AUDIT OF THE PROJECT MONITORING PROCESS

Project # 20130101

Texas Water Development Board

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PROJECT SUMMARY

Overview

Texas Water Development Board's (TWDB) project monitoring process includes sufficient controls to provide reasonable assurance that compliance with state law, TWDB rules and contract requirements is achieved, and that TWDB assets are safeguarded. The process' written procedures include an elaborate engineering review checklist. In addition, the process adequately segregates duties that ensure outlay payments and escrow releases are promptly processed and approved. Borrower and contractor compliance certifications and TWDB's monthly project inspections help ensure cash draws are consistent with project completion status and that compliance with contract requirements is being achieved.

The audit found opportunities for improvement in operational efficiency and effectiveness. There are opportunities to streamline and simplify the process, speeding project delivery. A holistic, risk-based strategy that considers agency risks and relevant controls in related/subsidiary processes could ensure the review process does not overmitigate risk. It would provide specific risk mitigation scenarios that are (i) tailored to individual programs, borrowers and projects and (ii) aimed at enhancing technical assistance to those at the lower end of the scale (such as disadvantaged communities), while expediting high-level reviews to the more mature organizations. This strategy would change how projects are monitored by relying more on the agency's engineering expertise and redirecting the focus from checklist completion to using staff's professional judgment. This could provide clients with qualitative, value-added input and potentially yield benefits for both staff and clients.

The environmental review is the critical path that must be completed on time for the whole project to be timely. Management recognizes this and has been working with staff and federal oversight agencies to streamline the environmental review process in the last year or so. In addition, since the start of the audit, management hired an additional environmental reviewer to ease the workloads and address the backlog resulting from the 2011 reduction in force.

Inspection & Field Support Services, whose main function is performing monthly inspections, has well-established written procedures, including reporting templates and performance timelines that clearly articulate management expectations. The audit found that the project inspection procedures are being performed consistently. Monthly inspections are a significant part of the agency's project monitoring during the construction phase.

Management has been responsive to the audit and has initiated actions to address some of the issues. Some of the recommendations in the report emanated from a brainstorming session held with a representative group of staff.

The TWDB's financial assistance program had more than 300 active projects, valued at approximately $4.8 billion, as of August 31, 2012. The project monitoring function is critical to the success of all of the agency's financial assistance programs. It is mostly shared between the Office of Construction Assistance and the Project Oversight division. Construction Assistance has 48 employees, comprising a deputy executive administrator, 2 directors, 4 managers (in 4 field offices), 6 supervisors (team leads), 11 engineering reviewers, 12 project

inspectors, 4 environmental reviewers, and 4 technical and 4 administrative support staff. It has an annual budget of approximately $3 million. The project inspectors are spread over 1 satellite and 4 field offices. Project Oversight has 6 employees, comprising 1 director, 4 staff and 1 administrative support staff. It has an annual budget of approximately $450,000.

Summary of Significant Results

1. Operational Efficiency

Project Monitoring Reviews

There are opportunities to streamline and simplify the process, speeding project delivery. As shown in the table on the right, a sample of 21 projects showed the reviews taking an average of 233, 212, 138, 25 and 52 days for the engineering feasibility report (EFR), environmental assessment (EA), plans & specifications, authorization to begin construction (notice to proceed) and change order approvals, respectively. Further analysis revealed that reviews for state programs generally take longer than those for federal programs. These timelines include the time spent waiting for clients to respond to comments or questions from review staff. The audit could not determine the extent to which these delays impact the overall timeline, as these are not tracked. Untimely reviews contribute to untimely project completion, which in the case of Drinking Water State Revolving Fund (DWSRF) projects, adds to unliquidated obligations, an issue management has been grappling with since around 2005. As of May 31, 2013, the DWSRF's unliquidated obligations stood at approximately $300 million.

Review Type	Average (days)	State (days)	Federal (days)
EFR	233	279	158
EA	212	232	180
Plans & Specs	138	166	96
Notice to Proceed	25	29	21
Change Orders	52	61	29

Information Management and Documentation

The process lacks a document workflow management system that routes and tracks documents and that provides information for effective decision-making regarding resources and operations. The document submission process could be improved to ensure that all received documents are recorded, labeled and tracked. The process requires borrowers to submit several different project documents for review and approval; primarily, the engineering feasibility report, plans and specifications, environmental assessments, executed contracts, and change orders. An online submission process could streamline the current process while providing clients with the capability to track progress of the review process.

