



Profile of Design Capability *in the* Bureau of Reclamation

January 1997

Project Construction Engineers Work Group
and the
Engineers Work Group

*United States Department of the Interior
Bureau of Reclamation*





United States Department of the Interior

BUREAU OF RECLAMATION
Washington, D.C. 20240

IN REPLY REFER TO:

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MEMORANDUM

To: Regional Director, PN, MP, LC, UC, GP
Attention: PN-1000, MP-100, LC-1000, UC-100, GP-1000
Director, Reclamation Service Center
D-1000

From: Eluid L. Martinez
Commissioner
SGD ELUID L. MARTINEZ

Subject: Reclamation's Design and Construction Capabilities

By memorandum from Steve Magnussen dated September 18, 1996, the regions and the Reclamation Service Center (RSC) were asked to provide comments on two draft reports: Profile of Design Capability in the Bureau of Reclamation, and Recommendations for Sustainability, and Profile of Construction Capability in the Bureau of Reclamation. These reports were the culmination of a year-long effort to address the future of design and construction capability within Reclamation.

Responses have been favorable on the conclusions and recommendations contained in these documents, and reflect a belief in the vital role that a strong design and construction capability can continue to have in support of our many responsibilities. It is important that the momentum that has been generated by this process will continue as we move ahead to implement recommendations.

All the recommendations and supporting information can be obtained from the referenced reports, but I would like to emphasize a few of the more critical actions needing immediate attention.

1. Establish Reclamation Design Coordination and Construction Coordination Teams (RDCT and RCCT): I have asked each region and the Reclamation Service Center to nominate a representative for the RDCT and RCCT and to submit their names to Felix Cook, D-8000, by December 20, 1996. The individuals should be familiar with and have access to the processes used to distribute workload and fill design and construction positions for the region/office they represent. These groups will be assembled quickly after members are selected, and are expected to play a major role in implementing many of the recommendations pertaining to design and construction capability. After implementation of the recommendations has been

completed, the teams will assume permanent roles in the monitoring and coordination of our design and construction activities.

2. Pursue opportunities to stabilize and supplement the workload: Reclamation design and construction management organizations shall be the providers of choice for all Reclamation's program related work, provided the organizations can demonstrate quality, cost effectiveness, and customer service. To achieve this goal, I am asking that each Region use their RDCT and RCCT representatives and their Technical Service Center (TSC) contacts to jointly develop work plans each year when final information on budget and workload are known with certainty. This collaborative process will ensure that we utilize our engineering staff resources in the most effective manner. Our goal is to utilize our own staff resources as well as consultant resources in a balanced manner that fully enhances our own staff capability and meets our work load objectives in a timely and efficient manner. In addition to our own work, individual regions and the TSC are encouraged to evaluate opportunities to perform reimbursable work. Reimbursable work may provide opportunities to maintain capability when our own program activities are temporarily limited. Each Director, however, should establish management review processes to ensure that financial; liability, and other issues are appropriately addressed and that the work is consistent with our mission as a water resources management agency.

3. Develop processes in the regions that support the goal of maintaining capability: The mechanisms used in each region to determine who will perform design and construction management activities on individual projects should be evaluated to ensure that they adequately consider factors relative to maintaining and developing key capabilities. Personnel actions that further disperse technical expertise should be discouraged, and opportunities to consolidate design and construction organizations as the workload allows should be considered.

4. Establish a construction management focal point through the Technical Service Center: The TSC should begin immediately to assemble the necessary resources to provide training, policy development, and resource management services for corporate issues relating to construction management. This organization would also contain a construction management core capability that would be available to perform work within the regions and also serve the purpose of retaining key construction management personnel within Reclamation as the workload shifts between locations. The TSC is currently analyzing the most efficient methods of providing these services to create an organization that is fiscally responsive to the needs of Reclamation.

Implementing these actions and recommendations contained in the reports will have a positive affect on our ability as an agency to maintain a high standard of design and construction management capability. It will also provide more stability and job opportunities for the many Reclamation employees who have built their careers around these disciplines. It is incumbent upon all of the managers in Reclamation to facilitate the actions necessary to accomplish these activities, and to recognize and support the technical resources in our organizations that are so important to our future.

I have asked Bob Johnson, Regional Director for the Lower Colorado Region, and Felix Cook, Director of the Technical Service Center, to monitor this effort for the Policy Team, and to provide guidance to staff who are working on implementation.

