



**OFFICE OF THE CITY AUDITOR**  
**COLORADO SPRINGS, COLORADO**

**13-11**  
**2012 Southern**  
**Delivery System**  
**Monitoring Report**

**June 2013**



# OFFICE OF THE CITY AUDITOR COLORADO SPRINGS, COLORADO

## 13-11 2012 SDS Monitoring Report

June 2013

### **Purpose**

The Office of the City Auditor (OCA) provides auditing and continuous monitoring of the Southern Delivery System (SDS). The audit period for this report was 2012. The OCA intends to provide an annual report on the project until it is completed.

### **Highlights**

Overall, the SDS project was well managed and adequate controls were in place to ensure compliance with applicable laws, regulations and governmental agreements. The contractors were selected using a fair and competitive process. The acquisition of land complied with applicable standards and laws. Generally, the project was in compliance with policies regarding project controls and financial reporting. Further, it appears the project may be completed below budget.

We identified seven new observations along with four observations for which recommendations have already been implemented. We have also offered two opportunities for improvement. In addition, this report includes a follow-up section on the four recommendations made in the 2011 SDS report. The follow-up found that all four previously identified recommendations had been implemented.

A detailed analysis of the effect of SDS on the multiyear water rate case was conducted as part of the water rate case. Our recommendations included a follow up review in 2014 by Colorado Springs Utilities to analyze the revenue requirement for the Water Services Division.

*(Continued on page 2)*

### **Management Response**

Colorado Springs Utilities agrees with the recommendations. See report for complete details.

### **Recommendations**

#### **New recommendations:**

1. Colorado Springs Utilities should identify the root cause for specialty contract process deviations and consider appropriate corrective action for the underlying causes of these issues.
2. Clear and complete documentation should be generated and retained, in the documents of record, especially in situations involving nonstandard contracting and payment arrangements.
3. The change order process should be followed when changes are made. Document issues or problems and their resolution as they occur. Consider if additional training is warranted.
4. Create a risk matrix to be used as a guide when determining insurance review cycle. Conform with industry standards for insurance language. Validate contractor compliance; consider use of an insurance management system.

*(Continued on page 2)*

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*(Highlights continued from page 1)*

Some highlights of audit activities conducted during 2012 include:

- 2012 project spending reached \$112 million and was reviewed for payment and financial reporting accuracy by the auditors. The majority of high value construction contracts and selected specialty contracts were reviewed.
- Auditors observed the procurement process and reviewed the contract documents for all major contracts, including the Water Treatment Plant and Pump Stations.
- Auditors reviewed the proposed contract amendment for the Water Treatment Plant and suggested modifications. The development of the Water Treatment Plant's Guaranteed Maximum Price (GMP) and the selection of the various sub contractors and suppliers was closely observed and deemed to be competitive, fair and offered the best value.
- An audit approach and program were developed to review permitting and environmental aspects of SDS.
- The auditors provided detailed feedback to the SDS procurement team regarding bonding and insurance issues; identified contract inconsistencies and reviewed improvements that resulted from our feedback.
- The close out process and continuous improvement knowledge transfer plans were reviewed. Various improvements were communicated to and incorporated by the SDS team.

*(Recommendations continued from page 1)*

5. The standard SDS document control procedures should be adopted and followed by all SDS project teams.
6. Changes that meet the criteria of requiring Change Committee approval should be documented and approved by SDS management before they are communicated to third parties under contract.
7. Colorado Springs Utilities should obtain input from participants involved in the GRC project, for use when considering future software projects.

### ***Recommendations implemented prior to issuance of the report:***

1. Contract language should be corrected to clarify the type of contracts.
2. The specifications and contract terms should be reviewed for consistency and clarified as appropriate.
3. Validate contractor compliance for non-standard insurance provisions not included on the Certificate of Insurance.
4. Contract templates should be updated regarding insurance requirements; implement methods to assist in evaluating insurance requirements and compliance.



# Office of the City Auditor

## Public Report

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Date: June 20, 2013

To: President King, President Pro-Tem Bennett, and Members of City Council

Re: 13-11 SDS Monitoring Report for 2012

We continued our audit and monitoring of the Southern Delivery System (SDS) for Colorado Springs Utilities during 2012. The purpose of this audit was to provide real-time auditing and monitoring of SDS.

**Overall, the SDS project was being well managed and adequate controls were in place to ensure compliance with applicable laws, regulations and governmental agreements.** The selection of contractors was effective in ensuring the process was fair and competitive. The acquisition of land complied with applicable standards and laws. Generally speaking, activities were in compliance with Colorado Springs Utilities policies regarding project controls and financial reporting; however, several observations were noted concerning contract administration. Additional observations regarding improvements to contract terms, insurance requirements, permitting activities and information systems are detailed in the body of the report. As mentioned in earlier reports, the project is expected to be completed on schedule and under budget.

We identified seven new observations along with four observations for which recommendations have already been implemented. We have also offered two opportunities for improvement, which are considered less significant than observations. In addition, this report includes a follow-up section on the four recommendations made in the 2011 SDS report. The follow-up found that all four previously identified recommendations had been implemented.

Regular meetings are held to update management on the progress of the audit and to share concerns. In addition, the assigned auditors routinely attend team meetings to stay abreast of decisions and progress as the project moves forward. They are often called upon to review draft agreements. The auditors may offer opinions on policies or implementation of specific procedures. This process provided real-time feedback to the project team. We believe this close integration provides the most cost effective and efficient means of monitoring and providing assurance as the project progresses.

Because of this continuous monitoring arrangement, recommendations have been made to management and changes have been implemented in advance of the issuance of this report. Some highlights of the audit activities conducted during 2012 include:

- 2012 project spending reached \$112 million and was reviewed for payment and financial reporting accuracy by the auditors. This review included payment application processing for the majority of high value construction contracts and selected specialty contracts.
- As of December 31, 2012, \$451.4 million was under contract for SDS. Auditors completed field visits to observe construction activities in 2011 and 2012 and have reviewed the details for the current construction contracts.

