

RECLAMATION

Managing Water in the West

Managing for Excellence **Concept Paper**

Functional Area: Engineering and Design Services

Executive Sponsor

Maryanne Bach, Director, Technical Resources



Background/Drivers

Reclamation has significant technical capability in Engineering and Design services throughout the agency from the Technical Service Center to the regional and area offices. This capability was developed over the past century as Reclamation constructed, operated and maintained numerous complex water projects throughout the west. However, in order to fulfill its mission responsibilities and provide optimum value to its customers in the 21st Century, the agency must ensure that it has the appropriate level of core capability it currently needs in these areas. As a part of the *Managing for Excellence* initiative, this will involve decisions about the volume, type, and organizational location of core engineering and design capabilities, the design standards they use, the quality control they employ, and the manner in which they are funded. The action items in this functional area will ensure that Reclamation makes and implements those important decisions.

Rightsizing of Engineering and Design Services

As new construction activity has diminished, and Reclamation has become more of a water and infrastructure management agency, it has made a number of efforts to adjust its engineering and design staff to reflect these changes. However, Reclamation and its customers believe further, comprehensive efforts are needed to ensure that Reclamation's engineering and design services have the appropriate capabilities, location, and staff size.

Action Items 9 – 12 will accomplish this effort. Their work will result in comprehensive right-sizing recommendations for all engineering and design services across Reclamation. This effort will be guided by Reclamation's leadership team through establishing key principles to be followed in developing recommendations on the establishment of a 'center of excellence.' The effort will be based on recent historical, current, and near-term workload assessments. The effects of title transfers, significant changes in outsourcing levels, or altered mission priorities will be addressed when and if they take effect, rather than as a part of this current right-sizing process.

The initial workload assessment portion of this effort was finalized by the team responsible for Action Item 9. The team's initial findings were reported and discussed with stakeholders at Reclamation's public meeting July 10th in Las Vegas. These initial findings indicated that up to 1900 positions within Reclamation could be included as a part of this review. The team's report on workload assessment has been completed and was posted to the *Managing for Excellence* website on October 24, 2006, <http://www.usbr.gov/excellence/Finals/Team9FinalRecommendations.pdf>.

The team responsible for Action Item 10 used Office of Management and Budget Circular A-76 methodologies to provide input to the right-sizing process. Although the agency did not conduct a formal A-76 study, the data developed using these methodologies are expected to be useful in considering opportunities for efficiency in the right-sizing effort of Team 12. The right-sizing process will look at multiple objectives in arriving at its recommendations for future delivery of engineering services. These will include efficiency, customer relationships and service requirements, maintenance of technical expertise, assurance of public safety, etc. The team's report was posted to the Managing for Excellence website on December 8, 2006; <http://www.usbr.gov/excellence/Finals/Team10Report.pdf>.

The team responsible for Action Items 11–12 is developing unit cost comparisons between in-house performance vs. outsourcing of tasks classified as commercial. Based on these cost-comparisons, the data inputs from Teams 9 and 10, determinations made regarding Action Item 16 (Design Standards), and input from Team 32-33 regarding use of federal and non-federal laboratory services, Team 11-12 will then proceed to develop recommendations regarding the process for determining the appropriate size, type, and location of engineering and design staff resources. This rightsizing process has been ongoing throughout 2006 and will continue for much of 2007. One of the team's final products will be a transition plan to implement these recommendations in 2008 and beyond.

As discussed above, Reclamation's senior leadership will be actively engaged in guiding this effort and establishing the principles to be followed in the process. Updates and requests for feedback were presented at Reclamation's public meetings in September and November, and are scheduled for future public meetings. Interested stakeholders are encouraged to participate in the discussions at those meetings and give appropriate input into this rightsizing process. For an outline form of the objectives, tasks, and milestones for Teams 9–12, please see the attached Action Item Summaries.

