

Council Meeting
July 13, 2010

Honorable Mayor and Members
of the Torrance City Council
City Hall
Torrance, California

Members of the Council:

SUBJECT: City Manager and General Services- Approve a plan for energy conservation projects, withdraw authorization for a sole source contract with Johnson Controls, Inc. and appropriate \$1,462,300 in EECEBG grant funds.

Expenditure: \$ 1,462,300

RECOMMENDATION

Recommendation of the City Manager and General Services Department that council:

- 1) Approve a consolidated plan for energy conservation projects.
- 2) Withdraw authorization for a sole source contract with Johnson Controls, Inc.
- 3) Appropriate \$1,462,300 in EECEBG grant funding for the energy conservation projects.

Funding Funding is available from the Energy Efficiency and Conservation Block Grant

BACKGROUND

In July 2009 the City of Torrance applied and was provided formula grants under the American Recovery and Reinvestment Act of 2009 (ARRA), Public Law 111-5, Energy Efficiency and Conservation Block Grant (EECEBG) Program. The City was awarded \$1,462,300 in energy grants under this Federally funded program. Projects identified for funding under this program are listed in Attachment A.

During the process to receive EECEBG funds, the City contracted with Johnson Controls Inc. (JCI) to review projects which could be submitted under the Federal EECEBG program and assist City staff to complete necessary documents required to obtain the grant funding. Included in the contract was the completion of a preliminary audit by JCI to determine the feasibility of an Energy Services Contract for completion of a consolidate plan of energy savings projects. In October 2009, Council approved an application for a California Energy Commission (CEC) 1% loan. In November 2009, after holding a public hearing on the matter, Council authorized, but did not award, a sole source contract to accomplish an Energy Services Contract with JCI for accomplishment of an Energy Services Contract. The projects included in this proposed contract could be funded by a combination of Federal (EECEBG), State (CEC) and other sources.

Sole source contracting for energy programs is authorized under California Government Code Section 4217.12, which authorizes public agencies to enter into Energy Service Contracts IF its governing body determines it is in the best interests of the public agency given that the **energy savings over a reasonable period of time generated by the project will be equal to or greater than the project costs**. The award of a follow on contract was to be subject to the following conditions:

1. Completion of a detailed analysis of energy savings projects under consideration.
2. Completion and acceptance of a measurement and verification plan for all projects.
3. Council approval of terms and conditions for the contract with JCI for energy savings projects.

Council in approving the sole source authorization expressed concerns that the identified projects would be competitively priced.

ANALYSIS

Johnson Controls Inc. (JCI) during their initial audit of tentative projects provided estimates for project costs and energy savings (Attachment B). These estimates were provided during Council's consideration of the Sole Source contract in October 2009. In January 2010 after completion of a more detailed audit, project costs rose significantly. During various iterations of the JCI submitted projects, staff also made recommendations for adjustments that resulted in fully usable and complete projects. Project costs during this iterative process were adjusted for all projects being considered for the various possible funding sources; Federal (EECBG), State (CEC) and City funding.

JCI provided a project cost update In March 2010 which raised concerns with City staff due to what appeared to be changes from the original project intentions. City staff met with JCI staff and discussed various elements within their proposal that did not meet previously agreed requirements. These discussions included the number of subcontractor proposals received, solicitation of quotes from local contractors and overhead costs not included with cost estimates. City staff also became concerned at this time with the competitiveness of the JCI proposal, and after consultation with City Manager and Finance Director, staff obtained additional independent local contractor budget quotes. In April 2010, JCI was then asked to review their proposal and provided a final update. Comparing City estimated costs (Attachment C) and JCI April 2010 proposal (Attachment D) revealed the following:

- JCI estimates exceed City estimates by over \$400,000 for the Federally (EECBG) funded projects.
- JCI estimates exceed EECBG funding by over \$200,000.
- JCI costs for a group of projects considered for State (CEC) funding exceeded City estimates by \$700,000.
- Costs exceed Savings for combined Federal (EECBG) and proposed State (CEC) funded projects over the 13 year contract term

Based on the fact that the energy savings in the April 2010 cost proposal do not exceed the costs for Federal (EECBG) and State (CEC) projects, as required for entering a sole source contract by the California Government Code the City would be prohibited from using sole source methodology in completing these projects. The original project lists would need to be culled significantly to meet the State Code's savings/cost requirements. It is also noted that the

projects meeting these cost/savings requirements also require minimal design effort therefore eliminating the need for an outside agency to develop or manage the work.

