THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Report
Office of General Auditor

Internal Audit Report for July 2018

Summary

Two reports were issued during the month:

1. **Diamond Valley Lake Inlet/Outlet Tower Fish Screen Replacement Project**
2. **Jensen Electrical Upgrade Project – Stage 1**

Discussion Section
This report highlights the significant activities of the Internal Audit Department during July 2018. In addition to presenting background information and the opinion expressed in the audit report, a discussion of findings noted during the examination is also provided.

Diamond Valley Lake Inlet/Outlet Tower Fish Screen Replacement Project

Background

The Audit Department has completed a review of the accounting and administrative controls over the Diamond Valley Lake ("DVL") Inlet/Outlet Tower Fish Screen Replacement Project #104387 ("DVL Fish Screen Replacement Project") as of April 30, 2018. Specifically, we reviewed Metropolitan's construction contract with Abhe & Svoboda, Inc. #1837.

Our review consisted of evaluating the internal controls over contract administration and reporting practices. Specifically, we reviewed the contractor selection process, tested compliance with the terms and conditions of the contract, and evaluated the validity and propriety of invoice payments for assurance that the amounts billed were properly calculated and adequately supported.

DVL is located south of the city of Hemet in Riverside County and is Southern California's largest surface water reservoir, with a maximum storage capacity of 810,000 acre-feet. The lake's Inlet/Outlet Tower is 266 feet high and is located east of Owen (West) Dam. The tower has nine tiers with twin 7-foot-diameter ports, spaced 25 feet apart that allow water to enter or exit at different lake elevations. Flow through each port is controlled by a hydraulically operated butterfly valve. During lake withdrawals, fish screens are moved in front of the ports to prevent debris from entering the Inlet/Outlet Tower. A pulley system, operated by a gantry crane mounted on top of the tower, is used to raise and lower the four individual fish screens to the desired port elevation.

Inspections of the four fish screens identified that the coated carbon steel structural elements, including the hoist beam eye bars, support beams, and retaining pins, were severely corroded.

The corrosion was likely caused by galvanic action between the stainless steel and carbon steel components of the screens. Continued deterioration of the components could have impaired the structural integrity of the screens. Operation of the Inlet/Outlet Tower without the fish screens would risk damage to valves at the tower, pump-turbines at the Wadsworth plant, and/or valves at the adjacent pressure control structure.

In February 2014, the Board authorized final design to replace the fish screens with units that would not be susceptible to galvanic corrosion. In June 2016, the Board awarded $1,885,150 construction contract to Abhe & Svoboda, Inc., to remove the existing fish screen assemblies, fabricate the new stainless steel fish screens, and install the new assemblies on DVL's Inlet/Outlet Tower. This project was completed in June 2018. Metropolitan paid $1,830,708 to Abhe & Svoboda, Inc.

Opinion

In our opinion, the accounting and administrative procedures over the DVL Fish Screen Replacement Project include those practices usually necessary to provide for a generally satisfactory internal control structure. The degree of compliance with such policies and procedures provided effective control for the period July 1, 2016 through April 30, 2018.

Comments and Recommendations

RECORDING RETENTION

Retention is the amount withheld from a contractor's progress invoice payments until they properly complete all activities required of them under the contract. Metropolitan requires 5% of each progress invoice payment to be withheld for this purpose. Withheld amounts should be recorded in the asset account "Construction in Progress" with a corresponding credit to "Accounts Payable".

Our review of eight paid progress invoices revealed two with unrecorded retention totaling $10,969. Consequently, "Construction in Progress" and "Accounts Payable" were each understated by $10,969. It should be noted that the Accounts Payable department corrected these errors during the course of our audit.

Failure to properly record retention could result in inaccurate financial records.

We recommend Controller management establish procedures to properly record retention transactions and to conduct periodic tests to ensure compliance.

Jensen Electrical Upgrade Project – Stage 1

Background

The Audit Department has completed a review of the accounting and administrative controls over the Jensen Electrical Upgrade Project – Stage 1 (104060), as of April 30, 2018. Specifically, we reviewed Metropolitan's construction contract with Morrow-Meadows Corporation ("Morrow"), Contract 1827.

Our review consisted of evaluating the internal controls over contract administration and reporting practices. Specifically, we reviewed the contractor selection process, tested compliance with the terms and conditions of the contract, and evaluated the validity and propriety of invoice payments for assurance that the amounts billed were properly calculated and adequately supported.

The Joseph P. Jensen Water Treatment Plant (Jensen) was placed into service in 1972. Jensen is Metropolitan's largest treatment plant and largest west of the Mississippi River, with a capacity of 750 million gallons a day. Located in Granada Hills, Jensen treats water from the State Water Project and distributes it to the San Fernando Valley, Ventura County, West Los Angeles, Santa Monica and the Palos Verdes Peninsula.

Jensen's electrical system was designed in 1972 to meet then-current electrical codes. Through long-term, continuous use, the equipment had deteriorated and has become difficult to maintain and repair. Moreover, it also lacks redundancy necessary to provide operational reliability. In March 2008, the Board authorized a study to evaluate the plant's infrastructure and to identify cost-effective solutions for reliable operations. Subsequently, in July 2010, the board authorized preliminary design activities and the final design work was approved by the board in July of 2013.

To expedite completion of the upgrades, while minimizing the impact to plant operations, the work was prioritized and planned in three stages. In December 2015, the Board appropriated $23.9 million for Stage 1 to improve the medium voltage switchgear on the western portion of the plant and provide electrical infrastructure for the Jensen Solar Power Plant. The Board also awarded a $15.8 million construction contract to Morrow, which was the focus of our review.

The scope of Morrow's contract included retrofitting the existing 5 kV switchgears; replacing existing standby generator control panels; installing new electrical conduits, duct banks, and manholes; expanding the switchgear building and basement to accommodate the new equipment; and procuring and installing a new 5 kV switchgear to integrate with Jensen's solar power facilities. The Stage 1 work is now complete. Metropolitan paid Morrow $15,657,833 (99%), including $16,290 in an extra work order, as of April 30, 2018.

Opinion

In our opinion, the accounting and administrative procedures over the Jensen Electrical Upgrade Project – Stage 1 include those practices usually necessary to provide for a satisfactory internal control structure. The degree of compliance with such policies and procedures provided effective control for the period from contract inception December 8, 2015 through April 30, 2018.