## 2012 SDS Monitoring Report

### Office of the City Auditor

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- Auditors observed the development of the Water Treatment Plant and Pump Station contracting and bidding processes. Compliance with proper procedures to ensure fair and competitive bidding and contract award for these key facilities was documented.
- Auditors reviewed the proposed contract amendment for the Water Treatment Plant and suggested modifications. The development of the Water Treatment Plant's Guaranteed Maximum Price (GMP) and the selection of the various sub contractors and suppliers was closely observed and deemed to be competitive, fair and offered the best value.
- We reviewed 25 land acquisitions for compliance with *The City of Colorado Springs Procedure Manual for the Acquisition and Disposition of Real Property Interests* as well as state and federal laws. The review included determining if the prices paid were properly supported. The transactions involving eminent domain settlements were reviewed for compliance and supporting documentation.
- An audit approach and program were developed to review permitting and environmental aspects of SDS. Work began in 2012 on this portion of the audit.
- The auditors provided detailed feedback to the SDS procurement team regarding bonding and insurance issues. They identified contract inconsistencies and reviewed improvements that resulted from our feedback.
- As construction work packages were completed, the closeout process and continuous improvement knowledge transfer plans were reviewed. Various improvements were communicated to and incorporated by the SDS team.
- A detailed analysis of the effect of SDS on the multiyear water rate case was conducted as part of the water rate case. Our recommendations included a follow up review in 2014 by Colorado Springs Utilities to analyze the revenue requirement for the Water Services Division.

As always, feel free to contact me if you have any questions.

Sincerely,



Denny L. Nester, MBA CPA CIA CFE CGFM CGAP  
City Auditor

Cc: Jerry Forte, Chief Executive Officer  
Bill Cherrier, Chief Planning and Financial Officer  
Carl Cruz, Chief Customer and Corporate Services Officer  
John Fredell, General Manager, Southern Delivery System  
Gary Bostrom, Chief Water Services Officer  
Dave Maier, Manager, Enterprise Risk Management

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## REPORT DETAILS

The Southern Delivery System (SDS) is a multiyear construction project of Colorado Springs Utilities designed to bring water from the Pueblo Reservoir to Colorado Springs. The Office of the City Auditor (OCA) has provided auditing and continuous monitoring of the project.

The OCA provides real-time feedback to the SDS team on all issues identified. Because of this relationship, some issues have been identified and corrected prior to the issuance of this report. Those observations that have been implemented are listed separately in the Recommendations Implemented Prior to Report Issuance section of this report. This report also includes follow-up on the four observations from the 2011 report.

Colorado Springs Utilities is an enterprise of the City of Colorado Springs. The OCA reports to the Colorado Springs City Council and provides independent audit, attestation and consultation services to the City Council regarding the City and the City's enterprises.

## SCOPE

The audit period for this report was the calendar year 2012. Two previous reports have been issued on the SDS project:

- The 2010 Report covered the period from 2002 – 2010 and was issued November 30, 2011.
- The 2011 Report covered 2011 activity and was issued August 23, 2012.

This report will be referred to as the 2012 SDS report. The intent of the OCA is to provide an annual report on the project until it is completed.

The focus of this multiyear audit will change as the project progresses. During 2012, the main activities were pipeline construction and contracting for the remaining work packages, including the development of the Guaranteed Maximum Price (GMP) for the Water Treatment Plant construction. During 2012, the auditors focused on detailed reviews of pipeline construction projects and the associated contracts for compliance with contract terms and internal control processes. The auditor's risk and fraud assessment is updated periodically as the project moves forward. During 2013, our focus will shift from pipeline construction to construction of the facilities for the Water Treatment Plant and Pump Stations.

The key objectives of the audit were:

- Monitoring of the project for compliance with applicable laws, regulations and governmental agreements.
- Document and review project controls, including budget, financing and schedule controls, for effectiveness, efficiency and fraud prevention.
- Review the selection process for contractors to ensure a fair and competitive process is followed.



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- Review financial records for compliance with Colorado Springs Utilities procedures as well as for accuracy and completeness.
- Monitor and review land acquisition for compliance with standards and laws.
- Document and monitor project management and governance activities for effectiveness, efficiency and accuracy.

Each annual report will also include a follow-up section on any previous recommendations.

The financial impact of SDS on the rate payers was reviewed as part of the water rate case heard by City Council in July 2012.

### BACKGROUND

With SDS underway, Colorado Springs Utilities has accomplished a major goal of the 1996 Colorado Springs Water Resources Plan, which identified a major delivery system that could utilize the existing water rights for the City of Colorado Springs.

SDS is a multi-phased regional project to bring water from the Arkansas River to the City of Colorado Springs, the City of Fountain, the Security Water District and the Pueblo West Metropolitan District; formalized in an Intergovernmental agreement that created a governing board known as the Construction Coordination Team (CCT). Colorado Springs Utilities serves as the head of the CCT and as the Project Manager. Phase 1 of the two-phase project includes all the components necessary to begin delivering water to the partner communities by April 2016. All budget and spending figures in this report refer to total project spending, including the partner share. The Colorado Springs Utilities share is approximately 95% of the total project spending.

#### Project Cost Overview

The budget that is used for SDS was established by the Colorado Springs Utilities Board in July 2009 and was \$880,000,000, stated in April 2009 dollars. Long-term projects such as SDS are subject to actual and projected escalation for labor, material and equipment costs. The Construction Cost Index (CCI), developed by the Engineering News-Record, is used by the project management team to forecast total project spending through completion of Phase 1 in 2016 and mitigation costs through 2021. The CCI is currently projected to increase at a rate of approximately 2% to 4% annually through 2021. Using the CCI, the 2009 Budget equates to \$1,003 million after all direct project costs are paid through 2021.