I would like to express my thanks to the staff who worked on this review and developed the reports and recommendations. They have done an excellent job.

cc: Director, Technical Service Center

Attention: D-8000, 8100

Regional Director, PN

Attention: SRA-1000, GCP-1000, UCA-1000, LCA-1000, UCY-3100, BCO-3100,
HH-3000, EPH-2000, CRCO-6113, SRA-6300; PN-3000, 3400

Regional Director, MP

Attention: KO-100, LO-100, NC-100, CC-100, SCC-100, CVO-100, WCO-100; MP-105,
110, 200, 400

Regional Director, LC

Attention: PXAO-1000, 2000, 2800; LCD-1000, C100, D10, P10; SCAO-1000,
YAO-1000, LC-2000

Regional Director, UC

Attention: ALB-100, AFD-400, C-10, RG-600, RG-100, S-10, FCO-100, UC-600,
GC-100, CCI-100, FG-100, PRO-100 (CDeAngelis, PSchumacher); UC-200, 205

Regional Director, GP

Attention: DK-100, EC-100, NK-RJG, OT-100, MT-100, WY-100; GP-2000, 2200

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PART I

EXECUTIVE SUMMARY

The Concern

A major concern for Reclamation today is the continuing loss of expert design capability. Sustaining expert capability is essential to effectively maintaining the infrastructure, responding to emergencies, and preparing for new challenges that will appear in the future.

The Design Profile

Under the sponsorship of the Policy Team, design and construction personnel throughout Reclamation came together to address this important concern. The Project Construction Engineer's Working Group and Engineer's Working Group (PCE/EWG) analyzed survey responses from fifty Reclamation offices on how Reclamation's design work is currently accomplished and how it is projected to be performed in the future. Respondents answered questions on current and future design needs, current and projected design capability, service providers of choice, and the preservation of design capability.

The survey results were used to develop a *profile* of Reclamation's design capability. The PCE/EWG used the *profile* to confirm and better understand the current and potential future issues and develop a strategy for maintaining design capability in Reclamation.

The Trends

Trends exhibited by the survey include:

- Overall design capability is decreasing. A reduction of nearly 7% (from about 800 employees to about 740 Reclamation-wide) is expected to occur over the next five years based on anticipated needs. Nearly one-half of the design employees are located at the TSC (Technical Service Center), 48% currently and 45% in the future.
- Current design emphasis is on repair and rehabilitation of existing facilities, technical studies and documents, and fish and wildlife facilities. This trend continues into the future with increasing emphasis on environmental studies and documents.

- Users of design services prefer to perform their own work, and are trending towards a stronger design role in the future; the TSC and Regional design offices are currently used only when necessary to obtain the capability required.
- The strength of design capabilities varies widely between offices. However, various strong capabilities do exist throughout the organization.
- Users of design services believe that a technical staff with expert design capability must be preserved. By a wide margin, they are willing to support the TSC and, to a lesser extent, Regional design offices to maintain expert or specialized capability.
- Design needs cannot be clearly defined more than two to three years ahead, making advance planning (and decisions about future capability) difficult.
- Reimbursable work is expected to increase.
- Attrition will lead to a decrease in capability at the TSC of almost 15% over the next 5 years if positions are not refilled. Civil engineers, architects, and geologists are the most heavily impacted.

The Issues

Issues raised by analysis of the survey include:

- As Reclamation's construction program continues to decline, will repair and rehabilitation of Reclamation's aging infrastructure and implementation of fish and wildlife programs create sufficient volume and diversity of workload to maintain critical design capability?
- An increase in reimbursable work is seen as a way to help stabilize workload and to learn new technologies. Current Reclamation policy may not support this. Similarly, retention of "pass through" work would help to increase design workload.
- Increasing efforts to lower costs, coupled with Area Office desires to perform their own work, are causing a shift of design FTEs from the TSC and Regional design offices to field offices. This may be detrimental to maintaining design capability, technical sufficiency, and consistency Reclamation-wide.
- If maintaining design capability at the TSC and Regional Offices benefits the organization as indicated in the survey, what mechanism can be established that is cost-effective and supported corporately? It would have to address customer service, sharing work, supporting overhead, training, and recruitment.

The Proposed Strategies for Sustaining Capability

Recognizing the uncertainties in workload and budgets that will likely persist, the PCE/EWG recommends a combination of 1) improved internal coordination/cooperation, and 2) policy revisions to help sustain capability. These recommendations are summarized below:

- Improve coordination and cooperation among all levels of the organization to adopt a corporate focus to the concern, recognizing that Regional issues need a regional focus. This can be achieved by distributing this report and related information for review and discussion at leadership team meetings throughout the organization. Consideration should be given to creating internal partnerships under the principle of **working together to reduce detrimental internal competition and promote a healthy design capability.**
- Charter a Reclamation Design Coordination Team (RDCT) comprising of Regional and TSC representatives to:
 - identify and monitor key capabilities over time
 - monitor workload and staffing requirements
 - facilitate staffing of key positions
 - oversee the preparation of a Reclamation-wide directory of design resources and services
 - perform special studies as needed
- Establish processes in the Regions to coordinate with the RDCT in the:
 - distribution of the workload considering the field office role, the Regional office role, and the role of the TSC
 - location and maintenance of capability considering the dispersion and dilution of expertise, the organizational risks associated with location of capability, inconsistent quality, and human resource renewal
- Establish Reclamation policy on:
 - maintaining quality, corporate consistency, and safety
 - stabilizing and supplementing the workload with pass-through and reimbursable work
 - understanding the cost of doing business and applying uniform procedures developed by others
 - making Reclamation design organizations the providers of choice for all design work

The PCE/EWG stands ready to assist in implementing these recommendations.