RECLAMATION

Managing Water in the West

Coordination and Oversight Group (COG) Annual Report for Fiscal Year 2010

U.S. Department of the Interior
Bureau of Reclamation

March 2011

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.

Coordination and Oversight Group (COG) Annual Report for Fiscal Year 2010

U.S. Department of the Interior
Bureau of Reclamation
Coordination and Oversight Group

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Acronyms and Abbreviations

ARRA	American Recovery and Reinvestment Act of 2009
CIO	Chief Information Officer
COG	Coordination and Oversight Group
Department	U.S. Department of the Interior
D&S	Directives and Standards
DCO	Deputy Commissioner of Operations
DC-PAB	Deputy Commissioner, Policy, Administration, and Budget
ESAM	Electronic Service Agreement Module
FCCO	Four Corners Construction Office
FFA	Family Farm Alliance
FPDS	Federal Procurement Data System
FTE	Full-Time Equivalent
FY	Fiscal Year
GP	Great Plains
GP Region	Great Plains Region Engineering Design, Geology and Exploration Services, and Construction Services
IT	Information Technology
LC	Lower Colorado
LC ESO	Lower Colorado Region Engineering Services Office
MP	Mid-Pacific
MPCO	Mid-Pacific Construction Office
MP Region	Mid-Pacific Region Division of Design and Construction, Division of Planning, and Division of Environmental Affairs – Environmental Monitoring Branch
NAICS	North American Industry Classification System
NewMIS	New Management Information System
NWRA	National Water Resource Association
PN	Pacific Northwest
PN-RTTS	Pacific Northwest Region Resource and Technical Services
Provo	Provo Area Office
RDCCT	Reclamation Design and Construction Coordination Team
RLT	Reclamation Leadership Team
RMC	Risk Management Center
SA	Service Agreements
SOPs	Standard Operating Procedures
SPO	Service Provider Organization
SSLE	Safety, Security, and Law Enforcement
TSC	Technical Service Center
UC	Upper Colorado
UC Region	Upper Colorado Region Engineering Services Group

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Executive Summary

The Coordination and Oversight Group (COG) is responsible for facilitating the implementation of Reclamation's business model for managing technical services and assisting the Deputy Commissioner, Operations (DCO), to ensure maintenance of adequate expertise in mission-essential technical services. The implementation of the business model and maintenance of these technical capabilities is essential so Reclamation can fulfill all of its responsibilities for delivering water and generating power, while executing program and project requirements within scope, budget, and schedule in a manner that fosters Reclamation-wide collaboration, coordination, and sharing of technical resources in an accountable and transparent manner. The COG's activities, report of findings, and recommendations for fiscal year (FY) 2010 are contained in this report.

In order to effectively measure performance as objectively as possible, a large volume of data were gathered and analyzed. These data included technical service: cost, schedule, client feedback, control of decisions for managing programs, employee utilization, work planning, outsourcing, and capabilities.

While the implementation of the business model is in its infancy, many of its principles have been in practice for some time. Reclamation shows areas of strength and high competency, as well as some areas of concern where it is important to show improvement.

Areas of strength:

- Reclamation's technical expertise, with a few notable areas of concern, is sustainable and capable of performing the agency's mission. The skill sets identified as "endangered" capabilities all exist within the Technical Service Center (TSC). The COG, in concert with the appropriate managers, has developed "Action Plans" and made recommendations to address these issues.

- There were 2,392 active service agreements in FY 2010 representing almost $65 million worth of work. Of the agreements completed in FY 2010, 94% were completed within the time agreed, and 95% were completed within the agreed budget. While there should be efforts made to continually improve, it is the COG's opinion that there is no cause for alarm. Future efforts need to ensure data is from a common frame of reference and that it is consistently reported. Credibility of this data cannot be overemphasized.

- Utilization of technical staff (direct billing to projects and/or program support) ranged from 75% to 95%, with the majority above 85%. The COG considers this high utilization.

- Decisionmaking regarding where technical services are performed remains with the program offices; thus, the business model objective of "empowerment of the regions" is being met.

- Positive feedback was received from the service providers regarding the out year budget information published. Measuring the advanced planned work will be improved upon the implementation of the Electronic Service Agreement Module (ESAM).

Areas of concern:

- Ability to internally "contract" for services including electronic tracking of cost accounting and performance. The development of ESAM, a Web-based application, is intended to provide this ability; however, its implementation has been slow.

- In the area of dam safety engineering and risk management, the U.S. Army Corps of Engineers Risk Management Center (RMC) staffing actions, coupled with retirements and departures to non-Reclamation entities, have led to significant attrition among senior Technical Service Center (TSC) staff with dam safety expertise. The effects of this have primarily been felt in the TSC's Geotechnical Services Division, with additional effects felt in construction management. Reclamation is at risk of losing its corresponding capability. Because the RMC is offering higher grades targeting senior-level staff, the attrition impacts the TSC's ability to peer review critical projects, lead those projects, and train younger staff. While the TSC is actively recruiting entry, mid-career, and senior-level staff, the full impacts of the RMC recruitment–which are ongoing–are not yet fully known. While these capabilities are currently not shown as endangered (since the data collection, several additional key staff have left Reclamation), the COG is concerned about the potential for losing these capabilities, which are critical to Reclamation fulfilling its mission and being able to remain a "smart buyer." The COG will continue to closely monitor this trend and recommends that Reclamation develop strategies to address this concern. These strategies must ensure that Reclamation maintains its ability to accomplish its mission-related workload and its smart buyer capabilities.

- Only 2% of the 1,222 service agreements completed in FY 2010 contained completion reports. This is an area of concern. The importance of the completion reports is to capture quality of service performance data which is otherwise unavailable. We anticipate that ESAM will improve this by utilizing a simple and short subjective number rating system with a field

for optional enumeration. The COG recommends that the DCO take advantage of opportunities to remind the Service Provider Organizations (SPO) and program offices of the need for completion reports. The COG will continue to explore avenues for improving Reclamation performance in this area.