SDS Program Budget (in millions)	
2009 Budget in April 2009 dollars	\$880
+ Actual and Projected Escalation based on CCI	\$123
= 2009 Budget with Escalation	\$1,003
- Projected Savings as of 12/31/12	\$68
= Current Escalated Forecast to complete	\$935

Based upon an escalated budget of \$1,003 million, the most recent escalated cost forecast to complete is \$935 million. This forecast is lower than the original budget due to realized and anticipated cost





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savings identified to date. Therefore, the project team is forecasting completion approximately \$68 million below budget.

As of December 31, 2012, \$451.4 million was under contract for SDS. Greater certainty about the final project cost will be achieved with the execution of construction contracts for the water treatment plant and raw water pump stations, which are anticipated to occur in the first half of 2013.

Actual spending in 2012 totaled \$112 million, bringing project to date spending to \$317 million. Project spending is reported regularly to the CCT. Spending and other information is made available to the public via the SDSwater.org website when the monthly management report is posted. The accuracy of these reports has been compared to the financial system with no discrepancies identified.

### **Major Project Accomplishments as of December 31, 2012**

- Achieved significant milestone of 500,000 hours worked without a lost time injury;
- Nearly 30 miles of pipeline installed to date – more than half the total pipeline for Phase 1;
- Nearly all pipeline installed in Pueblo County – with only approximately 0.3 miles remaining;
- Completion and successful testing of the new Pueblo Dam connection;
- Began construction of the first phase of power supply infrastructure for the future Bradley Pump Station in El Paso County;
- Completed design on the water treatment plant and worked closely with contractor to competitively bid construction work packages to achieve best possible price;
- Advanced design on the raw water pump stations to 90% and restructured procurement approach to maximize competition for construction and deliver best value;
- Acquired all the land needed for construction in Pueblo County with transactions finalized on more than 204 parcels of the nearly 300 total required project-wide;
- Hosted multiple regional business outreach events to encourage local contractor participation. To date nearly 170 Colorado businesses have performed work on SDS.

These accomplishments are represented by construction on 12 separate work packages. A work package is defined as a separate segment of the pipeline or a separately identifiable project such as construction of the water treatment plant. New contracting for 2012 included: two raw water pipeline segments, revegetation for Pueblo County work areas, power supply infrastructure for the Bradley Pump station, construction of the Water Treatment Plant and the final work package for the Pueblo Dam. As these procurement processes occurred, OCA staff observed and reviewed the procurement process. In our opinion, the bidding process was fair and competitive and resulted in Colorado Springs Utilities achieving best value for the work contracted.

OCA staff also reviewed the contracts associated with work packages under construction during 2012. Several observations regarding issues with contract language, terms or contract administration are detailed in the observation section of this report.

Land acquisition continues as an area of monitoring for the OCA. In 2012 a total of 25 acquisitions were completed for SDS. The OCA staff reviewed these transactions and found the prices paid were properly



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supported. The transactions occurred and were documented in accordance with *The City of Colorado Springs Procedure Manual for the Acquisition and Disposition of Real Property Interests* as well as state and federal laws. Several of the acquisitions were completed after being approved to acquire via eminent domain. We reviewed these acquisitions and determined that the negotiations were fair and were completed according to the applicable standards and regulations.

### FOLLOW-UP FROM 2011 SDS MONITORING REPORT

The previous SDS report included four recommendations. The recommendations and the status of each are shown here:

1. *Reexamine bonding policies and compliance with those policies; specifically, consider increasing the trigger amount for imposing an adjustment to a bond rider.*

Status: Implemented

2. *Retain the Project Engineer's pipe inspection lists as proof that the appropriate materials were manufactured and stored for the project.*

Status: Implemented

3. *The Recommendation of Settlement Form should be completed as soon as possible once an administrative settlement has been reached. The supporting documents should be retained in the land acquisition file. Those acquisitions which have been completed and are lacking the appropriate form and documentation should be corrected.*

Status: Implemented

4. *The SDS Land Team should complete the proper documentation for all legal settlements, including the Recommendation of Settlement form, and retain this information in the land files.*

Status: Implemented

### COMMENDABLE PRACTICES

1. A total of 500,000 hours of work has been completed without a lost time incident.

The SDS program is justifiably proud to have surpassed 500,000 hours worked without a lost time incident, and we commend the program on this achievement.

2. Work Package S4A procurement and delivery strategies are commendable.

The project team and program management adapted their approach to the S4A work package as additional information became available during the design process. The auditor's office observed the development of new procurement and delivery strategies. Changes to the procurement and delivery strategy included reorganizing the work package into West/East and Central portions, changing Central to an RFP procurement and design/build delivery strategy. In our opinion, this resulted in a thoughtful



and balanced consideration of cost, best value practices, minimizing risk and protecting the best interests of community stakeholders.

3. The SDS team modified the procurement strategy for the Raw Water Pump Stations (RWPS) and the Pumps, Motors and Drives to mitigate risk and drive best value.

The new design-bid-build (DBB) procurement for the RWPS will allow Colorado Springs Utilities to achieve the in-service date of 2016 while maximizing competition for the construction contracts. In addition, the changes will result in selection of the pumps, motors and drives with the highest efficiency/lowest cost (e.g. cost to operate) and the least amount of contract risk.

## CONCLUSION

Overall, the SDS project was being well managed and adequate controls were in place to ensure compliance with applicable laws, regulations and governmental agreements. The selection of contractors was effective in ensuring the process was fair and competitive. The acquisition of land complied with applicable standards and laws. Generally speaking, activities were in compliance with Colorado Springs Utilities policies regarding project controls and financial reporting.

Several observations were noted regarding contract terms, contract administration, insurance requirements, permitting activities and information systems that are detailed in the body of the report.

We appreciate the on-going cooperation of the SDS team and the associated support departments within Colorado Springs Utilities to conduct this audit.