The project tracking database, TxWISE, is not being used to its full potential. For monitoring the progress of work, management currently relies on manually generated weekly "work on desk" reports. These are not aligned with TxWISE and do not provide a complete picture of the status of project activities. In addition, the reports do not include information on anticipated completion dates for the "work on desk."

2. Operational Effectiveness

Roles & Responsibilities

The roles and responsibilities for some of the key players could be clearer. For example, the review found some duplication between the roles of Project Oversight and Project Engineering & Review. In addition, the responsibility for policy and program development relating to state programs has not been formally defined and assigned.

Stakeholder Feedback

A formal stakeholder feedback program targeted at how the agency monitors the projects could provide invaluable suggestions for improvement. Surveys tend to result in a more engaged clientele and, in general, improved stakeholder relations.

Summary of Management's Response

Management appreciates the acknowledgment that the project monitoring process provides reasonable assurance for compliance with requirements and the suggestions for improvement. Efforts are underway to implement some of the recommendations in this report. Detailed responses are described in each of the following sections.

Scope

The audit focused on the project monitoring process from loan closing to project completion, and on activities from September 1, 2010, to December 31, 2012. Fieldwork was conducted from February through April 2013.

OBSERVATIONS, RECOMMENDATIONS, AND RESPONSES

1. Operational Efficiency

1.1 Project Monitoring Strategy and Process

Observation

The project monitoring process could be streamlined and simplified. The engineering review portion of the process includes an extensive engineering review checklist which, considering the process as a whole, seems excessive. For example, the agency requires borrowers to utilize licensed professional engineers, provide borrower and contractor compliance certifications with each payment request, and perform periodic project inspections. In addition to the borrower and contractor inspections, the agency performs its own monthly project inspections throughout the construction phase.

A holistic, risk-based approach that considers project monitoring risks and relevant controls in related processes could ensure the review process does not over mitigate risk. It could provide specific risk mitigation scenarios that are (i) tailored to individual programs, borrowers and projects and (ii) aimed at providing more technical assistance to those that need it, while providing higher level reviews for projects with entities that have more mature internal control environments. In addition, the risk assessment could assign higher levels of monitoring for grants and those loans with higher subsidies. This strategy could place more reliance on the agency's engineering expertise and redirect staff's focus from checklist completion to providing clients with qualitative, value-added input. The audit recognizes this could change the philosophy of how projects are monitored and would most probably require employee training.

Project Oversight activities could also benefit from a risk-based approach for a more proactive and streamlined oversight process.

Project monitoring review timelines could be improved. As shown in the table on the right, reviews of the EFR, environmental assessment, plans and specifications, the notice to proceed (i.e., authorization to begin construction) and change order approvals take an average of 233, 212, 138, 25 and 52 days, respectively.

Review Type	Average (days)	State (days)	Federal (days)
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The EFR review and approval cannot be finalized until the EA is complete. Discussions with staff indicated

that the delays in the EFR review are mostly due to delays in the environmental review process.

Environmental Reviews

The timelines shown in the above table include the time documents spend in a queue awaiting reviewer availability. Discussions with environmental staff indicated that, due to the current backlog, documents spend an average of three months in the queue. In some cases, because of the informal manner incoming documents are tracked, the queue time is considerably longer.

There are opportunities to streamline and simplify the environmental review process. The requirements for the different programs and documents add to the complexity of the process. The environmental procedures require borrowers to perform their own federal agency coordination by submitting their Environmental Assessments (for state funding) and Environmental Information Document (EID) (for federal funding) to the regulatory agencies for review, except in the case of projects that are excluded from further environmental review (i.e., categorical exclusions). However, in many cases, staff still has to assist with federal agency coordination. Management recognizes this and is in the process of streamlining the coordination process. For example, management recently renegotiated the agency's memorandum of understanding (MOU) with the Texas Historical Commission. The new MOU better reflects the assignment of responsibilities and provides for increased efficiency in TWDB's environmental review procedures. In addition, management has indicated it is in the process of negotiating memoranda of understanding with both the US Army Corps of Engineers (USACE) and Texas Parks & Wildlife, which should streamline the coordination and, in turn, reduce review timelines.