Funding of Core Capability

As discussed in *Managing for Excellence: An Action Plan for the 21st Century Bureau of Reclamation*, Reclamation has a stewardship responsibility for the federally-owned infrastructure it manages. The core capability the agency must maintain to meet this responsibility has associated costs. Some stakeholders have raised questions regarding whether this core capability should be funded by the beneficiaries of Reclamation projects, general appropriations, or some alternative mechanism. The team responsible for Action Item 13 will, subsequent to the rightsizing process outlined above, analyze the potential benefits, requirements, and/or tradeoffs associated with alternative funding of the identified core engineering and design capability. This will include an analysis of whether the costs of maintaining core capabilities should appropriately be funded by direct appropriations, by water and power customers, or by some combination of the

two. The team will present its findings and recommendations to Reclamation leadership in August of 2007

Quality Assurance

The team responsible for Action Items 14 and 15 has prepared Temporary Reclamation Manual Policies and Directives and Standards with requirements for Estimates and oversight of Design, Estimating and Construction. These policy documents establish requirements intended to ensure adequate review and quality control in Reclamation engineering and designs. In addition to this policy development, the team conducted pilot reviews of a number of major design, estimating, and construction efforts ongoing within Reclamation. A summary of the results of these reviews, and review recommendations for coming years was presented to Reclamation leadership for review in October 2006. A summary of the reviews was shared with stakeholders following organizational review. The team's results were posted to the *Managing for Excellence* website on November 17, 2006.

Design Standards

A significant factor in Reclamation's construction costs is the design standards the agency has established. In many cases, Reclamation's engineers have been the primary architects of design standards in the entire industry. These standards were developed to address not only physical engineering concerns, but also the significant federal risk management responsibility associated with Reclamation's large and complex facilities. These design standards have associated costs, and the appropriateness and applicability of them to the various construction and O&M activities performed by Reclamation or its customers deserves continuing review. The team responsible for Action Item 16 conducted an analysis of this issue, including a review of best practices in other federal and non-federal entities, and prepared a report on its findings and recommendations. This report was presented to Reclamation leadership in December 2006. Interested stakeholders were encouraged to provide input to the team on preferred and/or currently employed standards at Reclamation's public meeting in Sacramento November 13-14, 2006. The team report was approved by the Commissioner on January 5, 2007 and is expected to be posted to the *Managing for Excellence* website.

Relationship to other Functional Areas

In addition to the inter-relationship between themselves, as discussed above, the action items in this functional area will have significant impacts on most of the others in Reclamation's *Managing for Excellence* effort. The recommendations of the rightsizing effort will have implications for the teams in the Human Resources/Workforce functional area. In developing a transition plan to

implement the rightsizing recommendations, Team 11-12 will be working very closely with Team 41, responsible for workforce and succession planning. The rightsizing recommendations will have significant bearing on Reclamation's ability to respond to the alternative future scenarios for mission accomplishment being considered by Team 8. It is also anticipated that the efforts of Teams 13 through 16 described above (Design Standards, Quality Control, and Funding of Core Capability) will result in significant improvements in the ability of Reclamation and its stakeholders to meet the Major Repair challenges being addressed by Teams 17 through 19.

A number of other *Managing for Excellence* teams will provide input to the rightsizing process. The recommendations of Team 32-33 regarding use and appropriate location of federal and non-federal labs will be an important data input for this rightsizing process. Although the current and near term workload will be the basis for the rightsizing effort, the outcomes from the work of teams responsible for considering O&M transfer, O&M outsourcing, and Title Transfer may have future impacts on Reclamation's workload and appropriate sizing of design and engineering staff. As discussed previously, the effects of these changes will be addressed if and when they occur.

Action Item 9

Conduct a comprehensive evaluation of historical and near-term workload in the area of engineering and design services, including all design, estimating, and construction management work from the TSC, regions, and area offices.

Team Leads:

Jamie Macartney, Business Resources Manager, Great Plains Region
Perry Hensley, Chief, Geotechnical Services Division, Technical Service Center

Team Members:

- David Jennings, Program Manager, Design Group, Pacific Northwest Regional Office
- Dave Gore, Regional Engineer, Mid-Pacific Region
- Julie Bader, Acting Regional Engineer, Lower Colorado Region
- Curt Pledger, Manager, Field Engineering Division, Provo Area Office, Upper Colorado Region
- Karen Knight, Civil Engineer, Manager, Geotechnical Engineering Group 3, Technical Service Center

Objectives:

- Assess workload profiles from the Technical Service Center (TSC), regions, and area offices under current and near-future conditions.
- Assess technical capabilities from the TSC, regions, and area offices under current and near-future conditions.