## OBSERVATIONS, RECOMMENDATIONS AND RESPONSES – SPECIALTY CONTRACTS

For the bulk of the design and construction activity, the SDS project was being constructed with work packages assigned to a General Contractor. These General Contractors make their own determination as to which sub contractors they hire to complete their contractual obligations. In addition to these General Contractors there were multiple specialty contractors that directly contracted with Colorado Springs Utilities to provide services that were not part of the General Contractor's scope of work. Examples of these specialty contractors included field testing, inspection, environmental mitigation, and road restoration. During our review in 2012, we examined some of these specialty contracts and noted several related issues.

As mentioned in earlier reports, SDS is being constructed with oversight from multiple outside entities, including the U. S. Bureau of Reclamation, the State of Colorado, Colorado Department of Transportation, Pueblo County, El Paso County and others. Because of the oversight and legal arrangements with these outside agencies, in some cases, they can direct the work of and specify the required qualifications of Colorado Springs Utilities specialty contractors. This arrangement can potentially lead to nonstandard contracting practices and payment arrangements, which should be better documented.

### OBSERVATION 1 – CONTRACT ADMINISTRATION ON ENVIRONMENTAL SPECIALTY CONTRACTS WAS NOT IN FULL COMPLIANCE WITH CONTRACT AMENDMENT POLICIES

Our review of the specialty contracts showed deficiencies which appeared to be related to an incomplete understanding of the procurement processes and work order procedures by project managers. We observed instances where the following occurred:

- One specialty contractor was awarded additional funding without documented justification in the enterprise resource management system for the increase.
- Competitive bids between pre-qualified vendors and a written statement of work were not always appropriately maintained in the procurement files as required.
- Task orders, rather than contract amendments, were being used to modify the original contract terms. One of these task orders was also not in compliance with the original contract's rate sheet.
- Purchase Order releases were not being issued per the required sequence of events listed in QBD 11075.
- Contracts did not address the need for outside-agency driven work to be coordinated with Colorado Springs Utilities project managers.



#### AUDITOR'S RECOMMENDATION

Colorado Springs Utilities should identify the root cause for these deviations and consider appropriate corrective action for the underlying causes of these issues. Corrective actions should address the following:

- Ensure proper handling and filing of documentation regarding contract administration, including documentation regarding contract increases.
- Identification of proper procurement processes, including the appropriate use of amendments, task orders and purchase orders.
- Determination of contract type and language that is appropriate for the work envisioned by the Project Manager.
- When the scope of work for a contract is such that an outside agency may direct the work of the vendor, there should be a requirement for the vendor to communicate timely to Colorado Springs Utilities regarding changes in scope, cost or schedule. Documentation of such changes should be properly retained.

#### COLORADO SPRINGS UTILITIES RESPONSE

Colorado Springs Utilities agrees with the observation and recommendations provided. While the observation is believed to reflect issues involving only a few environmental contracts and/or vendors, areas for improvement in staff's contract administration efforts are being addressed comprehensively.

In addition to already implementing remedial action to address the specifically identified contract administration issues, Colorado Springs Utilities is committed to conducting additional training to improve staff's understanding of procurement-related activities and associated record management requirements and will complete this training no later than June 28<sup>th</sup>, 2013.



**OBSERVATION 2 – CLEAR AND COMPLETE DOCUMENTATION FOR SPECIALTY GEOTECHNICAL SERVICES WAS NOT GENERATED AND RETAINED**

During our review of the change orders for the construction of one pipeline work package, it was noted that the engineering contract had been amended in part to add geotechnical work that was not originally included in the engineering contract. This engineering contract was amended a second time specifically to cover additional geotechnical work. An outside agency required the work provided by the geotechnical firm. In total the engineering contract was increased by \$53,902 for the geotechnical firm's field work.

The FW1B work package also included a contract with this same specialty geotechnical contractor to provide services directly to Colorado Springs Utilities. This geotechnical contract was for \$136,900. These services were also required by the outside agency.

Because invoices for both the direct geotechnical contract and the sub contract for geotechnical services overlapped for several months, it was not clear to the auditors what had been committed for this work and what had been paid.

Several issues have been identified:

- Documentation was not available to support the increase to the original contract for work to be performed by the specialty contractor as a sub contractor. Documentation was not available to clearly delineate the work to be performed as a subcontractor versus directly as a contractor.
- The total amount intended to be committed for the work was unclear. In addition, the amounts committed to three of the line items for the work package appeared to the auditor to be incorrect due to confusion about the exact scope of work under each contract.
- Two contractor invoices did not include backup to support the subcontractor charges.

Work performed by a contractor should be clearly defined and documented. When unusual or temporary measures must be taken to respond to timing or other contracting issues, a clear record of decisions made and actions taken should be maintained. Authorizing a contractor to perform work under both a direct contract and a subcontract through a third party introduces complexity and creates the risk of overpayment.

**AUDITOR'S RECOMMENDATION**

Clear and complete documentation should be generated and retained in the documents of record, especially in situations involving nonstandard contracting and payment arrangements.



#### COLORADO SPRINGS UTILITIES RESPONSE

Colorado Springs Utilities agrees with the observation and recommendation.

A permitting authority selected a geotechnical firm to perform 3<sup>rd</sup> party inspection and reporting services on behalf of the authority, but under contract to, and to be paid by, Colorado Springs Utilities.

The geotechnical firm prescribed by the permitting authority had previously been subcontracted by the lead project engineering firm to provide tunnel design expertise on the project.

While supporting documentation was reviewed by project staff to ensure geotechnical services were tracked and billed correctly, not all of the related documents were properly filed in the project system of record.

In addition to already implementing remedial action to address the specifically identified contract administration issues, Colorado Springs Utilities is committed to conducting additional training to improve staff's understanding of procurement-related activities and associated record management requirements and will complete this training no later than June 28<sup>th</sup>, 2013.