- There were isolated cases discovered where outsourcing occurred without consideration of Reclamation sources. This is a breach of the workflow process required in the business model. The COG will continue to educate managers and staff on the workflow process.

- The COG is unaware of any external customer criticism related to the business model; however, it is recommended that the DCO make efforts to ensure the transparency of Reclamation's business model practices and the self-assessment results made herein by discussing in key stakeholder forums (i.e., National Water Resource Association [NWRA], Family Farm Alliance [FFA], etc).

Recommendations by the COG for the DCO are shown in the following table. Additions and updates to this list and status of recommendations will be reflected in each annual report.

Number	COG Recommendation for DCO	Status
2010-COG-1	Closely monitor the development and implementation of ESAM. This system is a critical element of the business model, and success is the only option. In order to make the business model more meaningful, full implementation of ESAM is required. One-hundred percent participation by the SPOs is required by the start of FY 2012. While this is a significant departure from most SPO's current business practices, it is recommended that the DCO make this a senior management priority.	New
2010-COG-2	Participate in developing strategies to address the loss of Reclamation dam safety and risk management staff to other agencies, outside companies, and retirement. It is recommended that the DCO directly engage with targeted staff and all levels of the impacted managers to explore available opportunities, including innovative methods, to maintain this expertise. These strategies must ensure that Reclamation is able to maintain its ability to accomplish its mission-related workload and its smart buyer capabilities.	New
2010-COG-3	Each SPO reported their cost and schedule performance with the data contained herein. Although the performance is considered good, it is important that the DCO challenge senior management to ensure consistent and credible cost and schedule data reporting.	New

Number	COG Recommendation for DCO	Status
2010-COG-4	Encourage program offices and SPOs to perform project closeout work, including completion reports. Performance of project closeout work in FY 2010 was exceptionally low. It is recommended that the DCO challenge senior management to set SPO goals of achieving 50 percent of finished service agreements with completion reports in FY 2011. This will require project followup but very little staff time to accomplish. It should be stressed in setting these goals that the SPO's clients are critical in this activity.	New
2010-COG-5	Make efforts to ensure the transparency of Reclamation's business model practices and the self-assessment results made herein by discussing in key stakeholder forums (i.e. NWRA, FFA, etc.).	New

1. Introduction

This Coordination and Oversight Group (COG) Annual Report for Fiscal Year (FY) 2010 is a comprehensive accounting of FY 2010 COG activities, summary of data collected, findings, and recommendations for consideration by the Deputy Commissioner of Operations (DCO). It is anticipated that the information contained in this report will be made available both within Reclamation and externally.

2. Background

As a result of the Managing for Excellence initiative, Reclamation formed the COG to develop a business model to provide agency-wide processes and procedures for obtaining and managing technical services. This business model was developed to improve the overall business practices that guide the management of technical services work within Reclamation's decentralized organizational structure. The goal of the business model is to maintain a balance between the desirable attributes of Reclamation's empowered, decentralized structure and our appropriately disciplined, agency-wide workload planning, scheduling, and workflow processes to efficiently utilize and manage a dispersed technical workforce. The business model is also intended to ensure the maintenance of technical capabilities within Reclamation that are necessary to accomplish the agency's mission.

Development of the business model was predicated on several important objectives:

- Empowerment of the regions
- Cost-effective and quality services
- Transparency and accountability
- Predictability of workload
- Maintenance of core technical capability
- Strategic determination of outsourcing/contracting

These objectives, developed by the COG and endorsed by the Reclamation Leadership Team (RLT), provide the foundation for the business model. Establishing an appropriate balance between these objectives is essential to successful implementation of the business model because the potential exists for achieving one objective at the expense of another. The COG was formed to facilitate this balance and assist the DCO in ensuring that Reclamation maintains the technical capabilities to fulfill all of its responsibilities for delivering water

and generating power, while executing program and project requirements within scope, budget, and schedule. This is to be accomplished in a manner that fosters Reclamation-wide collaboration, coordination, and sharing of technical resources with accountability and transparency.

Following a 1-year temporary issuance, a Policy and three Directives and Standards (D&S) were finalized and issued in late September 2010. A copy of each is included in appendix A.

Short description of the Policy and D&Ss follow:

- **CMP P10 – Bureau of Reclamation's Business Model for Managing Technical Resources.** The Policy outlines the major components of the business model (see appendix A for a graphic illustration of the business model process) and defines responsibilities and requirements for implementation. The following D&Ss provide more specific requirements related to each component.

- **CMP 10-01 - Advance Planning for Technical Services Work.** This D&S directs a process for communicating future plans for the use of service providers in accomplishing Reclamation's technical services work. This D&S acknowledges the link between advance planning of technical services work and implementation of fee-for-service practices.

- **CMP 10-02 - Fee-for-Service Business Practices for Technical Services Work.** This D&S directs the use of standardized, fee-for-service business instruments associated with the business model and acknowledges the link between advance planning of future technical services work and implementation of fee-for-service practices. These fee-for-service practices will follow a consistent format that will generate standardized data to achieve transparency and accountability.

- **CMP 10-03 - Workload Distribution Practices for Technical Services Work.** This D&S directs key business practices associated with workload distribution processes for the new business model. The workload distribution practices described in this D&S are the link between advance planning of future technical services work and fee-for-service practices in utilizing Reclamation's technical resource capabilities.

