

RECLAMATION

Managing Water in the West

Managing for Excellence: Action Item 13

Alternatives for Funding Engineering and Design Work

Final Report



Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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Introduction

In its report *Managing Construction and Infrastructure in the 21st Century Bureau of Reclamation*, the National Research Council offered the following recommendation relevant to this Action Item 13:

Recommendation 2c - Alternative means should be developed for funding the staff and operating costs necessary for maintaining core TSC [Technical Service Center] competencies, thereby reducing the proportion of engineering service costs reimbursable by customers.

The Bureau of Reclamation's Managing for Excellence (M4E) Team 13 has reviewed the National Research Council's report and believes that the above recommendation may have been influenced by a perception that TSC costs passed on to customers include significant components associated with maintaining necessary Bureau of Reclamation (Reclamation) core capability, including development and maintenance of technical policies and standards, research and development activities, technical oversight, technical training, and maintenance of specialized laboratory/field functions. However, this perception is not true, as will be explained below.

In its report *Managing for Excellence – An Action Plan for the 21st Century (Action Plan)*, dated February 2006, Reclamation provided the following responses for how engineering and design (E&D) core capability would be addressed (p.14-15):

Reclamation has significant technical capability in Engineering and Design services throughout the agency from the Technical Service Center to the regional, area, and project offices Reclamation must determine and achieve the appropriate level of core capability it needs in these areas to fulfill its mission responsibilities and provide optimum value to its customers. This will involve decisions about the volume, type, and organizational location of core engineering and design capabilities.

This report also included the following regarding research and development (R&D) and laboratory facilities (p. 18):

The R&D Office does not manage the laboratory services. Historically, the labs have been managed within the engineering/technical divisions of the Technical Service Center and its predecessor organizations. There also are a few labs located within regional and area offices. Although R&D and Laboratory Services are managed in separate organizations, the action items . . . will examine further improvements to the R&D funding process, as well as TSC and regional laboratories.

A number of other M4E Teams, particularly Team 12, have addressed these issues from the standpoint of recommending the business practices needed to ensure the appropriate size, distribution, expertise, and location of Reclamation's engineering and design and other technical services workforce. The Team 13 action item focuses on an examination of the current funding approaches in use by the TSC, regional offices, and area offices and examines alternatives that may result in a more appropriate allocation of E&D costs to customers.

Scope of Action Item 13

In Reclamation's *Action Plan*, the scope of Action Item 13 was stated as follows:

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

Accordingly, Team 13 examined current funding practices for E&D staff in the TSC and in regional and area offices. The team also examined other potential funding methods focused on core capability, identified pros and cons for the various options, and developed a recommendation.

As the team developed its analysis, it examined the results of other teams that had relevant information and, where appropriate, incorporated information from the other teams into the analysis.

Summary of Reclamation's E&D Functions

Throughout most of its history, Reclamation has maintained a centralized research and design capability in Denver, Colorado, with world-class expertise in a wide variety of infrastructure design, operations and maintenance, and resource management areas. This central capability (currently the TSC) has produced designs for the most complex construction and repair projects throughout Reclamation and operates a centralized laboratory function for specialized services. There are currently about 500 employees assigned to the TSC (about 300 engineers, 100 scientists, and 100 technical support staff).

Reclamation's five regional offices also maintain design capabilities, though the design workload and staffing, as well as the organizational structure and degree of

centralization, vary significantly among the regions. Some area offices maintain a design capability as well (most typically, such area office capability is directly connected to local needs and is viewed as providing an efficient means of addressing recurring, project-specific technical requirements).

Design support functions, including project planning, design and construction budget development, and design data gathering, are provided in most instances by area offices, with some assistance from regional staff. The region and area offices also operate local laboratories for construction support activities and to support operational decision-making and planning functions. This arrangement prevails whether the design is ultimately produced by area offices, regional offices, the TSC, or private contractors.

Description of Current E&D Funding Practices

All Reclamation offices currently operate under “standard practices of costing” (SPOC) guidelines implemented in 2000 to provide improved uniformity and transparency in costing. The fundamental principle under SPOC is to assign the costs associated with any given activity to that activity. This principle is adhered to without regard for the method of assigning costs (direct charge, distributive charge, assessment, etc.).

Prior to 1995, Reclamation’s E&D functions (both centralized and decentralized) were funded through direct appropriations. Thus, all offices were involved in the development of the annual Reclamation budget, and each office was given a portion of the budget to manage in the performance of its activities.