In an effort to provide JCI every opportunity to meet cost/savings requirements and be competitive with open bid methodology, JCI was provided an additional chance to submit their best offer for a selected group of projects. JCI provided their latest cost proposal, on June 6, shown in Attachment E compared with previous City estimate. Comparing the latest proposal it showed a \$625,000 cost difference remaining.

During this process, given the cost differences existing between City and JCI estimates, staff met with the City Manager and Finance Director to consider the use of City funds to realize the available savings. One of the benefits for the use of internal funds is that all cost savings are immediately available for the City budget. If loans are used to finance work, the savings generated would be used to pay back loans and finance charges for 12-14 years. It is also possible that additional savings may be realized in actual project costs when competitive bidding practices are used.

\$2.9 million was made available from one time sources in the 2011 budget to fund energy savings projects shown in Attachment E. Annual energy savings are estimated at \$350,000 from these projects. The use of City funds will allow these annual savings to be immediately available in the City budget instead of use for payback of loans for the next 12-14 years.

Staff recommends completion of the following consolidated energy savings program.

EECBG Projects

City Services - HVAC Upgrade & Controls
 City Hall Parking Lot LED Lighting Project
 Street Security Lighting Replacements

City Funded Projects

Building and Park Lighting Upgrades & Controls
 Cable Building HVAC Upgrade
 Irrigation Controls Upgrade
 Renewable Energy - Pool Solar Water Heating
 Low Flow Plumbing Fixtures
 Illuminated Street Sign Replacements with Reflective Signs
 East Annex Chiller Replacement
 One for One HVAC Replacements

Program estimated costs, savings and timelines for accomplishment are detailed in Attachment F.

The significant differences in project costs between standard open bid and sole source contracting methods result in staff's recommendation that Federally funded (EECBG) and other Energy Savings projects be completed using standard open bidding procedures. Savings achieved in the 3 Federally funded (EECBG) projects through the use of competitive bidding can be used to further reduce costs in the other listed energy savings projects, i.e., lighting retrofits, etc.

The City is now at a point where it should proceed with design of grant funded projects to meet the 36 month EECBG deadline of August 2012. In authorizing City staff to accomplish the Federally funded (EECBG) and other Energy Savings Projects using standard open bidding procedures, the City will save an estimated \$1 million in project execution costs and return energy savings of approximately \$350,000 annually to the general fund.

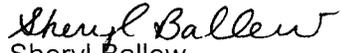
Staff recommends Council 1) Approve a consolidated plan for energy conservation projects.
2) Withdraw authorization for a sole source contract with Johnson Controls, Inc.
3) Appropriate \$1,462,300 in EECBG grant funding for the energy conservation projects.

Respectfully submitted,

SHERYL BALLEW
General Services Director


By Jon Landis
Facility Services Manager

CONCUR:


Sheryl Ballew
General Services Director


LeRoy J. Jackson
City Manager

Attachments:

- A – EECGB grant, June 2009
- B – Other Energy Savings Projects, October 2009
- C – City of Torrance estimates
- D – JCI proposal, April 2010
- E – JCI proposal compared with City of Torrance estimates, June 2010
- F – Proposed Energy Savings Program

simple pay
back

<u>EECBG Projects</u> (including Project Management)	Savings	Cost	Incentives	simple pay back (years)
Energy Efficient Retrofits	\$31,055	\$1,098,710	\$44,042	34.0
City Services - HVAC Upgrade & Controls				
City Hall Parking Lot LED Lighting Demonstration Project				
Street Security Lighting Replacements	\$38,106	\$426,685	\$19,053	10.7
	<u>\$69,161</u>	<u>\$1,525,395</u>	<u>\$63,095</u>	<u>21.1</u>

EECBG Grant
City share (incentive amount)
(\$1,462,300)
\$63,095

Energy Savings Performance Contract Projects

	Savings	Cost	Incentives	
Lighting Upgrades	\$95,443	\$611,779	\$63,094	5.7
HVAC Upgrades	\$32,237	\$611,540	\$0	19.0
Energy Management System / HVAC Controls Upgrades & Retrofits	\$45,478	\$484,000	\$0	10.6
HVAC Fan and Pump Variable Frequency Drives	\$8,945	\$96,000	\$5,963	10.1
Water Conservation - Irrigation Controls Upgrade	\$147,210	\$1,079,539	\$0	7.3
Renewable Energy - Pool Solar Water Heating	\$35,676	\$285,027	\$0	8.0
Cable Building HVAC Upgrade	\$7,325	\$275,307	\$2,994	37.2
Ball Park Lighting Upgrades (El Nido, Torrance, Wilson)	\$11,433	\$668,800	\$7,146	57.9
Project Management		\$616,799		
	<u>\$383,747</u>	<u>\$4,728,791</u>	<u>\$79,197</u>	<u>12.1</u>