The COG identified a need for a consistent set of data to facilitate analysis of technical services cost and performance information for the nine Service Provider Offices (SPO) that provide specialized technical services support to Reclamation program offices. These nine SPOs include:

1. Great Plains Region Engineering Design, Geology and Exploration Services, and Construction Services (GP Region)

2. Pacific Northwest Region Resource and Technical Services (PN-RTTS)

3. Mid-Pacific Region Division of Design and Construction, Division of Planning, and Division of Environmental Affairs - Environmental Monitoring Branch (MP Region)

4. Upper Colorado Region Engineering Services Group (UC Region)

5. Lower Colorado Region Engineering Services Office (LC ESO)

6. Technical Service Center (TSC)

7. Four Corners Construction Office (FCCO)

8. Provo Area Office (Provo)

9. Mid-Pacific Construction Office (MPCO)

In order to collect pertinent cost and schedule data using sound project management principles, the COG approached the Chief Information Officer (CIO) in the spring of 2009 to pursue development and implementation of a software application. After evaluating multiple alternatives, the CIO and COG chose to model the existing New Management Information Center (NewMIS) application, currently used by the TSC, to collect similar data and develop a new Web-based program (Electronic Service Agreement Module [ESAM]). This option was chosen as the most cost-effective and minimally disruptive means to achieve the goals.

The SPOs develop individual Service Agreements (SA) on a job-by-job basis to meet the needs of their customers. Several thousand SAs are developed each fiscal year, with some spanning multiple years. Each agreement has a scope of work, budget, and schedule. Work performed by the SPO is charged to the customer on a fee-for-service basis. To meet the requirement of monitoring performance measures of schedule and budget, the COG has specified that ESAM will include the following features:

- Develop and maintain budgets and schedules for SAs

- Track both labor and nonlabor costs incurred

- Produce completion reports for Reclamation SPOs

- Produce the necessary financial data and files to support an optional billable rate methodology for charging labor costs.

A two-phase approach for this Web-based software module was originally planned for accomplishing the development: Phase 1 user interface (input)

development and Phase 2 database (output) optimization. During production of Phase 1, several technical problems occurred which prevented the deployment of the application. In fall 2009, the decision was made to refocus production efforts combining Phases 1 and 2 into a single deliverable. Production on ESAM continues with an unknown deployment date.

3. FY 2010 COG Activities

During FY 2010, the COG held six meetings primarily focused on the following work:

- Developing and documenting procedures to monitor the effectiveness of the business model.
- Organizing and implementing data calls necessary for implementation of the business model and its ultimate evaluation.
- Performing the FY 2009 and 2010 evaluations of Reclamation's technical capability and maintenance thereof. The Summary Status Report for FY 2010 is included in appendix B. The FY 2009 and 2010 Action Plans are attached as appendix C.
- Conversion of the temporary Policy and Directives and Standards into final issuance, accounting for all comments received.
- Stewarding the development and implementation of ESAM. The COG's focus is to effectively interface with the program offices where implementation will result in the highest degree of change in business practices.

The COG also engaged in focused outreach efforts to all known Reclamation standing groups (i.e., Facilities Operation and Maintenance Team, the Reclamation Design and Construction Coordination Team [RDCCT], the budget and finance communities, the human resources community, etc.) to determine if there are similar activities or basic functions which were in common or potentially could overlap. In the area of human resource and capability tracking, it was determined that the RDCCT has undertaken some efforts and close coordination is now occurring. The budget, finance, and human resource communities have considerable interest in various aspects of ESAM. The COG's ESAM "subteam" is closely coordinating with those groups.

Other outreach focus by the COG was using individual members to provide detailed briefings to their respective Director and leadership groups on all aspects of COG activities. No formal outreach was made to external customers this period.

See appendix D for more detailed description of all FY 2010 COG activities.

4. Business Model Assessments

Reclamation's technical services business model is designed to meet six specific objectives. The assessment of Reclamation's performance in meeting each objective is presented in the following sections.

4.1 Business Model Objective – Empowerment of the Regions

The authority to decide from where technical services work will be obtained remains with the program offices; this is the central tenet of the Workload Distribution Practices for Technical Services Work D&S. The program offices are to maintain a corporate perspective and use the Workload Distribution Flowchart in the D&S when making decisions on where to obtain technical services. If a program office decides to distribute workload outside the approach prescribed in the Workload Distribution Flowchart, written documentation is required for that decision to ensure the corporate perspective is considered. In such an instance, the Director of an SPO may appeal the decision of a program office using the appeal path outlined in the D&S.

The two performance measures for this objective are: (1) the number of formal appeals by SPOs; and (2) the number of appeals sustained, per DCO decisions. In FY 2010, there were no formal appeals filed by an SPO; thus, no appeals to be sustained.

While the structured model is still in its infancy, based upon informal observations by the COG, it has resulted in improved dialogues between program offices and SPOs which may not have occurred otherwise. Since no appeals to the DCO were filed, the COG concluded that any associated issues were successfully resolved at the program office or Director level. The COG concludes that the "empowerment of the regions" objective is being met.

4.2 Business Model Objective – Cost-Effective and Quality Services

The COG developed three performance measures to track and monitor Reclamation's SPOs in the area of cost-effective and quality services: (1) Product Delivery; (2) Customer Satisfaction (both internal and external); and (3) Percent Utilization of Services. It is important to look at the first and second measures together to fully evaluate overall SPO performance.

Most of the data for these performance measures will be gathered by the future ESAM; however, ESAM was not operable in FY 2010, so the COG was faced with manual methods of accounting that bring into question the consistency of approaches and interpretations. A spreadsheet was developed to gather the available information as consistently as possible. The spreadsheet data, summarized in tables and graphs, are included in appendix E for reference.

4.2.1 Product Delivery

To measure product delivery, data were gathered to: (1) calculate the percentage of SAs completed within the agreed upon schedule (by number of SAs); (2) calculate the percentage of SAs completed within the agreed upon budget (by number of SAs); and (3) document the number of SAs with completion reports.

The number of active SAs in place during FY 2010 was 2,392, which represents $64.7 million of work. Note that not all of this work is programmed to be accomplished within FY 2010. The American Recovery and Reinvestment Act of 2009 (ARRA) related work strongly influenced the magnitude for all of Reclamation's technical service work. The TSC is attributed with 83% of the SAs and 76% of the value.

Among the SPOs, the range of SAs completed within schedule and budget is from 82% to 100% of their respective work. The COG recognizes the need for continued improvement in this critical objective. However, there does not appear to be a cause for alarm based upon the COG's collective judgment, and no further immediate action is planned by the COG. Future trends for this objective will be very important to monitor.