Beginning in 1995, the centralized research and design function (under the TSC) was no longer included in budgeting activities, and received very limited amounts of direct appropriations. Instead, the TSC was established under a business model whereby its costs had to be recovered by performing services for other offices on a fee-for-service basis. To accomplish this, individual service agreements (about 2,000 in any given year) are developed with both Reclamation and non-Reclamation customers on an “as-requested” basis. These service agreements identify the scope of work, schedule, and budget associated with services to be provided.

The TSC operates within a single working capital fund (K88), which captures all of its operating costs (including labor, space, supplies, equipment, and administrative support). Like all Reclamation offices, TSC is allocated a proportionate share of the costs associated with Reclamation-wide human resources, finance and accounting, information technology, and budgeting

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systems. It is also allocated its share of costs for its local use of these services, as well as departmental assessments for department-wide systems and requirements.

TSC uses three separate billing rates to recover its operating costs, associated with the skill levels of the employees providing services. Since the implementation of SPOC, premium rates and fees have been used by some TSC groups to recover their additional costs related to unique lab, field testing, or computer-related costs.

All costs incurred on a given service agreement (and only those costs) are charged to the benefiting activity in a fully reimbursable manner. The benefiting activity, whether a specific Reclamation project or a general program, will pay these costs from its appropriate funding source(s). The funding source(s) include both reimbursable and nonreimbursable appropriations, as well as funds advanced from customers and/or from operating revenues.

Although not operating out of a working capital fund like the TSC, the regional and area offices charge their engineering and design work directly to the specific project or program activities benefiting from that work. (It should be noted that some region-wide activities, such as drilling and lab functions, operate on a fee-for-service basis similar to that described above for the TSC, whereas others operate under a separate working capital fund.) As explained in the preceding paragraph, the benefiting activities pay these costs from their funding sources. Unlike the TSC, regional and area offices charge the labor rate assigned to the employee doing the work rather than charging their costs on a “billing rate” basis. The specific labor rate for each employee includes an overhead surcharge appropriate to that employee’s office. Under either charging methodology, the specific cost of performing engineering and design work is charged directly to the benefiting activity.

It is important to note here that a benefiting activity can include those activities that are funded by nonreimbursable appropriations, such as Reclamation’s Policy and Administration (P&A) appropriation. As such, any engineering and design work performed and charged by the TSC, a regional office, or an area office to a P&A-funded activity will be nonreimbursable.

Funding for E&D Core Capability

As described above, E&D-related charges to a specific benefiting activity are limited to those costs directly associated with the delivery of services provided by Reclamation’s E&D staff in support of that benefiting activity. Each benefiting activity will have a unique financial arrangement which defines what (if any) portion of these costs is to be recovered from Reclamation’s customer(s). This is true despite the differences in the manner in which the organizations are funded, as described previously.

Team 13 has reviewed the manner in which E&D core capability is funded and has found the following results were consistent throughout Reclamation:

- *Technical policies and standards* (including participation on national/industry technical standards committees) – Funded through direct appropriation, primarily associated with P&A. These costs are not passed along to Reclamation customers.
- *Research and development* – Funded through direct appropriation primarily associated with R&D funding. These costs also are not passed along to Reclamation customers.
- *Technical training* – Funded in all offices as a portion of labor overhead. Team 13 found this component to be a relatively minor part of overhead in all offices, including the TSC.
- *Technical oversight* – Funded in all offices as a direct charge. (In many cases technical oversight of Reclamation E&D products is outsourced to obtain an independent, objective result.) Costs associated with this component are charged to the benefiting activity.
- *Maintenance of specialized lab or field capability* – Labor associated with actually performing lab and field testing is consistently direct-charged to the benefiting activity (no different from typical E&D work activities). However, labor, supplies, equipment, and lab infrastructure costs associated with maintenance of specialized lab or field capabilities were found to be recovered primarily as an overhead component directly associated with the activity. This overhead component is either built into the labor rates, added on as a surcharge or premium rate (at the TSC), or in some cases direct-charged as a separate fee. Costs associated with this component are passed along to Reclamation customers to the extent that the lab or field tests are performed on a specific activity that directly benefits those customers.

Review of Alternative Funding Methods

The following alternative funding methods (with brief discussion of each) were reviewed:

Totally reimbursable – Under this funding approach, all costs associated with E&D activities would be charged to benefiting activities, including those associated with the maintenance of technical policies and standards and with R&D activities. This approach would result in increased costs being passed along to customers, with a reduction in the appropriations sought annually by Reclamation.