In the case of categorical exclusions (CEs), the regulatory agencies and other entities are notified, sent copies of the finding, and invited to comment, but a response is not requested. Thus, CEs are relatively quick to review and resolve and do not require coordination with federal oversight agencies. However, these only constitute approximately 30% of the environmental assessment load. There are opportunities to increase CEs by expanding the CE criteria.

The back-and-forth iterations that go on between the environmental reviewer and clients during the review suggest that borrowers would benefit from clearer guidance. The audit could not determine the extent to which this back-and-forth communication is impacting the timeliness of the review, because management does not track it. In addition, the process does not provide the borrower with a time limit for responding to reviewer comments. In these cases, staff has not been able to find a balance between "assisting the client as much as possible" and maintaining a viable TWDB environmental review process.

Management's Tracking Reports

Management has not adequately tracked the timeliness of reviews. Staff's weekly status (projects on desk) reports to management generally lack completeness and, thus, cannot be relied on to provide management with an accurate picture of the status of project activities. The reports are generated manually (using Excel®), and the audit found them not to be aligned with the agency's project tracking database. The reports do not show anticipated completion dates.

The "upcoming milestones" report that is generated from TxWISE is not user friendly and is generally not being used. Management is aware of the limitations of current reporting and indicated it is in the process of developing an alternative tool. In addition, a periodic, robust, abbreviated report on key performance indicators would be beneficial to senior management.

Recommendation

Consider improving the timeliness of monitoring reviews by

(i) Developing different levels of monitoring and oversight based on a formal risk assessment, and providing staff with clear direction on the results.

(ii) Changing how the reviews are performed to an approach that relies more on the engineer's professional judgment and less on checklist completion. Include staff to determine the various approaches to assist with reviewer buy-in. Provide employee training on the new approach.

(iii) Expanding the categorical exclusion (environmental review) criteria.

(iv) Enhancing guidance to borrowers on the environmental assessment process, including templates and examples.

(v) Working toward finalizing and implementing the memoranda of understanding with the USACE and Texas Parks & Wildlife Department.

(vi) Tightening guidance to borrowers, including more program-specific instructions to improve the quality of documents submitted to the agency.

(vii) Implementing a more robust management report that routinely tracks review turnaround performance data. Ideally, the report should be generated from TxWISE.

(viii) Developing and implementing an abbreviated report on project monitoring's key performance indicators, for use in reporting to senior management and the Board. Ideally, the report should be submitted and discussed periodically (e.g., quarterly or semi-annually).

Management Response

(i) Management agrees that a risk-based assessment would be beneficial and would provide the basis for revising guidance that it provides clear direction to staff, utilizes staff input, emphasizes staff judgment, reduces review requirements, and enhances guidance to borrowers. The risk-based approach will be informed by the risk tolerance levels the Executive Administrator and the Board set. Management plans to seek

guidance and input from the Executive Administrator and the Board as an important part of this process.

Target Implementation Date: December 2014.

(ii) Management plans to consider the recommended change in philosophy as part of the formal risk assessment discussed in the management response above. Management concurs with the need to involve staff and train employees on the adopted approach.

Target Implementation Date: December 2014.

(iii) Management concurs with the need to explore opportunities for expanding the categorical exclusion criteria. Management has formed a task force to review the agency's environmental review for opportunities to streamline the process. The taskforce's kick off meeting was held on May 30, 2013. The taskforce has already identified modifications to the categorical exclusion criteria. Management has begun to act on these modifications.

Target Implementation Date: December 2013.

(iv) These types of changes will be informed by the risk assessment.

Target Implementation Date: December 2014.

(v) Management initiated coordination with the Texas Parks & Wildlife Department (TPWD) on May 22, 2013 and will continue to work towards finalizing the memorandum of understanding with the TPWD. Management will contact TPWD Wildlife Division staff by the target date to facilitate a final agreement.

Target Implementation Date: December 2013.

Management initiated coordination with the USACE on August 31, 2012, and transmitted a draft memorandum of agreement on October 16, 2012. Management will continue to work towards finalizing the memorandum of agreement with the USACE. Management will contact the USACE Southwest Division headquarters by the target date to facilitate a final agreement.

Target Implementation Date: December 2014.

(vi) These types of changes will be informed by the risk assessment.

Target Implementation Date: December 2014.

(vii) Management has developed an automated management tracking report (May 8, 2013). The report is currently being data populated. The report will be used by middle management for project monitoring tracking review timelines.