Tasks:

- Depict the current workload profile (based on past 3 years) for each technical capability identified above utilizing:
 - Customer data (e.g. UC Power Program, Dam Safety Program, Research Program, Eastern Colorado Area Office, Non-Reclamation, etc.)
 - Activity Based Costing category data
- Depict the current array of technical resources in terms of:
 - Engineering and Design Capability (e.g. water conveyance, geotechnical engineering, electrical and mechanical engineering, hydroelectric research, estimating, ecological investigation, etc.)
 - Capability location by office (e.g. Lower Colorado Region, Provo Area Office, TSC, etc.)
- Adjust the historical workload profile, as necessary to depict the future anticipated workload
- Provide alternative means of identifying past and anticipated future workload (e.g. acquisition records, financial records, etc.)

Current Status: Complete

Milestones:

- July 2006: Complete evaluation and data collection.

Products:

- Report on Workload Assessment

Action Item 10

Evaluate the identified workload in terms of its commercial, commercial core, and/or inherently governmental nature, in accordance with the definitions in OMB Circular A-76. This will include the critical determination of the sustainable core capability needed to achieve Reclamation's mission-critical work.

Team Lead: Gayle Shanahan, Funds Manager, Office of Program and Policy Services

Team Members:

- Roberta Ries, Management Analyst, Upper Columbia Area Office, Pacific Northwest Region
- Randy Boyce, Program Manager, Competitive Sourcing Office, Management Services Office

Objectives:

- Classify the workload data developed in Action Item 9 in accordance with Office of Management and Budget (OMB) Circular A-76 categories of commercial, commercial core, and/or inherently governmental work.

Tasks:

- Review the workload data developed in Action Item 9.
- Review OMB Circular A-76 categories of commercial, commercial core, and/or inherently governmental work.
- Classify the workload data developed in Action Item 9 based on OMB Circular A-76 categories of work.

Current Status: Complete

Milestones:

- December 2006: Report(s) classifying current and near-future workload profiles will be complete.

Products:

- Classified Workload Report

Action Item 11

Analyze the unit to unit costs of in-house performance of the commercial workload vs. outsourcing.

Action Item 12

Based on the information gathered as well as the results of other team's efforts, complete a right-sizing process with regard to design, estimating, and construction management staff within the agency, including determination of the appropriate location and distribution of technical capability. A transition plan will then be developed and implemented to achieve the determined size, type, and location of staff resources.

Team Leads:

Jamie Macartney, Business Resources Manager, Great Plains Region
Perry Hensley, Chief, Geotechnical Services Division, Technical Service Center

Team Members:

- Dave Gore, Regional Engineer, Mid-Pacific Region
- Julie Bader, Acting Regional Engineer, Lower Colorado Region
- Karen Knight, Civil Engineer, Manager, Geotechnical Engineering Group 3, Technical Service Center
- Karl Wirkus, Manager, Resources and Technical Services, Pacific Northwest Region
- Darryl Beckman, Deputy Regional Director, Upper Colorado Region
- Roger Slater, Supervisor, Human Resources Officer, Salt Lake City

Objective:

- Recommend a process to right-size the design, estimate, and construction management staff within the agency, including potential relocation and redistribution of technical capability, while considering the efficiencies of in-house and outsourced work.

Tasks:

- Identify core technical capabilities required by the agency.
- Identify technical capabilities that could be outsourced.
- Develop methodology to distribute Reclamation's workload.
- Determine the number of technical staff required to maintain each core capability.
- Determine the most effective combination of staff needed in addition to that required for maintaining core capabilities, outsourcing, and technical oversight of outsourced activities needed to accomplish projected workload.
- Propose the most effective distribution of required technical staff resources within the agency.
- Propose an implementation plan to achieve the appropriate resource staffing levels and distribution within the agency.
- Prepare a final report detailing proposed technical staff resource levels and distribution within the agency.

Milestones:

- April 2007: Completion of Action Item 12.
- November 2007: Completion of Action Item 11.

Action Items 11-12 (cont.)

Products:

- Report summarizing in-house vs. out-sourcing efficiencies.
- Report summarizing right-sizing process recommendations.
- Implementation plan.