Fully reimbursable – Under this funding approach, only those costs specifically associated with a given E&D activity would be charged to benefiting activities. These costs would include customary overhead-related operating costs and any costs assessed for special lab or field related activities in the form of premium labor rates and/or fees. Costs associated with maintenance of technical policies and standards or with R&D activities would not be passed along to customers. This is the current methodology used by Reclamation, so there would be no change in the costs passed along to customers. It should be noted that for certain activities (e.g., dam safety modifications) existing legislation allows for cost-sharing such that the customer pays for a particular percentage of the E&D costs actually incurred.

Broad-based E&D Cost Sharing – Under this funding approach, costs incurred for E&D activities would be divided in some manner between Reclamation customers and nonreimbursable appropriations. As noted above, cost-sharing legislation already exists for dam safety-related activities. Under this approach, the premise of fully reimbursable cost accounting would remain intact. New cost-sharing legislation would need to be enacted before this funding method would be implemented.

Base funding – Under this funding approach, costs incurred for certain E&D activities, or for certain aspects of E&D activities, would be covered by nonreimbursable appropriations. As discussed earlier, R&D projects and the maintenance of technical policies and standards are examples of E&D-related activities that are funded by nonreimbursable appropriations and not passed along to customers. Another good example is the dam safety design analyses performed in advance of corrective actions to structures. These costs are fully covered by nonreimbursable appropriations and are not passed along to customers. Examples of activities that could be base-funded might include centralized laboratory infrastructure costs.

In the case of both cost sharing and base funding, the issue to be addressed would be who pays for that share of E&D costs not passed along to the customer. This matter is already resolved where there is an existing nonreimbursable appropriation (which is true of many E&D-related activities such as certain dam safety related work, research and development work, and P&A-supported technical activities). But creating new cost-sharing or base-funding arrangements without additional nonreimbursable appropriations means that the costs would need to be shifted to (subsidized by) others.

Some concern has been expressed that without some other source of funding (e.g., base funding), Reclamation is in danger of losing essential elements of core capability. It is true that Reclamation does not currently have the same degree of capability in areas such as chemical analysis of water and soils, geotechnical lab testing, and groundwater analysis that once existed. However, the current business models employed by Reclamation are based on maintaining technical capability that meets the evolving needs of the organization and its customers.

Base funding of capabilities not in high demand might be a short-term financial solution, but it seems that the essential ingredient of long-term sustainability of any particular core capability is the workload itself. Without meaningful E&D work to perform, the best scientists and engineers go elsewhere, and those who remain see their skills atrophy over time.

Findings

Based on its review of current funding and cost-allocation practices for E&D in the TSC and in regional and area offices, Team 13 finds that:

1. E&D labor costs charged to benefiting activities include only those costs associated with performing work on specific tasks, including applicable premium rates or fees for specialized services (lab testing, field sampling/testing, computer analysis, etc).
2. Costs associated with activities related to development and maintenance of technical manuals and standards or to research and development activities are covered by separate nonreimbursable appropriations and are not passed along to Reclamation customers.
3. E&D costs in all offices meet Reclamation guidelines regarding standard practices of costing, whereby costs incurred on a given activity are directed to the beneficiary of that activity.
4. The current differences in funding approach between the TSC and the regional and area offices do not appreciably impact the E&D costs associated with work performed for and passed along to Reclamation customers.
5. Funding (and cost recovery) alternatives examined would not appreciably impact the E&D costs associated with work performed for and passed along to Reclamation customers unless it is determined that the E&D costs should not be fully reimbursable (in which case base funding or cost sharing legislation would need to be sought).
6. The vast majority of costs associated with TSC, regional, and area office laboratories are fully charged to the benefiting activities of those laboratories through standard costing practices.
7. The sustainability of Reclamation core capability in any given area is much more dependent on sustainable workload than on funding methodology. Implementation of the M4E Team 12 business model should include an assessment of the impact of workload distribution

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decisions on Reclamation's ability to maintain its core technical capability.

Conclusions

Team 13 has concluded that Reclamation's current business practices for funding E&D staff activities represent an efficient business model for the recovery of the costs of engineering and design-related technical services and the associated maintenance of core capability. The team also notes that the business model recommended by Team 12 will include processes that enable Reclamation to assess the impact of workload distribution decisions on Reclamation's ability to maintain its core technical capability.

Recommendations

In light of the preceding, Team 13 recommends that there be no changes to Reclamation's current practices for funding E&D staff and core capability.