

SUBJECT: Contract Change Order Audit Valley Water Management Response

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The purpose of this memorandum is to provide Management's response and targeted milestones to the seven recommendations in the TAP International audit report of the Construction Contract Change Order Management and Administration. Management would like to acknowledge that not all responses represent full agreement with TAP's recommendations. Some responses represent management's partial agreement. A justification is presented with any response where management was not in agreement. However, there is one response in which management fully disagrees with the recommendation- *recommendation #6 (a) developing and establishing specific criteria for establishing contingency budgets for change orders that consider project complexity and size (Example: \$0 contingency for capital projects less than \$100,000 ranging to an amount over \$1M for projects over \$500M) eliminating the need for the Board of Directors to separately approve contingency budgets for each capital construction contract.* In the interest of transparency, management is making the following response; *contingency will continue to be separately approved by the Board of Directors for each capital construction contract.* See Management's full justification in the response to recommendation #6 below. Management would like to present the following responses for your review and feedback:

**RECOMMENDATION 1**

Update capital construction change order policies and procedures applicable to large-scale projects to: a) require an Independent Cost Estimate (ICE) for capital construction change orders, (b) use a separate advisory body to review and recommend the approval of change orders, and c) prohibit commencement of work until after change order approval.

**a. MANAGEMENT RESPONSE: Management agrees with this recommendation.**

Management will require an Independent Cost Estimate (ICE) for capital construction change orders on contracts greater than \$100M or on projects of a lesser value when the Chiefs deem the project to be higher risk.

In addition, services of an on-call cost estimator will be required for complex cost estimates, as determined by the Capital Engineering Manager overseeing the project based on an evaluation of in-house experience relative to the scope of work.

**Target Implementation:** December 2020.

**b. MANAGEMENT RESPONSE: Management agrees with the recommendation.**

A Change Control Board (CCB) will be established as part of a systemic change order management approach. The CCB will review changes that have significant cost or schedule impacts.

For large-scale projects, the addition of a Project Steering Committee will be established with project oversight to keep a pulse on progress or to address major design or construction changes. The Steering Committee would not replace the functions of the CCB but will review items of substantial interest as determined by the Steering Committee.

Staff will develop process and procedures for the CCB.

The make-up of the CCB and Project Steering Committee will include senior and executive staff. Additional resources will provide input depending on the project issue under consideration, including the Engineer of Record, subject matter experts, legal counsel, and claims management and scheduling consultants.

**Target Implementation:** December 2020

**c. MANAGEMENT RESPONSE: Management agrees with the recommendation.**

To responsibly and efficiently deal with changes, the responsibility and authority for change approvals must be delegated to personnel at the level most knowledgeable and most closely aligned with the project issue. However, certain field changes that must be performed immediately to mitigate an emergency or to avoid critical, immediate delays to the project may necessitate force-account work to address the immediate need. Force account work (i.e., time and materials work) constitutes an approved change order of variable cost and duration while the scope of the change is finalized.

**Target Implementation:** December 2020

**RECOMMENDATION 2**

Enhance constructability reviews as part of the construction project design phase with the addition of independent subject matter experts to the review team to help mitigate the occurrence of change orders on large-scale capital projects.

**MANAGEMENT RESPONSE: Management agrees with the recommendation.**

Third-party and/or peer review processes will continue to be required for all large-scaled projects to address constructability and identify risks and develop approaches to mitigate those risks.

Staff will consider securing consultant services to provide third-party constructability reviews.

**Target Implementation:** December 2020

**RECOMMENDATION 3**

Enhance the review and approval process for change orders (including potential change orders, contract change orders, and directed change orders) on capital construction projects that are new to Valley Water and/or whose project costs exceed a specific level established by the CEO (i.e. \$100M) to add and enhance support structures to aid project and construction managers in capital project delivery. Options include: a) create a Capital Project Steering Committee for each new project to review project progress and provide authority to review and approve change orders. The Committee should include Valley Water management, project, and construction manager, external subject matter experts, outsourced legal construction contract counsel, and a representative from the Purchasing and Consulting Contracts Services Unit.

