

Energy Savings Performance Contract Investment Grade Audit

**City Council Workshop
February 2, 2012**

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Agenda

- Energy Savings Performance Contracting Program
- ESPC Progress
- Investment Grade Audit and Energy Conservation Measures
- ESPC Next Steps

Energy Savings Performance Contracting Program

- Developed by state legislature
- Provides means to install energy conservation measures in publicly-owned facilities
- Capital outlay financed by energy and conservation savings

ESPC Program

- Interagency agreement between City and Washington State Department of Enterprise Services (DES)
- City selects Energy Services Company (ESCO)
- ESCO conducts Preliminary Audit
- ESCO conducts Investment Grade Audit
- Energy Services Proposal and Contract
- Measurement & verification of conservation savings

ESPC Progress

- January 14, 2010 - City Council approves interagency agreement with DES
- May 27, 2010 - City selects Ameresco Quantum as ESCO from DES pre-qualified list
- July thru Oct, 2010 - Ameresco and City staff conduct a walk-through of City facilities
 - Ameresco develops a Preliminary Audit

ESPC Progress (cont.)

- December 12, 2010 - City Council approves Funding Authorization for Investment Grade Audit (IGA)
 - Estimated cost of IGA = \$65,000
 - Owed to Ameresco if conservation measures identified but ESPC not approved
- February 2, 2012 - Review and discuss IGA at City Council Workshop

Investment Grade Audit

- City Council determined cost effectiveness criteria for IGA
 - Simple payback period of 7 years
 - Loan pay back period of 10 years
- Economic assumptions by Ameresco include:
 - Interest Rate of 4.0%
 - 2 Payments/Year
 - Inflation Rate of 3.5%
 - Cash Payment of \$0
 - Annual Rate of Energy Increases at 1.5%

Energy Conservation Measures

- Upgrade energy management system controls at:

City Hall	Library
Police Department	Utilities Operations
City Shop	Senior Center

Energy Conservation Measures (cont.)

- Lighting upgrades at:

City Hall	Library
Police Department	Fire Station #81
McClelland Center	Golf Pro Shop
Utilities Ops	City Shop
Senior Center	Parks Maintenance
Recreation	Elks War Memorial Bldg
Racquet Complex	

Energy Conservation Measures (cont.)

- Water conservation (aerators, flush valves, new fixtures) at:

Library	Fire Station #81
Racquet Complex	Utilities Operations
City Shops	Senior Center
Golf Maintenance Shop	Elks War Memorial Bldg

Energy Conservation Measures (cont.)

- Miscellaneous HVAC upgrades at:
 - Library: re-commission main air handler, replace dampers and chiller coil, provide fresh water connection to chiller coil (back-up)
 - Police Department: add variable frequency drives to air handler units
 - Fire Station #81: replace electric heat w/infrared heat
 - Senior Center: implement energy management system
 - Elks Memorial Bldg: replace electric furnace w/ heat pump
 - McClelland Center: add air handler to energy management system

Energy Conservation Measures (cont.)

- Other upgrades
 - Street Lights: retrofit w/induction technology
 - Lake Sacajawea Pathway Lighting: retrofit w/ CFL
 - City Hall: vending machine miser to set back the soda machine during unoccupied time
 - Utilities Operations: replace incandescent safety rotator lights on service trucks w/LEDs - enables operation with engine shut off
 - Parks & Recreation Office: re-commission and balance mechanical system

ESPC Base Case

- Base Case project includes only ECMs that satisfy cost effectiveness criteria
 - Calculated simple payback of 5 years
 - Loan term of 10 years
- Proposed guaranteed maximum cost = \$2,024,041
 - 1st year conservation savings = \$254,445
 - 2nd year positive cash flow = \$10,437
 - 10 year cumulative positive cash = \$183,781

Recommended Additional Upgrades

- Upgrades recommended even though did not meet criteria:
 1. City Hall chiller is at the end of its useful life
 - Needs to be replaced
 - No energy savings for this replacement
 - Positive cash flow of other energy savings can pay for this upgrade if loan period extended

Recommended Additional Upgrades (cont.)

- Upgrades recommended even though did not meet criteria:
 2. Replace City Hall windows w/low E insulated windows
 - Windows transmit heat and cold easily
 - Windows are not properly sealed, creating condensation problem and potential for mold
 - Cost vs. energy savings results in long payback period (32.94 years)
 - Positive cash flow of other energy savings can pay for this upgrade if loan period extended

ESPC Recommended Project

- Recommended project includes base case ECMs plus replacement of City Hall chiller and windows
 - Calculated overall simple payback of 7.27 years
 - Loan term of 15 years
- Proposed guaranteed maximum cost = \$2,842,000
 - 1st year conservation savings = \$255,954
 - 2nd year positive cash flow = \$7,951
 - 10 year cumulative positive cash = \$137,925

ESPC Next Steps

- Select ECMs for ESPC project
 - Recommendation is Base Case plus City Hall chiller and windows
- Ameresco develops Energy Services Proposal with guaranteed maximum price and energy savings
- City Council authorizes ESPC; DES executes ESPC
 - Reminder - Since cost effective ECMs have been identified, if City chooses not to proceed, City must pay
 - Ameresco for cost of IGA (\$50,000)
 - DES termination fee (\$21,700)

ESPC Next Steps

- After ESPC execution, Ameresco bids and manages construction of the project
 - Ameresco will typically select up to 3 contractors to bid each type of work
 - Local preference is possible with ESCO bidding
 - City Council to determine local preference, if any
 - Staff recommends bidding should include at least one non-local bidder

Energy Savings Performance Contract

Council Discussion
&
Direction to Staff