As indicated in the data, there were few completion reports in FY 2010. This is cause for concern. The COG expects some improvement once ESAM is implemented; however, it is recommended that the DCO take advantage of opportunities to continue reminding the SPOs and program offices of the requirement for completion reports. The COG will continue to explore avenues for improving Reclamation performance in this area.

4.2.2 Customer Satisfaction (Both Internal and External)

To measure customer satisfaction, feedback is gathered from both internal and external customers in the following areas: cost effectiveness, understanding the scope of work, timeliness, technical knowledge, problem solving, and responsiveness. This feedback, combined with the completion reports, will provide data regarding customer satisfaction. It is recognized that these data are subjective; however, with that understanding, the COG believes this is an important endeavor.

There was generally positive feedback received from reports regarding service provided by MPCO and the Provo Area Office (Provo) (see appendix F). Data is

lacking regarding other offices. Overall, there is insufficient data to draw conclusions. In future reports, ESAM should improve this data collection.

Based upon the lack of completion reports filed during FY 2010, and considering similar data was not collected for outsourced work, this objective was difficult to measure. The COG received no requests to investigate, nor did the COG seek feedback regarding any SPO's performance. Also, there were no formal presentations to external customers during FY 2010, nor were there any electronic comments received through the COG's Web site. While it can be interpreted that "silence is golden," the COG recommends external customer outreach be enhanced.

Another related COG practice is to seek out all valuable "lessons learned" and "best practices" and publicize those lessons to the SPOs in the spirit of continuous improvement. One case study was developed for the Red Bluff Project and appears on the COG Web site. The COG is planning additional effort in this area in upcoming years.

4.2.3 Percent Utilization of Services

To measure the percent utilization of services, data were gathered for the percentage of time worked under SAs, programs (non-SA work), and overhead.

These data are meant to gauge how much time is spent by technical staff that is not directly billable to a program office (customer) and/or for program support. This information is used to measure workload versus staffing levels. The percent utilization of services data were gathered manually, without the use of ESAM. Review of the utilization of services data indicates a range from 75% to 95%, with the majority above 85%. The COG considers this high utilization.

Should a need arise, the utilization data can be further investigated, along with the technical capability data, to assist in drawing conclusions regarding "critical" capability. Also, a comparison can be made between office utilization of specific capabilities to investigate cross-office utilization opportunities. Such an analysis was not performed for FY 2010.

4.3 Business Model Objective – Transparency and Accountability

The COG developed two performance measures for this objective: (1) percent of time COG reporting is available to Reclamation managers in a timely manner; and (2) percent of COG recommendations to DCO with documented decisions.

4.3.1 Percent of Time COG Reporting is Available to Reclamation Managers in a Timely Manner

To evaluate this performance measure, the COG maintains a list of reports the COG is required to produce, the due dates for the reports, and the date the reports are actually completed or transmitted. The supporting data for this discussion are contained in appendix G.

During this initial implementation period, the COG's schedule for activities was being developed and will be closely monitored in the future. The COG believes its work and progress have been timely and satisfactory.

4.3.2 Percent of COG Recommendations to DCO with Documented Decisions

To evaluate this performance measure, the COG maintains a list of the formal recommendations from the COG to the DCO and the decisions made by the DCO on those recommendations.

A summary of recommendations and resulting decisions is provided below (see appendix H for additional information). These recommendations were either accepted by the DCO or are being monitored.

- Although it occurred prior to FY 2010, the COG made a recommendation to the DCO on a very short turnaround request from the PN Region regarding a pending decision to fill a construction manager position. The recommendation was made from a corporate perspective based upon advanced planning workload data gathered to that point in time and strategic discussion with subject matter experts regarding corresponding existing capabilities. The recommendation was endorsed by the DCO and forwarded to the Regional Director. The PN Region responded accordingly, and the position was filled. For reference, see attached record of the email in appendix H.

- A question was raised regarding whether the language in the Customer Collaboration D&S (CMP 10-04) should remain as it is, applying to construction at and on reserved and transferred works, or to modify it in some way to address new construction. After discussion with the Directors for Technical Resources and the TSC, and the Executive Sponsor, the decision was made to not modify the language in CMP 10-04 (i.e., CMP 10-04 applies only to construction at and on reserved and transferred works).

- The COG provided a recommendation to the DCO regarding the LC Region's request to utilize advanced funding agreements in FY 2011. A copy of the concurrence memorandum is found in appendix H.

- The COG provided a recommendation on how to distribute the costs of ESAM development and operation and maintenance of the system. The details of the recommendation are found in appendix H.

- The COG developed Action Plans for three skill sets which were identified during the FY 2009 review as potentially endangered: (1) structural analysis and design of plant facilities (powerplants); (2) structural and hydraulic analysis, evaluation, and design of concrete dams (nonlinear structural analysis); and (3) design and analysis of temperature control/selective withdrawal structures. The COG also developed an Action Plan for the fourth endangered skill set, which was identified during the FY 2010 review: analysis of hydraulic transients in power system waterways. The Action Plan for structural and hydraulic analysis, evaluation, and design of concrete dams (nonlinear structural analysis) concluded that the capability is no longer endangered. A COG team leader has been assigned to monitor Reclamation's progress in implementing each of the remaining three Action Plans, and a progress update will be included in next year's annual report.

4.4 Business Model Objective – Predictability of Workload

The COG developed two performance measures to track and monitor Reclamation’s program offices and SPOs in this area: (1) percent of service agreement work that was planned in advance; and (2) percent of advance planned work that resulted in SAs. Both measure different aspects of workload predictability. The first measure assesses what volume of work performed under SAs in any given year was planned in advance (i.e., was in the Advance Planning Spreadsheet for that fiscal year). The Advance Planning Spreadsheet is a table in each region’s Budget Review Committee notebook. The balance would be considered walk-in work. The second measure assesses the reliability of what is included in the Advance Planning Spreadsheet by tracking what work included in the spreadsheet for a given year actually resulted in SAs.

