonprofit organization or Indian tribe, then your organization is exempt from the EEO Plan requirement. However, your organization must complete Section A of the Certification Form and return it to OCR. The Certification Form can be found at <http://www.ojp.usdoj.gov/ocr/eop.htm>.

2) Submitting Findings of Discrimination

In the event a Federal or State court or Federal or State administrative agency makes an adverse finding of discrimination against your organization after a due process hearing, on the ground of race, color, religion, national origin, or sex, your organization must submit a copy of the finding to OCR for review.

Ensuring the Compliance of Subrecipients

If your organization makes subawards to other agencies, you are responsible for assuring that subrecipients also comply with all of the applicable Federal civil rights laws, including the requirements pertaining to developing and submitting an EEO, reporting Findings of Discrimination, and providing language services to LEP persons. State agencies that make subawards must have in place standard grant assurances and review procedures to demonstrate that they are effectively monitoring the civil rights compliance of subrecipients.

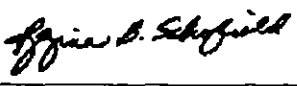
If we can assist you in any way in fulfilling your civil rights responsibilities as a recipient of Federal funding, please call OCR at (202) 307-0690 or visit our website at <http://www.ojp.usdoj.gov/ocr/>.

Sincerely,



Michael L. Alston
Director

cc: Grant Manager
Financial Analyst

 Department of Justice Office of Justice Programs Bureau of Justice Assistance		Grant		PAGE 1 OF 3																
1. RECIPIENT NAME AND ADDRESS (Including Zip Code) Salt Lake City 451 South State Street, Room 306 Salt Lake City, UT 84111		4. AWARD NUMBER: 2006-VT-BX-0002 5. PROJECT PERIOD: FROM 09/01/2006 TO 08/31/2009 BUDGET PERIOD: FROM 09/01/2006 TO 08/31/2009 6. AWARD DATE 09/29/2006																		
1A. GRANTEE IRS/VENDOR NO. 876000279		7. ACTION Initial		8. SUPPLEMENT NUMBER 00																
3. PROJECT TITLE Salt Lake Area Anti-Human Trafficking Task Force		9. PREVIOUS AWARD AMOUNT \$ 0 10. AMOUNT OF THIS AWARD \$ 450,000 11. TOTAL AWARD \$ 450,000																		
12. SPECIAL CONDITIONS THE ABOVE GRANT PROJECT IS APPROVED SUBJECT TO SUCH CONDITIONS OR LIMITATIONS AS ARE SET FORTH ON THE ATTACHED PAGE(S).																				
13. STATUTORY AUTHORITY FOR GRANT This project is supported under 22 U.S.C. 7105 (b)(2)(A)																				
15. METHOD OF PAYMENT LOCES																				
AGENCY APPROVAL		GRANTEE ACCEPTANCE																		
16. TYPED NAME AND TITLE OF APPROVING OFFICIAL Regina B. Schofield Assistant Attorney General		18. TYPED NAME AND TITLE OF AUTHORIZED GRANTEE OFFICIAL Ross C. Anderson Mayor																		
17. SIGNATURE OF APPROVING OFFICIAL 		19. SIGNATURE OF AUTHORIZED RECIPIENT OFFICIAL 		19A. DATE 11/6/06																
AGENCY USE ONLY																				
20. ACCOUNTING CLASSIFICATION CODES <table border="1"> <thead> <tr> <th>FISCAL YEAR</th> <th>FUND CODE</th> <th>BUD. ACT.</th> <th>DIV. OFC.</th> <th>REG.</th> <th>SUB.</th> <th>POMS</th> <th>AMOUNT</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>B</td> <td>VT</td> <td>80</td> <td>00</td> <td>00</td> <td></td> <td>450000</td> </tr> </tbody> </table>		FISCAL YEAR	FUND CODE	BUD. ACT.	DIV. OFC.	REG.	SUB.	POMS	AMOUNT	X	B	VT	80	00	00		450000	21. VT06U00037		
FISCAL YEAR	FUND CODE	BUD. ACT.	DIV. OFC.	REG.	SUB.	POMS	AMOUNT													
X	B	VT	80	00	00		450000													

OJP FORM 4000/2 (REV. 5-87) PREVIOUS EDITIONS ARE OBSOLETE.

OJP FORM 4000/2 (REV. 4-88)

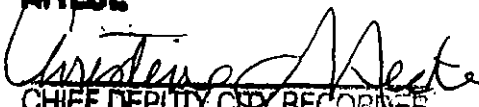
 APPROVED AS TO FORM
 Salt Lake City Attorney's Office
 Date 10/30/2006
By [Signature]

