City Manager’s Report  
March 28, 2017 City Council Meeting  
Prepared by: Cleve Morris, City Manager  
Item #: 12.1

Subject: Adopt a Resolution approving an agreement with Johnson Controls Incorporated, for Energy Efficiency Projects and direct staff to return to the Council on April 25, 2017 with a Financing Workshop.

HISTORY / BACKGROUND:

California Government Code sections 4217.10-4217.18 were enacted in 1984 as a result of an energy crisis. The purpose was to assist public agencies in expediting and financing energy conservation measures. This code eliminates the necessity to separately contract for the design and construction phases of a project. In addition, it provides public agencies an exception from statutory competitive bidding requirements for public works energy services contracts related to renewable energy and energy conservation.

For the past sixteen (16) months Staff has been working with Johnson Controls on a potential project to increase water and energy efficiency throughout City facilities.

Discussion: The City spent $661,623 for electricity in Fiscal Year 2015/2016. In order to provide more efficient services consistent with General Plan policies, and with electricity costs continuously on the rise, Staff began exploring potential options for achieving greater energy efficiency and improve facility infrastructure for the City. A strong driver was the desire to create more sustainable facilities by using new technologies and clean energy.

California Public Resource Code 25008; California Government Code Chapter 3.2. Energy Conservation Contracts, Section 4217.10-4217.18, allow the City to forgo its standard lowest responsible bid public procurement processes to implement turn-key water and energy services projects when the City finds this procurement method is in its best interest. The JCI procurement model insures the project for a Guaranteed Maximum Price, on-time project completion, and ensures the systems are performing as specified in the design-build contract.

The Johnson Controls Inc. (JCI) Water and Energy Efficiency Project Development Agreement involves a unique public/private partnership; an approach that allows for a streamlined solution to implementing energy and infrastructure replacement projects. The program is divided into four phases.

1. Preliminary Analysis
2. Detailed Design Analysis and Cost Analysis
3. Installation
4. Performance Guarantee Term

A major objective of JCI’s process is to minimize risk to the City. JCI does this in a number of ways. First, the City expends no funds until the City has a co-authored solution. Second, Project cost is a guaranteed maximum price. Finally the annual savings are guaranteed and backed by the financial stability of a fortune 100 company.

On March 30, 2015, the City entered into the first phase of the agreement with Johnson Controls Inc. (JCI) to perform a preliminary analysis of City operations and facilities at no cost for their work should the City decide to not pursue the project. Since that time, Staff has worked with JCI to develop potential projects. Staff began conversations with JCI about available funds or incentives for water and energy efficiency projects. At that point, the following list of projects was identified as potential water and energy efficiency projects:

1. Waste Water Treatment Plant
2. Photovoltaic
3. SCADA
4. Water Storage
5. Water Treatment Plant
6. AWWA Water Meter Audit
7. HVAC
8. Roofing
9. Indoor/Outdoor Lighting

On November 24, 2015 the City entered into Phase 2 of the project development agreement with a $374,742 encumbrance for their work should the project efficiencies be verified and the City decides to not pursue Phase 3 of the Installation of the Performance Contract. The following is a final list of improvement measures that were identified with the Sewer Enterprise Fund, General Fund, and Water Enterprise Fund:

**Sewer Enterprise Fund:**
1. Photovoltaic Array
2. Modify Anaerobic Digestion Process
3. Add smaller blower and install VFD on blower
4. Installation of Sludge Drying Oven
5. PG&E Automatic Demand Response (ADR)
6. Peak Demand Limiting

**General Fund:**
1. Optimize Electric Rate Tariffs
2. Solar for Irrigation systems
3. Interior/Exterior Lighting Retrofit
4. Parking Garage Lights
5. Replace HVAC
6. Replace Standard Telephone Service with VoIP
7. Solar for the Parking Garage
8. Solar RESBCT for General Buildings

Water Enterprise Fund:
1. List of Project for the Water Funds:
2. AMI Meter Installation
3. Identify Pipe Replacement/Leak repairs/replace
4. Leak Detection Study
5. Water Storage Tank

The detailed analysis confirmed certain infrastructure improvements will result in water and energy savings of $217,188, annual energy savings that is guaranteed by JCI. Certain Water efficiency projects may be pursued in a second phase. The remaining projects were shown not to realize the necessary efficiencies to justify the project. However, City Staff and JCI have prioritized and finalized the improvement measures scope of work and project costs for this phase. The improvement measures for the contract is valued at:

Sewer Enterprise Fund Contract: $3,263,050
General Fund 660,597
Total Contract Value: $3,923,647

Staff is now seeking Council direction on how to proceed with the following list of projects:

Waste Water Enterprise Fund:
1. Solar Photovoltaic (PV) for the WWTP
2. Interior/Exterior Lighting Retrofit

General Fund:
1. Interior/Exterior Lighting Retrofit
2. Replace HVAC Equipment – City Hall
3. Replace HVAC Equipment – Old Town Hall
4. Replace HVAC Equipment – Public Safety

With the identified funding programs, the total project including the PV Solar will meet the City’s goals for savings very well. As you can see, from the attached financial analysis, the PV Solar will realize a net present value savings of $2,832,265. This is contingent on the City qualifying for a loan through the State Revolving Fund (SRF). Preliminary discussions with SRF staff have indicated that the project may qualify for the program.