**OBSERVATION 3 – ANCILLARY PARTS PURCHASE WAS NOT COMPLETED IN COMPLIANCE WITH CHANGE MANAGEMENT PROCESS**

Specialty valves were required for multiple SDS pipeline work packages. During the design review process, multiple changes needed to be made to the valve procurement. Instead of following the change order process, an email was used as the change order to increase the purchase order. The change order process facilitates contract changes and assures appropriate review and approval has taken place. It also standardizes the process. Not following the change order process caused communication errors and did not allow for a transparent view of the transaction. Unnecessary parts could have been ordered causing budget problems.

QBD 10916 (Contract Change Management) lists the responsibilities for the requestor and the procurement representative. Several deviations from the established process were noted for this contract:

- There was no approved purchase requisition for one type of valve.
- There was no documentation of the change order in the contract database.
- Appropriate approved documentation was not submitted to the vendor.

Additionally, documentation of issues related to this procurement was not maintained in a transparent manner during the pre-purchase process. This resulted in complications throughout the procurement process for multiple SDS work packages, creating unnecessary inefficiency. Several specific errors occurred, including that the updated Purchase Order (PO) was not attached to the other contract documents when PO changes were made. No documentation was attached to explain why the PO did not calculate correctly, what the resolution was, or why items on the PO appeared to be received incorrectly. While prices did match, descriptions in the email/change documentation did not match the descriptions in the PO. Finally, at the time of review, the PO had not been closed out even though receipts were completed.

**AUDITOR'S RECOMMENDATION**

We recommend:

- The change order process, QBD 10916, be followed when changes to the original contract become necessary. Adherence to the policy should also include proper documentation of change orders.
- Problems and resolution should be documented as they occur during the procurement process. We also recommend closing the PO and documenting the details of what took place to assure the PO and contract were received and/or executed in full.





- Colorado Springs Utilities should consider if additional training is warranted to ensure project managers and administrators understand the change order process and proper corrective action when faced with errors.

#### COLORADO SPRINGS UTILITIES RESPONSE

Colorado Springs Utilities agrees with the observation and recommendations.

Staff conducted a competitive process to establish a cost and schedule advantage for procuring long lead time specialty valves that would be provided by Colorado Springs Utilities to pipeline contractors. During the course of completing this “owner furnished” equipment purchase, changes in design details caused changes in valve configurations. Staff’s effort to quickly address changes yielded appropriate valves at the agreed cost, yet lack of familiarity with administrative procedures caused substandard documentation and inefficiency in materials management.

In addition to already implementing remedial action to address the specifically identified contract administration issues, Colorado Springs Utilities is committed to conducting additional training to improve staff’s understanding of procurement-related activities, change control processes, and associated record management requirements. This training will be completed no later than June 28<sup>th</sup>, 2013.



## OBSERVATIONS, RECOMMENDATIONS AND RESPONSES – OTHER OBSERVATIONS

### OBSERVATION 4 – INSURANCE RENEWALS WERE NOT VERIFIED AND THERE WAS NO VERIFICATION OF INSURANCE BEYOND CONTRACT COMPLETION

While a Certificate of Insurance (COI) was required by Procurement (PCS) at the commencement of a contract, PCS did not have a method for tracking insurance renewals. At the time of our review, Article 5.03 of the standard construction contractor agreement stated, "For the duration of the Agreement and for a period of not less than eight (8) years after Final Completion of the Work, Contractor shall, at his own expense, procure and maintain insurance and shall require all subcontractors of all tiers to provide and maintain insurance of the type and in the limits set forth below...." At the time of our review neither the SDS program nor the enterprise had a system in place to track insurance renewals for general contractors or sub contractors.

There was no consideration given to the type, duration or risk associated with a given contract when requiring proof of insurance renewals. Further, the Colorado Springs Utilities Standard Bonding and Insurance Requirements, QBD 09339, did not address a process for tracking insurance renewals.

Relying on the vendor to comply with the contract without validation could result in missing or insufficient insurance coverage. It was also possible that Colorado Springs Utilities was paying for insurance coverage they in fact were not receiving. Should an event occur where required insurance was not in place, Colorado Springs Utilities could be exposed to unintended risk.

### AUDITOR'S RECOMMENDATION

The Office of the City Auditor recommends that Colorado Springs Utilities:

- Create a Risk Matrix that guides Contracting Agents in selection of appropriate insurance coverage given the perceived risk of a particular contract. This matrix could also be used to provide guidance on appropriate renewal review cycles. Contracts deemed to hold lower risk should be reviewed or verified less frequently than contracts identified as having higher risk.
- Ensure that insurance requirements and renewal language conform to industry standards.
- Validate contractor compliance by verifying that renewals are taking place on contracts that extend beyond the policy termination, if that is a requirement of the contract.
- Consider utilizing a management system that allows tracking of contractor insurance certificates.



#### COLORADO SPRINGS UTILITIES RESPONSE

Colorado Springs Utilities agrees with the observation and recommendations.

An insurance Risk Matrix will be developed no later than October 31<sup>st</sup>, 2013 to help guide contracting agents in selecting appropriate insurance coverage given perceived risks of a particular contract and determining appropriate review frequency.

While there is a lack of formal industry standards related to Utilities insurance requirements, the Risk Matrix will include suggested insurance requirements and renewal language consistent with the risks perceived to be associated with the contract under consideration.

Contractors are currently required to notify Colorado Springs Utilities of any changes to its insurance coverage and new contracts include the following clause: "Contractor shall provide Utilities prompt written notice of any change, reduction or modification of coverage" In addition to this updated insurance notification language, a process proposal will be developed no later than October 31<sup>st</sup>, 2013 to establish when insurance reviews should be conducted.



**OBSERVATION 5 – SOME DOCUMENTS OF RECORD WERE NOT READILY AVAILABLE**

As part of the SDS Program Management Plan, a strong document control process was established. This document control process was in use by the majority of the SDS project teams and our review showed that these teams complied with the document control plan. Multiple documents of record were not immediately available or properly filed by one team who employed a different document control process. Eventually all of the documents were produced, but only after being prompted by the auditors. Important documents should not be stored in individual email boxes.