Target Implementation Date: May 2013.

(viii) Engineering management concurs with the need for a periodic report to senior management on the project monitoring process' key performance indicators. Management has developed a tool to report the project monitoring process status to senior management. Project monitoring management plans to seek input from the Executive Administrator and the Board on the kind of information they would like included in the report.

Target Implementation Date: December 2014.

1.2 Information Management and Documentation

Observation

The project monitoring process lacks a document workflow management system that routes and tracks documents and that provides information for effective decision-making regarding resources and operations.

Hard Copy Files

The engineers' official project record (i.e., hard copy files) does not ensure the integrity and completeness of project data. The engineering files are not uniformly organized, and a number had missing documents. Discussions indicated that there is some confusion about who is responsible for maintaining the files. Engineering is responsible for file content and organization, while Records Management Services, as custodian, is responsible for the files' safekeeping.

The Project-Tracking Database

TxWISE, is not being used to its full potential. The monitoring process does not ensure documents are accurately and consistently received, date-stamped, logged, tagged and recorded into the database. The audit found that TxWISE information (about specific key documents) did not necessarily align with the hard copy files. Within TxWISE, the review found inconsistencies between the mail log, the actual documents, and milestone data. Thus, TxWISE cannot be relied on for completeness, integrity and accuracy. The filing of documents into TxWISE does not utilize standardized naming conventions and, thus, does not facilitate searches. Discussions with management indicate it is aware of this issue and is working to address it.

The document submission process could be improved by creating an interactive online system. Requiring clients to submit project documents directly into TxWISE via the internet would ensure

all documents are received and tracked. This could be further enhanced by allowing clients access for tracking the status of project reviews.

Recommendation

Engineering management should consider improving information management and documentation by performing the following:

(i) Implementing a document workflow system.

(ii) In collaboration with Records Management Services, developing standards on what constitutes a complete, well-organized, master (hard copy) file.

(iii) Streamlining the receiving, logging, tagging and filing of documents (into TxWISE) at a centralized point, and enhancing segregation of duties between custodian, reconciler, and record keeper.

(iv) Developing standardized naming conventions to facilitate TxWISE searches.

(v) Implementing an interactive online document submission system that could be further enhanced by allowing clients access for tracking the status of project reviews.

Management Response

(i) Management recognizes the need for information management and documentation improvements. It has devised a new system for the receiving and logging of documents into TxWISE and developed a written procedure on the new process. This was implemented on April 16, 2013.

Target Implementation Date: April 2013.

(ii) Engineering management agrees that the development of standards on what constitutes a complete, well-organized, master file is necessary, and plans to work with Records Management to develop and implement standards.

Target Implementation Date: December 2013.

(iii) The new process for receiving, logging, and filing of documents (into TxWISE), described above, occurs at a central point.

Target Implementation Date: April 2013.

(iv) A standardized naming convention has been implemented, effective June 2013.

Target Implementation Date: April 2013.

(v) Engineering management agrees that an online interactive document submission system would be good for operational efficiency and has submitted a formal project request to executive management. The project has been placed on the agency's Information Technology project list and will be priority ranked by agency leadership.

Target Implementation Date: December 2014.

2. Operational Effectiveness

2.1 Roles and Responsibilities

Observation

The roles and responsibilities for some of the key players could be clearer. For example, the review found some duplication between the roles of Project Oversight and Engineering Review. A formal, clear set of performance measures and targets for Project Oversight could help evaluate that area's operational effectiveness. In addition, the responsibility for state program policy development has not been formally defined and assigned.

The project monitoring process could be streamlined and simplified, with the use of a risk-based approach.

Recommendation

Consider improving operational effectiveness by

(i) Clarifying the roles, responsibilities, and authorities for both Project Oversight and Project Engineering & Review, and developing a formal set of performance measures and targets for Project Oversight.

(ii) Formally assigning responsibility for state program policy development.

(iii) Implementing a risk-based approach to project oversight. A streamlined monitoring process could be developed using a process flowchart showing all key control activities and documents, cross referenced to the statute, rule requirement, or business need. Because the project monitoring process affects a number of other divisions in the agency, the flowchart would also show who is responsible for each activity. A RACI chart, defining the parties **R**esponsible, **A**ccountable, those to be **C**onsulted (in the event the process needs to be changed) and those to be **I**nformed, would be ideal.