**MANAGEMENT RESPONSE: Management agrees with the recommendation.**

The change-order approval process requires a review to ensure both processes and roles/responsibilities are clearly defined along with authority levels which will be clarified in the revised process.

The role of review and approval of change orders would be delegated to the CCB, with defined governance and procedures, including defined authority levels.

Due to the unique and unexpected issues encountered by large projects; a Project Steering Committee would be established for projects greater than \$100M. The Project Steering Committee will be established with project oversight to keep a pulse on progress or to address major design or construction changes. The Steering Committee would not replace the functions of the CCB but will review items of substantial interest as determined by the Steering Committee.

Executive management will define the make-up and role of the Project Steering Committee.

**Target Implementation:** July 2021.

**RECOMMENDATION 4**

Create a Resources Services Office (RSO) or restructure the current Capital Program Planning and Analysis Unit and develop RSO roles and responsibilities, including the business processes and information systems needed to

support large-scale capital construction projects and to serve as a resource for project and construction managers on smaller projects. Examples of expected RSO roles and responsibilities for large-scale capital construction projects include: integrate project design and construction management activities; develop large-scale construction management policies and procedures; ensure consistent and uniform implementation of capital project management and construction management standards; manage and administer the contract management and change order process; consolidate, analyze, and disseminate lessons learned activities and historical project information for future project planning; coordinate project and construction project activities; establish and manage project and construction management standardization; implement a centralized project management information system; enhance QEMS activities, including the preparation and updating of guidelines and checklists to be used by project and construction managers; prepare information about the reality of existing projects and corrective action plan development; promote continuous process improvement; and establish a performance-based management system to track effective change order management, project completion, and project financial performance. Examples of RSO roles and responsibilities for smaller capital construction projects would be to share historical project information to support design activities and to assist project and construction managers on change order negotiation.

**MANAGEMENT RESPONSE: Management agrees with the recommendation with the following exceptions.** *All responses below will use the term "Project Controls Office", which is a more common term in project and construction management instead of "Resources Services Office".*

**Management agrees with the recommendation.** The addition of the Project Controls Office will enhance Valley Water's ability to manage capital projects in a consistent manner, track and analyze historic change order trends, administer a robust lessons-learned program, and help develop a project management training program for capital project staff. Additionally, a Project Controls Office will provide project management staff the ability to focus on the details of the project.

**Management does not agree with the recommendation that the Project Controls Office also be given certain design and construction management activities.** Project delivery and construction management activities should functionally be separate from the Project Controls Office, yet monitoring of the project schedule, costs, and scope would be done for the lifetime (design and construction) of the project by the Project Controls Office. The Project Manager, assigned as the responsible person for the project, is tasked to integrate design and construction management activities from start to completion of the project – it is management's recommendation that this role should not be delegated to others, including the Project Controls Office.

**Management does not agree with the recommendation that the Project Controls Office be given responsibility to manage contract management and change order process.** The Project Manager is responsible to manage all aspects of the project. It is management's recommendation that the responsibility should not be assigned to a separate entity. Expected roles in the change management process are as follows:

- The Project Manager and Construction Management staff manage contract change action and issue change orders, analyze and negotiate change orders, and prepare recommendations for contract changes to the Change Control Board.
- The Project Controls Office reviews scope, schedule or budget changes as identified in the change order and interprets impact to the project, and coordinates change control functions (prep ERP, budget docs, schedule verification and impact analysis, etc.)
- Construction management staff reviews preparation and negotiation of the change order to ensure compliance with contractual requirements; and reviews engineer's cost estimates and work statements to confirm the appropriate contract action.

Staff will define the roles of project controls staff and define staffing levels for a new Project Controls Office.