Because of differences in the approach to filing and naming documents within the SDS team, these particular documents were difficult to obtain. Because these important documents were not readily available, the possibility of misinformation, duplication of effort or missing information existed.

**AUDITOR'S RECOMMENDATION**

The standard SDS document control procedures should be adopted and followed by all SDS project teams.

**COLORADO SPRINGS UTILITIES RESPONSE**

Colorado Springs Utilities agrees with the observation and recommendation.

In addition to already implementing remedial action to address the specific document controls issues identified during the audit, Colorado Springs Utilities is committed to amending the document controls plan as needed and will complete this effort by September 30, 2013.

Additional training to reiterate the importance of adhering to established controls procedures and clarifying that document controls processes apply to all important project records will be completed no later than June 28<sup>th</sup>, 2013.



**OBSERVATION 6 – CONTRACTOR RECEIVED CONTRACT EXTENSION NOTICE PRIOR TO MANAGEMENT’S WRITTEN APPROVAL**

Substantial and final completion dates were stated in the contract between Colorado Springs Utilities and the general contractor for a raw water pipeline work package we reviewed. These dates were each extended by approximately one month; however, this time extension was communicated to the general contractor by letter one week before the extension was formally approved in writing by management.

Program management meet weekly as a Change Committee to consider changes that lie outside a project’s predefined contingency and project manager’s approval authority. Changes to contractual terms and conditions fall within the parameters of changes requiring Change Committee approval.

The Change Committee was a key control mechanism. This committee provided the forum for program management to consider the impact of schedule, scope, and cost charges. While management was aware of the proposed time extensions, written authorization of the change by the Change Committee had not taken place before the contractor was notified of the change. Communicating such change to a vendor before this management review bypasses this control and introduces the risk of communicating unapproved and/or incorrect information that contractually commits Colorado Springs Utilities unfavorably.

**AUDITOR’S RECOMMENDATION**

Changes that meet the criteria of requiring Change Committee approval should be documented and approved by SDS management before they are communicated to third parties under contract.

**COLORADO SPRINGS UTILITIES RESPONSE**

Colorado Springs Utilities agrees with the observation and the recommendation.

A member of management participated in discussions and reviewed the circumstances surrounding proposed changes to completion dates and provided verbal approval to move forward with formalizing the date change. This direction was interpreted as approval to issue a formal notice to the contractor rather than first securing Change Committee approval, then issuing the formal notice.

Colorado Springs Utilities is committed to conducting additional training to reiterate the importance of adhering to established controls procedures. This training will be completed no later than June 28<sup>th</sup>, 2013.



**OBSERVATION 7 – REFINEMENT OF GRC SYSTEM REQUIREMENTS EXCEEDED ORIGINAL COST AND SCHEDULE PROJECTIONS**

The SDS permitting team was tasked with obtaining, complying with the terms of, and reporting out on hundreds of individual permit requirements. Compliance reporting included significant work to produce quarterly and annual reports. Implementation of a computer application for Governance, Risk and Compliance (GRC) system for SDS was intended to replace the manual effort in place with a more automated process and to help the permitting team manage all of the various permit terms. A computer application was purchased and had been undergoing customization by the vendor to assist the team in meeting their responsibilities.

During the selection process for the GRC system vendor, the decision was made to purchase an enterprise-wide system that would meet not only the compliance needs of SDS, but could also be used to aid other departments within Colorado Springs Utilities in meeting their compliance requirements. While this particular application was extremely flexible and capable of meeting the enterprise needs, it also required high levels of involvement from the organization to ensure successful integration and customization. The selected application had never before been modified to support the unique requirements of the environmental permitting field and as such required extensive involvement by Colorado Springs Utilities subject matter experts during planning and testing of the application.

The application was contracted in April 2011 and the SDS permitting team expected that the in-service date would be in September 2011. Implementation at that time would allow the system to be used to help generate the annual permitting compliance report during the first quarter 2012. Due to difficulties in refining the system requirements, and underestimating the need to provide subject matter experts in permitting, the application was not put into production for SDS until March 2013. Therefore the first annual report that this system will be able to support will be written in the first quarter 2014. These delays have greatly reduced the system's effectiveness for the SDS program.

The development effort involved in this system will not be wasted because the work done for SDS was designed to be used by the Colorado Springs Utilities Environmental Health and Services department to help manage non-SDS projects. During the course of the audit, efforts were underway to determine the possible expansion of the GRC system for use by additional Colorado Springs Utilities departments. Given the delays to date in implementation of this system and the associated costs above original projections, the auditors suggest such expansion be undertaken only after careful evaluation and planning.

**AUDITOR'S RECOMMENDATION**

Colorado Springs Utilities should obtain input from participants involved in this project for use when considering future software projects. We also recommend an evaluation of all of the costs incurred to date in the development of the GRC system. Costs to consider include all capital and expense charges,



including labor for internal resources and external vendors. This information should be considered during the evaluation of extending this application to additional user groups.

#### COLORADO SPRINGS UTILITIES RESPONSE

Colorado Springs Utilities agrees with the observation and recommendations.

Members of the SDS team participated as key stakeholders/reviewers in an open and competitive process evaluating software vendor's capabilities to support management tracking of extensive environmental obligations. After evaluating market options and risks, the team concurred with the selection of a vendor considered by subject matter experts to offer best value with respect to cost, system operations, and simplified system maintenance providing a software system that could serve as an enterprise wide solution versus a system used only by the SDS team.

Modification of underlying software to meet specific end user needs is typical and the SDS team is pleased with the vendor's product in spite of the delayed delivery.

The Information Technology Services (ITS) Department regularly conducts project reviews and will coordinate with parties involved in managing and deploying this project and lead a project review to identify comprehensive project improvement opportunities by July 1, 2013.

