TO: HONORABLE CITY COUNCIL
FROM: CITY MANAGER
DATE: JANUARY 10, 2005
DEPARTMENT: UTILITIES
SUBJECT: APPROVAL OF A CONTRACT WITH AUTODESK, INC. IN THE AMOUNT OF $292,500 FOR THE INSTALLATION AND IMPLEMENTATION OF ELECTRIC COST ESTIMATING AND DESIGN SOFTWARE

RECOMMENDATION

Staff recommends that Council:

1. Approve and authorize the City Manager to execute the attached contract with Autodesk, Inc. in the amount of $292,500 for the purchase and implementation of electric cost estimating and design software (Attachment A).

2. Authorize the City Manager or his designee to negotiate and execute one or more change orders to the contract with Autodesk, Inc. for related, additional but unforeseen work which may develop during the project, the total value of which shall not exceed $29,250.

DISCUSSION

Scope of Services Description
The scope of work to be performed under the contract is for the purchase, implementation and installation of an Electric Cost Estimating and Design Software for use by the Electric Engineering Division of the Utilities Department.

The work orders produced by the Electric Engineering Division for the construction of CIP and new business jobs have a threefold purpose:

1. Provide a cost estimate of labor and materials for the job
2. Provide instructions to the workforce for constructing the job.
3. Provide a record of the “as-built” condition upon completion of the work.

The current method for producing a work order package consists of using four non-integrated applications: cost estimating and material ordering are performed in SAP; construction sketches and circuit diagrams are produced by using AutoCAD; notices of intent to other utilities and job accounting are produced in Microsoft ACCESS; and engineering calculations are performed by the use of look-up tables, guides, and software applications. Due to the non-integrated nature of the applications needed to produce a work order package, it is necessary to enter job data multiple times.

Presently, there are four utility engineer estimators in the Electric Division of the Utilities Department. These four estimators are responsible for producing all the work orders (CIP and new business) generated by Electric Engineering. Since the City has not produced its own complete set of electric distribution and transmission construction standards, the estimators use a variety of sources from other utilities and vendors for engineering calculations and construction standards.

Once a job has been completed, it is the responsibility of the Utilities Department to maintain the electric infrastructure. Tracking of maintenance items such as poles, transformers and switches is done on Microsoft ACCESS. “As-built” information is entered on equipment databases, and later used for maintenance cycles. In addition, the “as-built” drawings are transferred to an AutoCAD drawing maintained by the Utilities Department.

The combination of using multiple non-integrated applications and a variety of construction standards for producing work order packages creates the potential for inefficiencies and errors in engineering, constructing, operating and maintaining the electric utility.

The proposed Electric Cost Estimating and Design Software system will provide an integrated design, cost estimation, and electric distribution management system for the electric utility. The proposed system is comprised of two integrated applications: 1) Utility Design and Estimation Application for generating and managing electric distribution designs, performing engineering analysis calculations, generating design cost estimates, producing construction drawings and passing cost estimates to SAP; 2) Electric Distribution Management Application for maintaining, modeling, editing and managing the data demanded by the Electric Utility. Please see Attachment B for the complete scope of services.

The integration of the various engineering functions will reduce the time needed to prepare estimates and improve the accuracy of the engineering drawings, material lists, and map updates.

The request for the contingency amount of $29,250 is for unforeseen work that may take place during the data conversion, interface customization, and project deployment portions of the project. The infrastructure data for the electric utility is currently in a number of different formats. This data will have to be converted into a single format that will be used by the new software application. If there are inconsistencies in the infrastructure data, these will have to be investigated and resolved. In addition, the software application comes with a standard data
model that can be used by any utility for system design purposes. The amount of customization to the data model required by the City may increase after a gap analysis has been completed between the standard data model and the City’s Electric Distribution Data Model. Another source of uncertainty is the amount of time necessary to complete the SAP interface portion of the project. The software application data will have to be manipulated into a form, which is wholly acceptable to the City’s SAP system. Due to the customization of the City’s SAP system, this integration may take several iterations before being successful.

The status quo alternative would maintain the inefficiencies previously noted in this report. Staff is recommending the use of a consultant due to the specialized needs of the Electric Utility, and the cost savings associated by utilizing a vendor with an existing product that can meet the requirements of the Utility.