RECORDED

NOV-17 2006

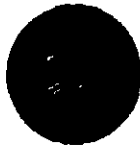
CITY RECORDER

ATTEST


 CHIEF DEPUTY CITY RECORDER


 Department of Justice Office of Justice Programs Bureau of Justice Assistance	AWARD CONTINUATION SHEET Grant	PAGE 2 OF 3
PROJECT NUMBER 2006-VT-BX-0002 AWARD DATE 09/29/2006		
<i>SPECIAL CONDITIONS</i> 1. The recipient agrees to comply with the financial and administrative requirements set forth in the current edition of the Office of Justice Programs (OJP) Financial Guide. 2. The recipient acknowledges that failure to submit an acceptable Equal Employment Opportunity Plan (if recipient is required to submit one pursuant to 28 C.F.R. Section 42.302), that is approved by the Office for Civil Rights, is a violation of its Certified Assurances and may result in suspension or termination of funding, until such time as the recipient is in compliance. 3. The recipient agrees to comply with the organizational audit requirements of OMB Circular A-133, Audits of States, Local Governments, and Non-Profit Organizations, as further described in the current edition of the OJP Financial Guide, Chapter 19. 4. Recipient understands and agrees that it cannot use any federal funds, either directly or indirectly, in support of the enactment, repeal, modification or adoption of any law, regulation or policy, at any level of government, without the express prior written approval of OJP. 5. "Applicants must certify that Limited English Proficiency persons have meaningful access to the services under this program(s). National origin discrimination includes discrimination on the basis of limited English proficiency (LEP). To ensure compliance with Title VI and the Safe Streets Act, recipients are required to take reasonable steps to ensure that LEP persons have meaningful access to their programs. Meaningful access may entail providing language assistance services, including oral and written translation when necessary. The U.S. Department of Justice has issued guidance for grantees to help them comply with Title VI requirements. The guidance document can be accessed on the Internet at www.lep.gov." 6. Recipient certifies that it does not promote, support, or advocate the legalization or practice of prostitution, nor will it use grant funds or program match funds to promote, support, or advocate the legalization or practice of prostitution. 7. All contracts under this award should be competitively awarded unless circumstances preclude competition. When a contract amount exceeds \$100,000 and there has been no competition for the award, the recipient must comply with rules governing sole source procurement found in the current edition of the OJP Financial Guide. 8. Approval of this award does not indicate approval of any consultant rate in excess of \$450 per day. A detailed justification must be submitted to and approved by the Office of Justice Programs (OJP) program office prior to obligation or expenditure of such funds. 9. The recipient agrees to submit quarterly financial status reports to the Office of Justice Programs using Standard Form SF 269A on the Internet at https://grants.ojp.usdoj.gov. These reports shall be submitted on-line not later than 45 days after the end of each calendar quarter. The final report shall be submitted not later than 90 days following the end of the grant period. 10. The recipient shall submit semiannual progress reports. Progress reports shall be submitted within 30 days after the end of the reporting periods, which are June 30 and December 31, for the life of the award. These reports will be submitted to the Office of Justice Programs, on line-through the Internet at https://grants.ojp.usdoj.gov/ 11. The recipient agrees not to obligate, expend, or draw down any funds until documentation verifying the recipient's compliance with request changes to the project strategy has been submitted to the OJP program office and a Grant Adjustment Notice has been issued removing this condition.		

 Department of Justice Office of Justice Programs Bureau of Justice Assistance	AWARD CONTINUATION SHEET Grant	PAGE 3 OF 3
PROJECT NUMBER 2006-VT-BX-0002 AWARD DATE 09/29/2006		
<i>SPECIAL CONDITIONS</i> 12. The applicant budget is pending review or approval. The recipient may not obligate, expend or draw down any grant funds until the Office of the Comptroller, Office of Justice Programs has issued clearance of the application budget, and a Grant Adjustment Notice has been issued removing this special condition. 13. The recipient agrees to submit a final report at the end of this award documenting all relevant project activities during the entire period of support under this award. This report will include detailed information about the project(s) funded, including, but not limited to, information about how the funds were actually used for each purpose area, data to support statements of progress, and data concerning individual results and outcomes of funded projects reflecting project successes and impacts. The final report is due no later than 90 days following the close of this award period or the expiration of any extension periods. Recipient shall submit an original and one copy of the report.		

 Department of Justice Office of Justice Programs Bureau of Justice Assistance	GRANT MANAGER'S MEMORANDUM, PT. I: PROJECT SUMMARY Grant	
	PROJECT NUMBER 2006-VT-BX-0002	PAGE 1 OF 1
This project is supported under 22 U.S.C. 7105 (b)(2)(A)		
1. STAFF CONTACT (Name & telephone number) Lon R. McDougal (202) 307-3678	2. PROJECT DIRECTOR (Name, address & telephone number) Sinajit Gill City Prosecutor 451 South State Street Salt Lake City, UT 84111 (801) 535-7767	
3a. TITLE OF THE PROGRAM FY 2006 Law Enforcement and Service Provider Multidisciplinary Anti-Trafficking Task Forces		3b. POMS CODE (SEE INSTRUCTIONS ON REVERSE)
4. TITLE OF PROJECT Salt Lake Area Anti-Human Trafficking Task Force		
5. NAME & ADDRESS OF GRANTEE Salt Lake City 451 South State Street, Room 306 Salt Lake City, UT 84111	6. NAME & ADDRESS OF SUBGRANTEE	
7. PROGRAM PERIOD FROM: 09/01/2006 TO: 08/31/2009	8. BUDGET PERIOD FROM: 09/01/2006 TO: 08/31/2009	
9. AMOUNT OF AWARD \$ 450,000	10. DATE OF AWARD 09/29/2006	
11. SECOND YEAR'S BUDGET	12. SECOND YEAR'S BUDGET AMOUNT	
13. THIRD YEAR'S BUDGET PERIOD	14. THIRD YEAR'S BUDGET AMOUNT	
15. SUMMARY DESCRIPTION OF PROJECT (See instruction on reverse) Under this award Salt Lake City will develop a human trafficking task force to provide support for state and local law enforcement to work more collaboratively with victim services organizations, federal law enforcement, U.S. Attorneys Offices, and the Civil Rights Division of the U.S. Department of Justice in the identification and rescue of human trafficking victims who are in the United States. The primary goal of this program is to increase trafficking victim saves, as noted in the solicitation, by 15% each year through: 1) training of law enforcement in trafficking victim identification and the development of proactive law enforcement tactics; 2) the rescue of trafficking victims and provision of needed services in collaboration with trafficking victims service providers; and 3) the successful prosecution of human traffickers in coordination with U.S. Attorneys Offices. CA/NCF		