Both measures require extensive effort to calculate if done manually. When ESAM becomes available, the first measure will be easily calculated, as ESAM will contain a field allowing the SPO to indicate whether the SA covers work that was in the Advance Planning Spreadsheet for that fiscal year. The second measure will continue to require a degree of manual calculation. Due to the manual and limited nature of the data collection for FY 2010, as well as differences in understanding of the data that were requested from the SPOs for FY 2010, the COG is not able to provide meaningful interpretation of the data for the two advance-planning measures for this fiscal year. However, a significant portion of Reclamation’s mission is related to Safety of Dams and maintaining its asset inventory of facilities in a responsible manner. Much of this work, such as

Comprehensive Facility Reviews, is performed on regular intervals and, as such, is always advanced planned. Although the COG was not able to fully measure this objective, it is evident that advanced planned work is a significant portion of the work performed throughout Reclamation.

The COG will be clarifying the performance measures for this objective. This clarification, along with the information from ESAM, expected to be available for part of FY 2011, will allow the COG to report improved data for FY 2011.

Based upon feedback from a few SPOs, the advance planning data received from this effort has been well received and considered a valuable tool. While the lack of ESAM hampers full reporting of this measure, the COG considers this effort a success.

4.5 Business Model Objective – Maintenance of Core Technical Capability

A COG responsibility is to track Reclamation's technical services business practices and monitor the agency's technical capability. Accordingly, the COG developed a comprehensive listing of technical capabilities that currently exist within Reclamation's nine SPOs. In September 2009 and September 2010, the COG asked each SPO to report on the number of staff with specific technical capabilities, the experience level of those staff, whether or not their organizations were "self sufficient" with regard to each technical capability, and whether or not their organization can sustain that capability.

A report of technical capability covering the FY 2009 period was distributed in July 2010. There were several areas of concern identified in the FY 2009 report, and Action Plans were developed to address those concerns.

The technical capability study is intended to be updated annually, and the COG's FY 2010 review of technical capability is included in appendix B. The findings for the 2010 period are summarized in the following paragraphs, and the FY 2009 and FY 2010 data are presented in the "Summary Table of Functional Areas and Technical Capabilities," also included in appendix B.

Generally, it appears that Reclamation's broad range of technical expertise is sustainable and capable of performing the agency's mission. However, the COG has identified four skill sets as potential "endangered" capabilities. The COG developed Action Plans for three of these skill sets which were first identified in the FY 2009 report: (1) structural analysis and design of plant facilities (powerplants); (2) structural and hydraulic analysis, evaluation, and design of concrete dams (nonlinear structural analysis); and (3) design and analysis of temperature control/selective withdrawal structures. The COG also developed an Action Plan for the fourth endangered skill set which was identified during the

FY 2010 review: analysis of hydraulic transients in power system waterways. The Action Plan for structural and hydraulic analysis, evaluation, and design of concrete dams (nonlinear structural analysis) concluded that the capability is no longer endangered. A COG team leader has been assigned to monitor Reclamation's progress in implementing each of the remaining three Action Plans, and a progress update will be included in next year's annual report. The Action Plans are included in appendix C.

The Action Plans further analyze the issue from a corporate perspective including analysis of any related business practices, advance planning data, outsourcing advantages and disadvantages, human resource options, long-term corporate need, organizational options, etc. Subject matter experts and managers are engaged in this process as appropriate. The Action Plans, including recommendations, will be presented to the Deputy Commissioner of Operations. In addition, the COG identified a couple of areas for close monitoring and urges the associated manager(s) to develop, where appropriate, staffing attrition plans.

The next annual update to the technical capability data will be initiated in August 2011 and issued in January 2012 as part of the next COG annual report.

4.6 Business Model Objective – Strategic Determination of Outsourcing/Contracting

Reviewing technical services work outsourced or contracted provides critical data which contributes to the goal of ensuring Reclamation’s use of cost-effective and quality services, as well as the maintenance of core technical capability. The COG developed two performance measures to evaluate this objective: (1) the amount of technical services contracted or outsourced through contracts (approximately $7,400,000 in FY 2010); and (2) the dollar value of work contracted or outsourced in endangered technical capabilities ($0 in FY 2010).

The purpose of this review is to understand what work was completed by outside resources, attempt to understand the reason outside resources were utilized, and determine if any endangered technical capability was outsourced. Since Reclamation’s workflow process has been recently implemented and may not be universally understood, there could be some instances of contracting where Reclamation forces should have been considered and the proper documentation was not prepared. However, as the workflow process is better understood, those occurrences are anticipated to decrease, and this trend will be tracked through the COG’s annual reports.

Initially, there was also interest in evaluating outsourcing for technical services through interagency agreements, cooperative agreements, or grants. However, this information is not readily available because there is not one central source to pull the data. In addition, it is not anticipated that the type of work outsourced in

this manner is significant enough to expend additional effort to track. If, at some point, it becomes apparent that the workflow process is compromised by the use of agreements and grants, the COG will determine how best to collect this data.

In evaluating the first performance measure, the data collected for FY 2010 indicated instances where it appeared that the workflow process was not followed. The COG will provide continued outreach and education to assist staff in fully understanding the process in order to avoid future workflow process conflicts. In evaluating the second performance measure, the COG determined that there were no contracts, agreements, or grants outsourced in the three skill sets the COG had identified as potentially endangered in the capability report covering the period of FY 2009 and FY 2010. A summary of the process is included in appendix I.

5. Summary, Conclusions, and Recommendations

While the implementation of the business model is in its infancy, many of its principles have been in practice for some time. Reclamation shows areas of strength and high competency, as well as some areas of concern where it is important to show improvement.

Areas of strength:

- Reclamation's technical expertise, with a few notable areas of concern, is sustainable and capable of performing the agency's mission. The skill sets identified as "endangered" capabilities all exist within the TSC. The COG, in concert with the appropriate managers, has developed "Action Plans" and made recommendations to address these issues.