Summary of Solicitation Process

<table>
<thead>
<tr>
<th>Proposal Description/Number</th>
<th>Electric Cost Estimating and Design Software – RFP #106632</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed Length of Project</td>
<td>12 months</td>
</tr>
<tr>
<td>Number of Proposals Mailed</td>
<td>7</td>
</tr>
<tr>
<td>Total Days to Respond to Bid</td>
<td>21</td>
</tr>
<tr>
<td>Pre-Bid Meeting?</td>
<td>No</td>
</tr>
<tr>
<td>Number of Bids Received:</td>
<td>4*</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Location (City, State)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Autodesk, Inc</td>
<td>San Rafael, CA</td>
</tr>
<tr>
<td>2. Miner &amp; Miner, Consulting</td>
<td>Fort Collins, CO</td>
</tr>
<tr>
<td>Inc.</td>
<td></td>
</tr>
<tr>
<td>3. Itron, Inc.</td>
<td>Spokane, WA</td>
</tr>
<tr>
<td>4. Hitachi Software Global</td>
<td>Westminster, CO</td>
</tr>
<tr>
<td>Technology, Ltd.</td>
<td></td>
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</tbody>
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| Bid Price Range               | From a low of $84,970 to a high of $514,487 |

*Bid summary provided in Attachment C.

An evaluation committee consisting of City staff reviewed the proposals. The committee carefully reviewed each firm’s qualifications and submittals in response to the criteria identified in the RFP. The committee considered 13 different factors for evaluating the submittals. A list of the selection criteria and the evaluation is provided in Attachment D. The most important factors in selecting the successful proposal were 1) The ability of the proposed system to meet the specification, 2) Functionality of the proposed system, 3) Vendor’s experience in providing a software system of similar capabilities.

Autodesk, Inc. was selected because of its experience in providing systems of similar capabilities: Silicon Valley Power (City of Santa Clara) recently purchased the Autodesk Utility Design product; FirstEnergy (Akron) uses Autodesk Utility Design along with SAP integrated to its GIS. The proposal from Autodesk, Inc. was superior in meeting the 50 listed requirements in the specification. The price of the Autodesk, Inc. proposal was the lowest among the complete
proposals. The proposal from Hitachi Software Global Technology, Ltd was priced lower at $84,970, but staff found that the proposal from Hitachi was incomplete in meeting the scope of work. In particular, the proposal did not include pricing for the design and estimating component of the requirements. Also absent from the Hitachi proposal was pricing for the SAP integration. The proposal from Autodesk, Inc. addressed all of the requirements of the scope of services. Another factor in awarding the contract to Autodesk was the familiarity that the Utility engineering estimators have with other Autodesk products. The design environment for the proposed system will have the look and feel of another Autodesk product (AutoCAD) that is already in use by the Electric Utility. The AutoCAD software has become a de facto standard within the Utility for design drafting.

Utilities staff have worked closely with the Information Technology (I.T.) manager to prepare the scope of services. I.T. was involved in reviewing and ranking the proposals. They have also agreed to be on hand during the implementation of the software. On-going support from I.T. will only be required when there are upgrades to the software.

**RESOURCE IMPACT**

Funds for this contract have been budgeted in the 2004-2005 Electric Fund Capital Improvement Program (EL-03013).

Maintenance fees after the first year will be $17,032 per year. The annual maintenance fees will provide for software product upgrades, web-based support services, documentation updates, and technical telephone support.

Staff expects a major improvement in productivity in the work order process due to the increased efficiency and accuracy of the new system. At a minimum, Staff anticipates to shift the resources of one FTE within the electric engineering department after the new system is fully operational.

**POLICY IMPLICATIONS**

This recommendation is consistent with the Council approved Utilities Strategic Plan Key Strategy #3, Streamline and manage business processes to allow CPAU to work efficiently and cost-effectively.

**ENVIRONMENTAL REVIEW**

This is not a project for California Environmental Quality Act (CEQA) purposes.

**ATTACHMENTS**

A: Contract
B: Scope of Services
C: Proposal
D: Selection Criteria

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Senior Electric Project Engineer

DEPARTMENT HEAD: ______________________  JOHN ULRICH  
Director of Utilities

CITY MANAGER APPROVAL: ________________  EMILY HARRISON  
Assistant City Manager