Other Potential Projects

9 Ball Park Lighting Upgrades	\$3,866	\$353,333	\$2,416	90.8
Renewable Energy - Concentrated PV	\$37,800	\$848,000	\$432,000	11.0
Illuminated Street Signs Replaced with Reflective Street Signs	TBD	TBD	TBD	
Low Flow Plumbing Fixtures	TBD	TBD	TBD	
	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>	

City Cost Estimates

EECBG Project

	Total Energy Savings (MBtu/Yr)	Electricity Cost Savings (\$/Yr)	Natural Gas Cost Savings (\$/Yr)	Water Cost Savings (\$/Yr)	Total Cost Savings Year 1 (\$/Yr)	Sell Price	Incentive	Simple Pay Back (Years)
City Services - HVAC Upgrade & Controls	420	\$ 8,030	\$ 1,784	\$ -	\$ 9,814	\$ 493,200	\$ 8,673	64.5
City Hall Parking Lot LED Lighting Demo. Project	240	\$ 6,262	\$ -	\$ -	\$ 6,262	\$ 153,353	\$ 2,569	30.1
Street Security Lighting Replacements	1,254	\$ 29,094	\$ -	\$ -	\$ 29,094	\$ 455,726	\$ 18,367	16.3
Project Development						\$ 175,000		
Project Management, General Costs & Install M&V								
JCI Bond								
Total	\$ 1,914	\$ 43,386	\$ 1,784	\$ -	\$ 45,170	\$ 1,277,279	\$ 29,609	27.6

Other Energy Saving Projects

	Total Energy Savings (MBtu/Yr)	Electricity Cost Savings (\$/Yr)	Natural Gas Cost Savings (\$/Yr)	Water Cost Savings (\$/Yr)	Total Cost Savings Year 1 (\$/Yr)	Sell Price	Incentive	Simple Pay Back (Years)
Building and Park Lighting Upgrades & Controls	3,751	\$ 130,359	\$ -	\$ -	\$ 130,359	\$ 1,032,816	\$ 91,619	7.2
EMS / HVAC Controls Upgrades	4,803	\$ 53,138	\$ 23,813	\$ -	\$ 76,951	\$ 804,242	\$ 10,233	10.3
Cable Building HVAC Upgrade	128	\$ 4,745	\$ -	\$ -	\$ 4,745	\$ 275,000	\$ -	58.0
Illuminated Street Sign Replacements with Reflective Signs	635	\$ 21,219	\$ -	\$ -	\$ 21,219	\$ 138,384	\$ -	6.5
East Annex Chiller Replacement	25	\$ 2,012	\$ -	\$ -	\$ 2,012	\$ 185,000	\$ 1,119	91.4
One for One HVAC Replacements	597	\$ 10,428	\$ 2,340	\$ -	\$ 12,768	\$ 663,750	\$ 1,900	51.8
Project Development						\$ 160,000		
Project Management, General Costs & Install M&V						\$ 145,000		
Total	\$ 9,940	\$ 221,900	\$ 26,153	\$ -	\$ 248,054	\$ 3,404,192	\$ 104,871	13.3

EECBG Project

	Total Energy Savings (MBtu/Yr)	Electricity Cost Savings (\$/Yr)	Natural Gas Cost Savings (\$/Yr)	Water Cost Savings (\$/yr)	Total Cost Savings Year 1 (\$/Yr)	Sell Price	Incentive	Simple Pay Back (Years)
City Services - HVAC Upgrade & Controls	420	\$ 8,030	\$ 1,784	\$ -	\$ 9,814	\$ 641,905	\$ 8,673	64.5
City Hall Parking Lot LED Lighting Demo. Project	240	\$ 6,262	\$ -	\$ -	\$ 6,262	\$ 190,853	\$ 2,569	30.1
Street Security Lighting Replacements	1,254	\$ 29,094	\$ -	\$ -	\$ 29,094	\$ 493,226	\$ 18,367	16.3
Project Development						\$ 205,413		
Project Management, General Costs & Install M&V						\$ 145,985		
JCI Bond						\$ 6,525		
Total	\$ 1,914	\$ 43,386	\$ 1,784	\$ -	\$ 45,170	\$ 1,683,907	\$ 29,609	36.6