**Target Implementation:** July 2021

## **RECOMMENDATION 5**

Transfer the responsibility to administer procurement activities on capital projects (i.e. request for bid preparation and bid processing) from the Capital Program Planning and Analysis Unit to Valley Water's Purchasing and Consultant Contracts Services Unit to centralize procurement activities.

The RSO should assume responsibility for contract administration and change order management on all capital projects upon execution of the contract by the Purchasing and Consultant Contracts Services Unit. The Purchasing and Consultant Contracts Services Unit, as an option, can also embed an employee into the RSO to oversee change order management or administer an oversight role in coordinating updated change order policies and procedures, and conduct spot audits to ensure change orders comply with contractual terms and conditions.

### **MANAGEMENT RESPONSE: Management agrees with the recommendation with the following exceptions.**

*All responses below will use the term "Project Controls Office", which is a more common term in project and construction management instead of "Resources Services Office".*

**Management agrees** that procurement activities for capital construction contracts be transferred to the Purchasing and Contracts Unit. This recommendation has been executed.

**Management does not agree** that the Project Controls Office would take responsibility for contract administration and change order management on all capital projects. Refer to the Management Response to Recommendation R4.

### **Target Implementation:**

- January 2020 transfer capital construction procurement activities to Purchasing and Contracts Unit.

## **RECOMMENDATION 6**

Promote uniform implementation of change order management and administration for all capital projects by: a) developing and establishing specific criteria for establishing contingency budgets for change orders that consider project complexity and size (Example: \$0 contingency for capital projects less than \$100,000 ranging to an amount over \$1M for projects over \$500M) eliminating the need for the Board of Directors to separately approve contingency budgets for each capital construction contract; b) updating the Quality and Environmental Management System (QEMS) forms to: develop templates within the Capital Improvement Program Planning document to provide clarification on how the Quality Records should be completed.; add a step in the Close-Out Checklist for the review of open change orders and potential change orders; and enhance the Risk Management Process document to include a review of similar projects in the Capital Improvement Program Historical Information Retrieval (CIPHIR) tool to identify additional project risks and corrective actions that may not have been previously identified; and c) enhance project management training to address change order management and administration, including negotiation, pricing analysis, and contract closeout activities.

### **MANAGEMENT RESPONSE: Management disagrees with the recommendation.**

In the interest of transparency, contingency will continue to be separately approved by the Board of Directors for each capital construction contract.

**Target Implementation:** N/A

### **MANAGEMENT RESPONSE: Management agrees with the recommendation.**

Regarding the recommendation to enhance the Risk Management Process: Providing a risk register and methods to mitigate risks, with reference to past projects, would assist Risk Management in defining insurance requirements. Large-scale projects will require a robust Risk Register with identified costs and methods to mitigate risks.

Staff will develop the following:

- 1) A work instruction that lists those quality records to be included in the "official" contract file. Furthermore, a defined standard electronic folder system with checklist of contents would accompany the work instruction and serve as a template for contract administration.
- 2) Staff will add additional details for the Close-out process that includes checklists and roles of the project manager, contract administration, and project controls.
- 3) A risk management approach and procedures.

**Target Implementation:** December 2020

**a. MANAGEMENT RESPONSE: Management agrees with the recommendation.**

All Project Managers and Construction Management staff will be trained on essential project management skills to help ensure uniformity of practices on all projects.

**Target Implementation:** December 2021

**RECOMMENDATION 7**

Develop, track, and report on performance metrics that monitor the timeliness, costs, and cost savings on large scale capital projects. Metrics established for monitoring final capital project close out costs against the original base contract amount should exclude contingency budget amounts.

**MANAGEMENT RESPONSE: Management agrees with the recommendation.**

Management concurs with the recommendation to develop, track and report on performance metrics for all projects that have been included within our CIP.

Performance metrics and key performance indicators (KPI's) will be created for monitoring, reporting requirements, and reporting methodology.

**Target Implementation:** December 2021