A cost model capturing all capital and O&M charges, including labor for internal resources and external vendors, is appropriate for the project. ITS will lead preparation of a Cost Summary for this project with the assistance of accounting, procurement, and others as needed. The summary will be completed by July 1, 2013.

Both the Improvement Plan and Cost Summary will be considered while evaluating possible use of this computer application by additional internal user groups. This information will be considered when evaluating additional GRC-related projects in the 2014 budget.



## RECOMMENDATIONS IMPLEMENTED PRIOR TO REPORT ISSUANCE

The Office of the City Auditor provides real-time feedback to the SDS team on all issues identified. Because of this relationship, some issues had been identified and corrected prior to the issuance of this report. Issues where corrective action has already been implemented are included in this section.

### RESOLVED OBSERVATION 1 – PIPELINE CONSTRUCTION CONTRACT DOCUMENTS CONTAINED CONFLICTING LANGUAGE

Several signed agreements contained language describing the type of contract as a “Lump Sum Not to Exceed.” One of the contracts was a true lump sum contract; however, in other cases the Schedule of Values within the contract included several line items where a price per unit installed was specified rather than a lump sum. There appeared to be different understandings of how these contracts were intended to operate, whether on a true lump sum or a unit price basis, which led to the conflicting language. Actual practice was that as part of the closeout process, actual quantities were determined and a change order was issued to adjust the “lump sum not to exceed” total accordingly.

#### AUDITOR’S RECOMMENDATION

Contract language should be corrected to clarify the type of contracts.

#### COLORADO SPRINGS UTILITIES RESPONSE

Colorado Springs Utilities has implemented this recommendation regarding SDS contract language. While there were no disagreements over contract interpretation with any vendors, and no additional costs to Utilities with the current contract language, we agree with the recommendation and have modified the contract language.





**RESOLVED OBSERVATION 2 – INCONSISTENCIES EXISTED BETWEEN PIPELINE TECHNICAL SPECIFICATIONS AND PIPELINE CONSTRUCTION CONTRACTS**

For work packages reviewed, several contracts referenced conformed technical specifications as of a particular date. The conformed technical specifications, however, were actually dated differently. Furthermore, it is the bid specifications that should be referenced, not the conformed technical specifications.

This is significant because the technical specifications take precedence over all other contract documents, and there may be differences between technical specifications produced on different dates. At a minimum this situation creates the risk that different parties are following different specifications.

Technical specifications are generated by the design engineer, an external party, while the contract is generated by internal personnel. When the specifications are incorrectly referenced in the contract, it may be difficult to determine which specifications represent the real intent of the contract. Finally, there was not consistency in naming of the different specifications, introducing the risk of inadvertently retrieving an inappropriate set of specifications.

**AUDITOR'S RECOMMENDATION**

The technical specifications and contract terms should be reviewed for consistency and clarified as appropriate. The specifications referenced in the contract should either reference the correct date or otherwise be uniquely identified.

**COLORADO SPRINGS UTILITIES RESPONSE**

Colorado Springs Utilities has implemented this recommendation regarding SDS specifications and contract terms. While there were no disagreements over contract interpretation with any vendors, and no additional costs to Utilities with the current contract terms and specifications, we agree with the recommendation and have implemented the recommendation.



RESOLVED OBSERVATION 3 – CERTIFICATES OF INSURANCE DID NOT INCLUDE ALL  
REQUIRED SPECIALTY COVERAGE

The contract agreement between Colorado Springs Utilities and a vendor sets the requirements for insurance coverage. Several contracts we examined required specific insurance coverage such as a riggers endorsement, coverage for independent contractors, and X.C.U (explosion, collapse and underground) coverage if the work requires excavation or tunneling. In some cases, additional policies such as railroad crossings and builders risk and/or installation floaters insurance were also required. Endorsements for additional insured parties that were required to be listed on the policies were included in the contract.

While a Certificate of Insurance (COI) was found in each of the contract files we reviewed, the COI does not indicate specific endorsements or additionally covered items, nor is it technically proof of insurance beyond the date it was issued. Documentation of this additional coverage would only be available by reviewing the policies held by each contractor. At the time of our review, the files did not contain any validation of compliance with these special insurance requirements.

Colorado Springs Utilities was relying on unverified contractor compliance with insurance requirements in these instances. Relying on the vendor to comply with the contract without validation could result in missing or insufficient insurance coverage. It is also possible that Colorado Springs Utilities was paying for insurance coverage they in fact were not receiving. Should an event occur where required insurance is not in place, Colorado Springs Utilities would be exposed to unintended risk.

AUDITOR'S RECOMMENDATION

The OCA recommends that Colorado Springs Utilities validate contractor compliance for non-standard insurance provisions not included on the COI. In cases where a specific endorsement is required by the contract and that coverage is not listed on the Certificate of Insurance, further review by Risk Management should be performed. Creation of a Risk Matrix that guides Contracting Agents in selection of appropriate insurance coverage given the perceived risk of a particular contract would help ensure adequate coverage is obtained.

COLORADO SPRINGS UTILITIES RESPONSE

Colorado Springs Utilities has implemented this recommendation regarding SDS certificates of insurance. The development of a Risk Matrix is currently in process by Utilities Risk Management department. In instances where the Certificate of Insurance obtained from the contractor did not specify a listed endorsement, a review by Risk Management concluded that the necessary insurance was provided for within the General Liability policy.



**RESOLVED OBSERVATION 4 – INSURANCE REQUIREMENTS WERE INCONSISTENT BETWEEN CONTRACTS FOR SIMILAR ACTIVITIES**

The contract between Colorado Springs Utilities and a vendor specifies the type, duration and amount of insurance coverage to be obtained by each party. Some variation between contracts is to be expected due to differences in the work to be performed under the contract; however, we noted differences in required coverage among contracts covering basically the same work. When appropriate insurance coverage is not required, Colorado Springs Utilities is exposed to the risk that the insurance would have covered. When coverage is contractually required beyond what should be needed in the particular situation, unnecessary cost is incurred.