Looking at each project on an individual basis, the PV Solar project works very well with good payback due to savings and the financing program. The Lighting program is within the parameters to show an efficiency and minimal savings. The HVAC program does not meet the parameters for savings defined under the program. However, most of the Cities HVAC units are at or past their useful life (See Table A). Therefore, it may be prudent to proceed with the HVAC program at this time. The other option would be to wait until each unit fails and replace them at that time on a pay as you go basis.
### Table A: HVAC Replacement Summary List

<table>
<thead>
<tr>
<th>Building</th>
<th>Quantity</th>
<th>Replacement Unit Description</th>
<th>Existing Vintage</th>
</tr>
</thead>
<tbody>
<tr>
<td>New City Hall</td>
<td>2</td>
<td>4 Ton Rooftop Heat Pump (serves 4th Floor)</td>
<td>1998</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>7-1/2 Ton Rooftop Heat Pump (serves Floors 1-3)</td>
<td>1998</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>4 Ton Condensing Unit (serves 3 server rooms)</td>
<td>2005</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Wall Mounted Fan Coil Units (3 server rooms)</td>
<td>2005</td>
</tr>
<tr>
<td>Public Safety</td>
<td>3</td>
<td>3 Ton Rooftop Heat Pump</td>
<td>1997</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>4 Ton Rooftop Heat Pump</td>
<td>1997</td>
</tr>
<tr>
<td>Town Hall</td>
<td>3</td>
<td>7-1/2 Ton Heat Pump Outdoor Section</td>
<td>1998 - 2001</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>7-1/2 Ton Fan Coil Units</td>
<td></td>
</tr>
</tbody>
</table>

### Other Project Benefits

**Cost Effectiveness**
The Energy Efficiency Project was calculated to save dollars for the City’s budget each year, with annual utility increasing by assumed energy rate increases, for a total project cost over the 25 year equipment life through energy efficiency savings and a reduction in operation and maintenance costs.

**Environmental**
This energy efficiency project will significantly advance the City’s mission of reducing its demand for traditional electricity generation thereby reducing its impact on the environment while providing improved services more efficiently.

**Support for Local Businesses**
The City will be working with Johnson Controls to seek out local subcontractors, suppliers and vendors for the purpose of including their services in the Project.

**Advantages of Energy Savings Performance Design-Build Contracting**
California Government Code Section 4217 allows the City to forgo its standard low-bid public procurement processes to implement turn-key energy services projects when the City finds this procurement method in its best interest. This procurement model ensures that JCI will implement the project for a Guarantee Maximum Price, complete the project on-time, and ensure that the systems are performing as specified in the contract.

- Collaborative Project Development Process – The Design process enables the City to define project goals, participate in the project’s design process, and select the subcontractors and equipment vendors that provide the best value solution.
• Faster Project Delivery – Since the procurement method integrates the project design and pricing/bidding process, this enables the City to significantly reduce the time it takes to move from design to construction.

• Fixed Price Contract – the detailed design process defines the project’s scope of work, develop engineering documentation and specifications, and engage subcontractors and equipment vendors to verify project constructability and pricing.

• Fewer Construction Issues & Cost Impact – the project team (JCI and City) will work together for the term of the project development, together they will identify many of the probable construction issues and potential project pitfalls. This collaborative approach would not be possible as part of a normal design, bid, and build project.

Projected Schedule
• March 28, 2017 City Council to Approve Contract
• April 25, 2017 City Council Finance Workshop
• August 9, 2017 City Council to Approve JCI’s Contract Notice to Proceed
• August 14, 2017 JCI Begins Construction
• September 2017 Construction to be complete
• January 2019 Performance Period to Start

Options:

1. Adopt the resolution approving the agreement including the HVAC replacement.
2. Adopt a resolution approving an agreement without the HVAC replacement.
3. Direct staff to negotiate amendments to the agreement and bring back recommendations to Council.
4. Reject the project at this time.

Cost: The total projected cost of the project, as defined in the contract including the HVAC, is $3,923,647. The City Plans on financing the project, and the total projected debt service (principal and interest) would range from $3,144,103 to $7,768,706 depending on the type of financing the City is able to secure.

There will also be financing issuance costs that will range from approximately $0 to $150,000 depending on the type of financing the City does. The cost of issuance would also be financed. The projected energy savings from the proposed project is anticipated to exceed the total projected amount of debt service. However, debt service may exceed the energy savings in some years depending on the chosen financing instrument and the associated terms.

If the Council elected to not proceed with the HVAC portion of the project, the total cost of the project, excluding financing costs, would be $3,640,065. The total projected debt service would range from $2,682,127 to $7,271,823 depending on the type of financing the City is able to secure. The projected energy savings from the proposed project is anticipated to exceed the total
projected amount of debt service. However, debt service may exceed the energy savings in some years depending on the chosen financing instrument and the associated terms.

Staff plans on holding a Finance Workshop on April 25, 2017, to more closely review the available financing options and request the Council to proceed with the most preferable financing structure.

**Budget Impact:** At its meeting held on November 24, 2015, the Council approved the Step 2 project development agreement with JCI in the amount of $374,742 to continue with the energy saving project and development 30% design plans and specifications. The payment of the $374,742 was deferred in anticipation of financing the entire project including the Phase 2 agreement and construction. The City has reserved the $374,742 in case the City decided not to proceed with the entire project. If the Council approves the proposed agreement with JCI, the $374,742 will continue to be deferred and included in a future financing of the entire project. If the Council elects not to approve the proposed agreement with JCI, the $374,742 would need to be paid to JCI from reserves in the near future.

**Recommendation:** Adopt a Resolution approving an agreement with Johnson Controls Incorporated, for Energy Efficiency Projects and direct staff to return to the Council on April 25, 2017 with a Financing Workshop.

M. Cleve Morris, City Manager

Dave Warren, Finance Director

**Attachments:**

Resolution
Agreement with HVAC
Agreement without HVAC