- There were 2,392 active service agreements in FY 2010 representing almost $65 million worth of work. Of the service agreements completed in FY 2010, 94% were completed within the time agreed, and 95% were completed within the agreed budget. While there should be efforts made to continually improve, it is the COG's opinion that there is no cause for alarm. Future efforts need to ensure data is from a common frame of reference and that it is consistently reported. Credibility of this data cannot be overemphasized.

- Utilization of technical staff (direct billing to projects and/or program support) ranged from 75% to 95%, with the majority above 85%. The COG considers this high utilization.

- Decisionmaking regarding where technical services are performed remains with the program offices; thus, the business model objective of "empowerment of the regions" is being met.

- Positive feedback was received from the service providers regarding the out year budget information published. Measuring the advance planned work will be improved upon the implementation of the ESAM.

Areas of concern:

- Ability to internally "contract" for services including electronic tracking of cost accounting and performance. The development of ESAM, a Web-based application, is intended to provide this ability; however, its implementation has been slow.

- In the area of dam safety engineering and risk management, the U.S. Army Corps of Engineers Risk Management Center (RMC) staffing actions, coupled with retirements and departures to non-Reclamation entities, have led to significant attrition among senior TSC staff with dam safety expertise. The effects of this have primarily been felt in the TSC's Geotechnical Services Division, with additional effects felt in construction management. Reclamation is at risk of losing its corresponding capability. Because the RMC is offering higher grades targeting senior-level staff, the attrition impacts the TSC's ability to peer review critical projects, lead those projects, and train younger staff. While the TSC is actively recruiting entry, mid-career, and senior-level staff, the full impacts of the RMC recruitment–which are ongoing–are not yet fully known. While these capabilities are currently not shown as endangered (since the data collection, several additional key staff have left Reclamation), the COG is concerned about the potential for losing these capabilities, which are critical to Reclamation fulfilling its mission and being able to remain a "smart buyer." The COG will continue to closely monitor this trend and recommends that Reclamation develop strategies to address this concern. These strategies must ensure that Reclamation maintains its ability to accomplish its mission-related workload and its smart buyer capabilities.

- Only 2% of the 1,222 service agreements completed in FY 2010 contained completion reports. This is an area of concern. The importance of the completion reports is to capture quality of service performance data which is otherwise unavailable. We anticipate that ESAM will improve this by utilizing a simple and short subjective number rating system with a field for optional enumeration. The COG recommends that the DCO take advantage of opportunities to remind the SPOs and program offices of the need for completion reports. The COG will continue to explore avenues for improving Reclamation performance in this area.

- There were isolated cases discovered where outsourcing occurred without consideration of Reclamation sources. This is a breach of the workflow process required in the business model. The COG will continue to educate managers and staff on the workflow process.

- The COG is unaware of any external customer criticism related to the business model; however, it is recommended that the DCO make efforts to ensure the transparency of Reclamation's business model practices and the self-assessment results made herein by discussing in key stakeholder forums (i.e., National Water Resource Association [NWRA], Family Farm Alliance [FFA], etc).

Recommendations by the COG for the DCO are shown in the following table. Additions and updates to this list and status of recommendations will be reflected in each annual report.

Number	COG Recommendation for DCO	Status
2010-COG-1	Closely monitor the development and implementation of ESAM. This system is a critical element of the business model, and success is the only option. In order to make the business model more meaningful, full implementation of ESAM is required. One-hundred percent participation by the SPOs is required by the start of FY 2012. While this is a significant departure from most SPO's current business practices, it is recommended that the DCO make this a senior management priority.	New
2010-COG-2	Participate in developing strategies to address the loss of Reclamation dam safety and risk management staff to other agencies, outside companies, and retirement. It is recommended that the DCO directly engage with targeted staff and all levels of the impacted managers to explore available opportunities, including innovative methods, to maintain this expertise. These strategies must ensure that Reclamation is able to maintain its ability to accomplish its mission-related workload and its smart buyer capabilities.	New
2010-COG-3	Each SPO reported their cost and schedule performance with the data contained herein. Although the performance is considered good, it is important that the DCO challenge senior management to ensure consistent and credible cost and schedule data reporting.	New
2010-COG-4	Encourage program offices and SPOs to perform project closeout work, including completion reports. Performance of project closeout work in FY 2010 was exceptionally low. It is recommended that the DCO challenge senior management to set SPO goals of achieving 50 percent of finished service agreements with completion reports in FY 2011. This will require project followup but very little staff time to accomplish. It should be stressed in setting these goals that the SPO's clients are critical in this activity.	New
2010-COG-5	Make efforts to ensure the transparency of Reclamation's business model practices and the self-assessment results made herein by discussing in key stakeholder forums (i.e., NWRA, FFA, etc.).	New

The COG now considers the business model implemented. Work still remains to ensure full implementation and maintenance of the model at a high level of performance. In FY 2011, the COG intends to begin using the "primary" members for active participation and the "alternate" members on an as needed basis. Immediate future work by the COG includes ESAM implementation, followup to the "endangered capability" Action Plans, and focus work towards high quality data collection. Additionally, the COG will continue to identify areas of needed attention to maintain Reclamation as the world's pre-eminent water resource agency.

Appendix A

Reclamation Policy and Associated Directives and Standards

Reclamation Manual

Policy

Subject: Bureau of Reclamation's Business Model for Managing Technical Services

Purpose: To ensure Reclamation maintains adequate expertise in mission-essential technical services by establishing appropriate agency-wide business practices. Benefits include improvement of key business practices related to technical services, and enhanced ability to maintain mission-critical technical capabilities.