In some cases, outdated contract language regarding insurance was observed that used terms no longer up-to-date with industry practice. There was a checklist to follow when evaluating bonding requirements; however, there was not a process or checklist to help procurement personnel determine what insurance coverage was relevant for a particular contract or to track whether the appropriate coverage was in place.

**AUDITOR'S RECOMMENDATION**

Standard contract templates should be updated to appropriately reflect industry standards and best practices regarding insurance requirements. A checklist or process document would assist procurement personnel in evaluating insurance requirements and compliance. A subject matter expert's assistance would be helpful in establishing these practices and determining the underlying risk profile for the activity.

**COLORADO SPRINGS UTILITIES RESPONSE**

Colorado Springs Utilities has implemented this recommendation regarding standard contract templates for insurance requirements. A table has been created to summarize the contractual insurance requirements, making it easier for all to understand and providing the contracting agent with a concise format for verifying coverage when the insurance certificates are received from the vendor.



## OPPORTUNITIES FOR IMPROVEMENT

### OPPORTUNITY 1 – COST INFORMATION SHOULD BE POSTED TO SDS BUDGET SYSTEMS MONTHLY

We noted that information relevant to the budget in August 2012 was not posted until the end of November 2012 into an SDS-specific system used to generate management reports. At that time, the information was posted incorrectly and was not corrected until January 2, 2013. Information relevant to budget adjustments should be posted in a timely manner so that the corrected/updated information is current and can be used in decision making.

#### AUDITOR'S RECOMMENDATION

We recommend that information used for decision making be posted into the SDS project management system by the end of the following month.

#### COLORADO SPRINGS UTILITIES RESPONSE

Colorado Springs Utilities agrees with the recommendation. The SDS team utilizes two compatible information systems to manage and report project costs and schedule information. In this case, the budget adjustment was delayed in posting to one of the two systems, however the budget adjustment was accurately posted and incorporated in the August 2012 reporting.



## OPPORTUNITY 2 – PROJECT CLOSEOUT OF ONE FINISHED WATER PIPELINE PROJECT WAS NOT TIMELY

One finished water pipeline segment achieved final completion on June 20, 2012. As of December 27, 2012, the project had not been closed out, the general contractor had not received final payment, and the final completion report had not been issued. The SDS program had internally communicated an objective of project closeout within 60-90 days of final completion.

Contracted scope of work was achieved as of final completion; however, additional items of work beyond contracted scope remained to be completed. We noted that the weekly Leadership Team Executive Construction Report for the week ending December 28, 2012, reported a final completion date of September 28, 2012, which was the date the additional items of work were completed. Receipt of lien waivers from subcontractors and closeout of paperwork such as submittals also delayed closeout.

Leaving contracts open introduces risk of contractor claims. Delays in final payment to the general contractor create risk of noncompliance with state law and risk of a claim.

We noted that this finished water pipeline was the first work package to reach final completion under the current program management organization. During 2013, the auditors will continue to monitor the close out process for timeliness and accuracy.

### AUDITOR'S RECOMMENDATION

The SDS program should set and achieve realistic timeframes for the final completion of project closeout activities. We noted that the program has identified and rescheduled some items, such as various submittals, to be completed earlier in the project; additional opportunities to complete closeout activities earlier should also be pursued. We also recommend that management-level reporting maintain focus on each work package through project closeout, beyond completion of construction.

### COLORADO SPRINGS UTILITIES RESPONSE

Colorado Springs Utilities agrees with the recommendation. Focus on project closeout beyond completion of construction has been and continues to be a focus activity. The SDS team worked diligently to obtain all documents necessary for close out of the finished water pipeline work. The close out process includes obtaining a variety of documentation from our contractors and their subcontractors, and once received, a thirty day advertisement period is required per the contract. The timeliness of contractors' submission of these documents affects the SDS team's ability to completely close out a construction work package. We will increase our contractor's awareness of the importance of timely submission of close out documentation and require more proactive closeout efforts from SDS team members.

# CITY COUNCIL'S OFFICE OF THE CITY AUDITOR

## COLORADO SPRINGS, COLORADO

### **About our Office**

The mission of the Office of the City Auditor is to provide City Council with an independent, objective and comprehensive auditing program for operations of the City. Our auditing program includes:

- Evaluating the adequacy of financial controls, records and operations
- Evaluating the effectiveness and efficiency of organizational operations
- Providing Council, management and employees objective analysis, appraisals, and recommendations for improving systems and activities

The Office of the City Auditor is responsible for auditing the systems used by the City of Colorado Springs and its enterprises, including Colorado Springs Utilities. We perform a variety of audits for these entities, including financial audits, performance audits, contract audits, construction audits, and information system audits. We also perform follow-up on a periodic basis to monitor and ensure management actions have been effectively implemented.

### **Authorization and Organizational Placement**

Our audits are conducted under the authority of Chapter 1, Article 2, Part 7 of the Colorado Springs City Code, and more specifically parts 703, 705 and 706 of the Code. The Office of the City Auditor is structured in a manner to provide organizational independence from the entities it audits. This independence is accomplished by the City Auditor being appointed by and reporting directly to the City Council.

### **Audit Standards**

The audit was conducted in a manner that meets or exceeds the International Standards for the Professional Practice of Internal Auditing, a part of the Professional Practices Framework promulgated by the Institute of Internal Auditors, with the exception of the requirements under standards 1312 and 1321 to obtain an external quality assurance review once every five years. We do not believe this non-compliance impacted the quality of our audit.

The audit included interviews with appropriate personnel and such tests of records and other supporting documentation as deemed necessary in the circumstances. We reviewed the internal control structure and compliance tests. Sufficient competent evidential matter was gathered to support our conclusions.