Other Energy Saving Projects

	Total Energy Savings (MBtu/Yr)	Electricity Cost Savings (\$/Yr)	Natural Gas Cost Savings (\$/Yr)	Water Cost Savings (\$/yr)	Total Cost Savings Year 1 (\$/Yr)	Sell Price	Incentive	Simple Pay Back (Years)
Building and Park Lighting Upgrades & Controls	3,751	\$ 130,359	\$ -	\$ -	\$ 130,359	\$ 1,162,034	\$ 91,619	8.2
EMS / HVAC Controls Upgrades	4,803	\$ 53,138	\$ 23,813	\$ -	\$ 76,951	\$ 871,011	\$ 10,233	11.2
Cable Building HVAC Upgrade	128	\$ 4,745	\$ -	\$ -	\$ 4,745	\$ 360,130	\$ -	75.9
Illuminated Street Sign Replacements with Reflective Signs	635	\$ 21,219	\$ -	\$ -	\$ 21,219	\$ 138,384	\$ -	6.5
East Annex Chiller Replacement	25	\$ 2,012	\$ -	\$ -	\$ 2,012	\$ 182,130	\$ 1,119	90.0
One for One HVAC Replacements	597	\$ 10,428	\$ 2,340	\$ -	\$ 12,768	\$ 865,206	\$ 1,900	67.6
Project Development						\$ 205,413		
Project Management, General Costs & Install M&V						\$ 308,409		
JCI Bond						\$ 15,921		
Total	\$ 9,940	\$ 221,900	\$ 26,153	\$ -	\$ 248,054	\$ 4,108,637	\$ 104,871	16.1

Energy Projects	City Estimate 2010		April	City Estimate April 2010		JCI Proposal April 2010	City Estimate June 2010		JCI Proposal June 2010	
	Annual Savings	Incentives		Cost	Cost		Cost	Cost	Simple Pay Back (years)	Simple Pay Back (years)
Lighting Upgrades	130,359	91,619	1,032,816	1,162,034	1,032,816	1,162,034	1,032,816	7.2	1,090,088	7.7
EMS / HVAC Controls Upgrades ^A	76,951	10,233	804,242	871,011	871,011	871,011	871,011	-----	871,011	-----
Cable Building HVAC Upgrade	4,745	0	275,000	360,130	275,000	360,130	275,000	58.0	336,460	70.9
Illuminated Street Signs Replaced with Reflective	21,219	0	138,384	138,384	138,384	138,384	138,384	6.5	129,816	6.1
East Annex Chiller	2,012	1,119	185,000	182,130	185,000	182,130	185,000	91.4	170,854	84.4
Additional HVAC Replacements	12,768	1,900	663,750	865,206	663,750	865,206	663,750	51.8	811,638	63.4
DIRECT COST TOTAL (April 2010 list)			3,099,192	3,578,895	3,099,192	3,578,895	2,294,950		2,538,855	
New Projects added										
Water Conservation - Irrigation Controls Upgrade	129,434	0					748,106	5.8	983,478	7.6
Renewable Energy - Pool Solar Water Heating	12,814	0					161,325	12.6	157,390	12.3
Low Flow Plumbing Fixtures	35,948	0					219,225	6.1	306,482	8.5
DIRECT COST TOTAL (June 2010 list)							3,423,606		3,986,205	
INDIRECT COSTS - Project Management, Development & Bond			305,000	529,743	305,000	529,743	375,000		438,332	
TOTAL			3,404,192	4,108,638	3,404,192	4,108,638	3,798,606	10.6	4,424,537	12.4
Capital Budget			(922,500)	(922,500)	(922,500)	(922,500)	(922,500)		(922,500)	
Total Less Capital Budget							2,876,106		3,502,037	

^A Project was deleted from the updated June proposal

Consolidated Energy Savings Plan

FY 2012

FY 2011

	FY 2011				FY 2012			
	Jul-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-Jun 2011	Jul-Sep 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-Jun 2012
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
EECBG Projects								
City Services - HVAC Upgrade & Controls	Design	Bid	Construct					
City Hall Parking Lot LED Lighting Demonstration Project	Specs	Bid	Construct					
Street Security Lighting Replacements	Specs			Bid	Construct	Construct		
Other Energy Projects								
Lighting Upgrades	Specs	Bid	Construct	Construct				
Cable Building HVAC Upgrade	Design	Bid	Construct	Construct				
Water Conservation - Irrigation Controls Upgrade	Specs	Bid	Construct					
Renewable Energy - Pool Solar Water Heating		Specs	Bid	Construct	Construct			
Low Flow Plumbing Fixtures		Specs	Bid	Construct				
Illuminated Street Signs Replaced with Reflective Street Signs	determine requirements	determine requirements	Specs	Bid	Construct	Construct		
East Annex Chiller			Design	Bid		Construct		
HVAC Upgrades			Design	Bid	Construct	Construct	Construct	Construct