Authority: Reclamation Act, June 17, 1902 (ch. 1093; 32 Stat. 388; 43 U.S.C. 391 *et seq.*), as amended and supplemented

Approving Official: Commissioner

Contact: Deputy Commissioner – Operations, (DCO) 96-00000

1. **Introduction**. As a result of the *Managing for Excellence* initiative, Reclamation developed a business model to provide agency-wide processes and procedures for obtaining and managing technical services. This Policy outlines the major components of the business model (see Appendix A for a graphic illustration of the business model process), and defines responsibilities and requirements for implementation. The following Reclamation Manual Directives and Standards (D&S) provide more specific requirements regarding the accomplishment of these objectives: *Advance Planning for Technical Services Work* (CMP 10-01); *Fee-For-Service Business Practices for Technical Services Work* (CMP 10-02); and *Workload Distribution Practices for Technical Services Work* (CMP 10-03). The information gathered from the processes outlined in this Policy and the referenced D&S will be used to report on and analyze project cost, quality and timeliness of performance, and staff utilization, as well as to ensure these business practices achieve their intended purposes.

2. **Applicability.**

   A. This Policy applies to Reclamation employees involved in technical services work performed by program offices and service providers for all Reclamation project and resources program activities, other than routine project operation and maintenance. It is, therefore, applicable to technical services work required: for construction of new projects or project features and safety of dams modifications, additions, modernizations, and replacements; for rehabilitation of project features; for extraordinary maintenance; for special, appraisal, and feasibility planning studies; and for the environmental and cultural resources compliance (including regulatory permitting) associated with construction activities, project operations, and land management activities.

B. The practices set forth in this Policy are typically not required when Reclamation receives non-discretionary "pass-through" funding. See CMP 10-02 for further information on applicability in these instances.

3. **Definitions.** See the D&S referenced in Paragraph 1 for other definitions associated with specific components of the business model.

A. **Program Office.** Any Reclamation organizational unit that has been delegated the authority and allocated the budget necessary to operate and maintain projects and to conduct the programs for which it is responsible. Area offices; Security, Safety, and Law Enforcement; and certain offices within the regional offices are examples of "program offices."

B. **Pass-through Funding.** Appropriations expended by passing funds through Reclamation to state, local, or tribal entities to accomplish either construction or non-construction activities. Grants and cooperative agreements are typically, though not always, the mechanisms used for pass-through expenditures. Congress often targets such funds to a particular entity, leaving little discretion for Reclamation to exercise in awarding the funds.

C. **Service Provider.**

(1) An organizational unit within Reclamation that predominantly provides technical services to a program office or a non-Reclamation entity, the costs of which are paid by the program office or entity from their budget. While many offices within Reclamation provide technical services, the principal Reclamation service providers are:

(a) the Technical Service Center;

(b) certain organizational units within each regional office, as defined by each regional director;

(c) all regional drill crews; and

(d) the Mid-Pacific Construction Office, Four Corners Construction Office, and certain organizational units within the Provo Area Office.

(2) Non-Reclamation entities that perform technical services for program offices, typically funded by Reclamation through a separate business instrument. Such entities may include those who provide services to Reclamation on a reimbursable basis, including Reclamation customers.

D. **Technical Services Work.** Technical services work means engineering and other services including, but not limited to, concept engineering; data collection and analysis;

formulation of alternatives; value engineering/analysis studies; engineering designs, drawings, and specifications; cost estimating; hydrologic, geologic, seismic, environmental, social, economic, and cultural analyses; construction management (i.e., technical support for procurement of construction services, construction contract administration, inspection, engineering support, and completion of final construction reports, including as-built drawings); and commissioning/post-construction monitoring.

4. **Responsibilities.**

   A. **Commissioner.** The Commissioner is ultimately responsible for ensuring that Reclamation maintains adequate expertise in mission-essential technical services.

   B. **DCO.** The DCO is responsible for ensuring that the business practices articulated in this Policy and associated D&S are implemented, and for making necessary adjustments to ensure they achieve their intended purposes. This responsibility includes rendering decisions on appeals by service providers and customers, as well as recommendations by the Coordination and Oversight Group (COG).

   C. **Directors.** Directors are responsible for determining how to obtain the technical services work they need to accomplish the objectives of their assigned projects and programs. They are also responsible to the DCO for ensuring compliance with this Policy and associated D&S by program offices and service providers in their directorates. Each Director will collaborate with other Directors to optimize maintenance of technical capabilities from a Reclamation-wide perspective, and is responsible for designating which organizations within their directorate will function as service providers.

   D. **COG.** The COG is responsible for monitoring and reporting on Reclamation's corporate and business processes for technical services work by gathering data to track workload distribution, maintenance of technical capability, and project accomplishments.

   E. **Other Working Groups.** Subject matter expert groups, such as the Reclamation Design and Construction Coordination Team, Reclamation Planning Group, and others have advisory responsibilities and shall be consulted by the COG as appropriate for planning, workload distribution, and maintenance of technical capabilities pursuant to their respective represented communities and activities.

5. **Provision of Technical Services Work and Maintenance of Technical Capability.** Technical services work for which Reclamation is responsible will be performed in accordance with the business model and related practices articulated in this Policy. Specifically:

A. Program offices will retain only those technical services staff in numbers and expertise as can be fully utilized in accomplishing the programs and projects for which their office is responsible.

B. The objectives of cost-effectiveness, transparency, and accountability will be addressed through the use of consistent fee-for-service practices for provision of technical services work throughout Reclamation, as more specifically directed in CMP 10-02.

C. Program offices will plan and schedule in advance the technical services work they will require from service providers. Program offices will also coordinate with service providers and customers to make adjustments to these plans and schedules as necessary, as more specifically directed in CMP 10-01; and in CMP 10-04, *Collaboration with Customers Regarding Technical Services Required for Work on Existing Bureau of Reclamation Facilities*.