Action Item 13

Analyze the potential benefits and requirements/tradeoffs associated with alternative funding of the engineering and design staff. This would include an analysis of whether the costs of maintaining core capabilities within the TSC should appropriately be funded by direct appropriations, by water and power customers, or by some combination of the two.

Team Lead: Larry Walkoviak, Deputy Regional Director, Lower Colorado Region

Team Members: TBD

Objectives:

- Analyze the potential benefits and requirements/tradeoffs associated with alternative funding of the engineering and design staff.

Tasks:

- Summarize past and present funding approaches for engineering and design staff and core capability.
- Assess how other public and private entities fund technical engineering and design staff and core capability.
- Brainstorm, evaluate and summarize future potential options.

Milestones:

- June 2007: Work will begin.
- August 2007: Report summarizing team's work, findings, analyses and recommendations will be available.

Products to be Developed:

- Report(s)

Action Item 14

Implement design engineering estimate oversight functions associated with the Design Engineering Construction (DEC)/Dam Safety Officer (DSO) position; identify and conduct pilot reviews of key project feature construction estimates during FY 2006.

Current Status: Complete

Action Item 15

Establish agency policies and procedures for the oversight of design and construction estimates.

Lead: Bruce Moore, DSO/ DEC Manager, Office of Technical Resources

Objective:

- Establish the Dam Safety Officer (DSO) and the Design, Estimating and Construction Oversight Office Manager (DEC) position, and conduct pilot reviews of key project feature construction estimates.
- Establish agency policies and procedures for the oversight of design and construction estimates.

Tasks:

- Issue call letter for FY07-09 for DEC reviews.
- Issue temporary policy and Directives and Standards for DEC and Estimating.
- Conduct pilot reviews on Auburn Dam Update, TCD Glen Canyon Dam, Navajo/Gallup Water Supply Project, and the Reservoirs along the All American Canal (AAC) in FY06.
- Compile and prioritize DEC reviews for FY07-09.

Current Status: Complete

Milestones:

- May 2006: Call letter issued to all Regions asking for lists of projects for FY07-09 that meet DEC review requirements.
- June 2006: Complete pilot review of Auburn Dam Update.
- July 2006: Complete pilot review of TCD Glen Canyon Dam.
- August 2006: Complete pilot review of Navajo/Gallup Water Supply Project
- August 2006: Issue Policy, Directives and Standards for DEC and Estimating.
- August 2006: Complete report to Commissioner prioritizing & recommending DEC reviews in FY 07, 08 & 09 and reviews.
- September 2006: Issue pilot review of AAC Reservoirs.

Products:

- Policy, Directives and Standards for DEC and Estimating
- DEC Review Reports on Auburn, Glen Canyon TCD, Navajo/Gallup and ACC Reservoirs
- Report to Commissioner on DEC Reviews

Action Item 16

Analyze Reclamation's engineering standards; both the appropriateness of them and how they are applied internally and externally.

Team Lead: Gerald Kelso, Area Manager, Upper Columbia Area Office, Pacific Northwest Region

Team Members:

- Bruce Barrett, Area Manager, Provo Area Office, Upper Colorado Region
- Bill Bruninga, Deputy Area Manager, Hoover Dam Facility Manager, Lower Colorado Region
- Larry Hieb, O&M Technical Services Manager, Snake River Area Office, Pacific Northwest Region
- Lowell Pimley, Chief, Civil Engineering Services Division, Technical Service Center
- Larry Schoessler, Supervisor, Construction Services, Great Plains Region
- Jim Zeiger, Manager, Electrical Design Group, Infrastructure Services Division, Technical Service Center
- Roberta Ries, Management Analyst, Upper Columbia Area Office, Pacific Northwest Region

Objectives:

- Determine the appropriateness, effectiveness, and application of Reclamation's existing engineering standards.

Tasks:

- Identify and review Reclamation practices for internal and external designs with focus on matching standards to risk.
- Collect and review internal policies and reports.
- Review external/industry design standards, risk, guidelines, and liabilities.
- Meet with external entities to assess design practices.
- Make recommendations on best practices.

Current Status: Complete

Milestones:

- July 2006: Work will begin.
- October 2006: Meet with external private and federal entities to assess design practices.
- December 2006: Report summarizing analysis of Reclamation's existing engineering standards will be available.

Products:

- Report on Reclamation's existing engineering standards