Management Response

(i) Management agrees there are opportunities to further clarify the roles and responsibilities of Project Oversight (PO) and Project Engineering and Review (PER) staff. Project Oversight initiated strategic planning activities in June 2013 to help identify divisional goals and strategies and the required activities. This effort will be coordinated with PER and other agency offices, as appropriate. Management will document responsibilities through procedures and staff guidance documents upon completion of the planning process. Initial planning activities are anticipated to be completed (August 31, 2013).

In addition, management will review the appropriateness of developing performance measures for Project Oversight and will implement those measures executive management determines to be beneficial.

Target Implementation Date: December 2014.

(ii) Management agrees with the need to formally assign responsibility for state program policy development.

Target Implementation Date: December 2013.

(iii) Project Oversight management agrees that a risk-based assessment would be beneficial and plans to work closely with executive management, the Board and other divisions in developing a formal risk assessment. Project Oversight strategies and procedures will be revised to take the risk assessment into account.

It is anticipated that additional planning and coordination between offices will be necessary to accommodate changes to TWDB programs by recent legislation and process improvement initiatives.

Target Implementation Date: December 2014.

2.2 Stakeholder Feedback

Observation

A formal stakeholder feedback program targeted at how the agency monitors the projects could provide invaluable information and suggestions for improvement. The client feedback provided as part of the agency-wide and Program & Policy surveys is generally fairly high level and does not provide detailed feedback and suggestions specific to the project monitoring process.

Stakeholder satisfaction feedback is a key performance indicator and helps focus staff on the importance of fulfilling stakeholder expectations.

Recommendation

Consider improving operational effectiveness by implementing a formal stakeholder feedback program to seek client feedback on the quality of the project monitoring process. Consider using both transactional and relationship-type surveys for comprehensive coverage.

Management Response

Management agrees that gathering stakeholder feedback is important. In addition to the ongoing efforts by the agency, management will explore a more specific feedback process that is targeted to gathering input from stakeholders on the project monitoring process.

Target Implementation Date: December 2013.

BASIS OF REVIEW

Objective & Scope

The objective of this review was to determine the extent to which the agency has monitoring processes and controls over projects funded under its financial assistance programs to ensure resources are used in compliance with relevant laws, program requirements and TWDB procedures. In addition, the audit sought to determine whether the monitoring processes ensure that projects are completed in a timely manner and that state assets are safeguarded.

The review focused on the monitoring process from loan closing to project completion and on activities from September 1, 2010, to December 31, 2012. Fieldwork was conducted from February through April 2013.

Criteria

Our audit was based upon standards as set forth in the Drinking Water Act (SDWA), Clean Water Act (CWA), Davis-Bacon Act, National Environmental Policy Act (NEPA), Endangered Species Act (EDA), Archeological and Historic Preservation Act, Clean Air Act, National Historic Preservation Act, Texas Administrative Code, TWDB's rules and other sound administrative practices. The audit was performed in compliance with the institute of Internal Auditors' "International Standards for Professional Practice of Internal Auditing."

Additionally, we conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to

obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

The project monitoring process is considered a critical process. It is (mostly) shared by two divisions, Construction Assistance and Project Oversight. The process impacts and is impacted by most of the functions within the agency. Project monitoring is central to the success of the agency's financial assistance programs. The staff works closely with most of the agency's key stakeholder groups (i.e., borrowers, consultants, and relevant federal and state agencies).

The process aims to ensure agency-funded water and waste water infrastructure projects address the specific needs in compliance with relevant federal, state and agency requirements. Project Oversight indicated it seeks to "identify risk and issues internally and externally that may slow or prevent a project from completing in a reasonable manner." It sees its mission as that of being "informed and proactive to ensure that all actions have been taken to help TWDB's applicants complete projects efficiently and help facilitate communication between project review team members, TWDB management and applicants." IFSS performs monthly project inspections that are aimed at

(i) Determining whether construction projects are being built in accordance with approved plans and specifications and approved change orders using industry standard construction methods.

(ii) Documenting construction progress and problem resolution with photographs and written inspection reports submitted to the project owner and TWDB agency files.

(iii) Assisting project owners in managing their construction projects and helping them obtain a quality end product in a timely manner.

To perform its work efficiently, IFSS maintains 4 field offices and a one-person sub-office around the state, as well as a central office staff in Austin to coordinate and support the field inspection activities.

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