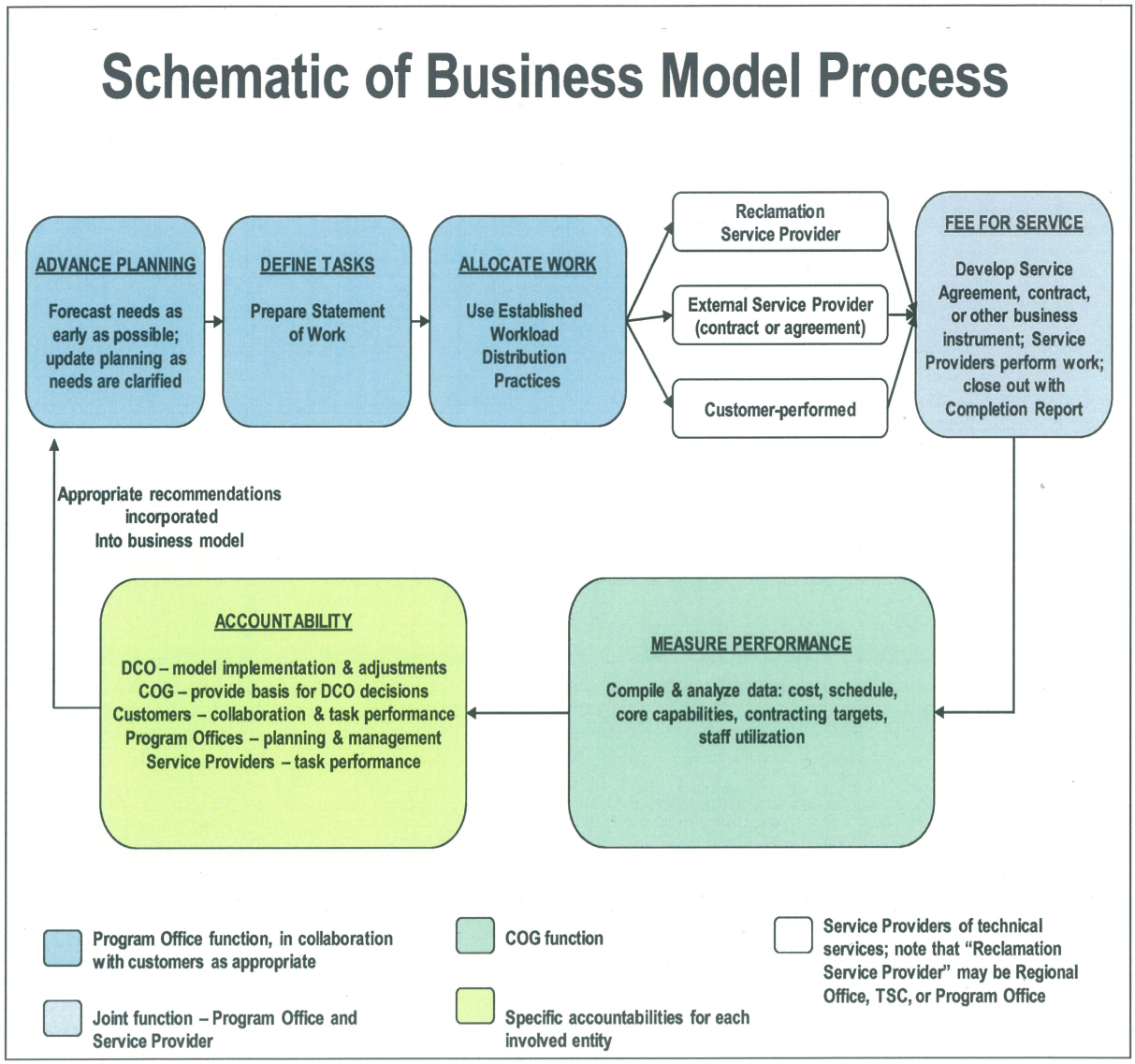
D. In making decisions about where and how to obtain the necessary technical services work, program offices shall give consideration to Reclamation service providers as the resource of choice. This is more specifically described in CMP 10-03. Reclamation service providers may appeal decisions they deem contrary to this Policy and CMP 10-03 to the DCO. This practice shall be implemented in a way that contributes to:

   (1) cost-effective development and maintenance of the technical capability necessary to accomplish the agency's mission; and

   (2) the ability to effectively oversee the outsourcing of specialized technical services.

E. The COG will gather appropriate information on staff utilization and will periodically report on the subject to the DCO. These reports will include any recommendations regarding organization and staffing issues that the COG determines to be appropriate based on the data gathered.

F. The COG will prepare and submit periodic reports to the DCO summarizing and analyzing cost, quality, and timeliness data for technical services work. These reports will be made available, as appropriate, to both internal and external stakeholders. The reports and any accompanying recommendations will be tailored to specifically address the objectives and requirements articulated in this Policy.


Schematic of Business Model Process
ADVANCE PLANNING
Forecast needs as early as possible; update planning as needs are clarified
DEFINE TASKS
Prepare Statement of Work
ALLOCATE WORK
Use Established Workload Distribution Practices
Reclamation Service Provider
External Service Provider (contract or agreement)
Customer-performed
FEE FOR SERVICE
Develop Service Agreement, contract, or other business instrument; Service Providers perform work; close out with Completion Report
Appropriate recommendations incorporated Into business model
ACCOUNTABILITY
DCO – model implementation & adjustments
COG – provide basis for DCO decisions
Customers – collaboration & task performance
Program Offices – planning & management
Service Providers – task performance
MEASURE PERFORMANCE
Compile & analyze data: cost, schedule, core capabilities, contracting targets, staff utilization
Program Office function, in collaboration with customers as appropriate
Joint function – Program Office and Service Provider
COG function
Specific accountabilities for each involved entity
Service Providers of technical services; note that "Reclamation Service Provider" may be Regional Office, TSC, or Program Office

Reclamation Manual

Directives and Standards

Subject: Advance Planning for Technical Services Work

Purpose: This Directive and Standard (D&S) identifies requirements for communicating plans for future technical services work. This will benefit service providers in forecasting resources necessary to accomplish the Bureau of Reclamation's mission.

Authority: Reclamation Act, June 17, 1902 (ch. 1093; 32 Stat. 388; 43 U.S.C. 391 *et seq.*), as amended and supplemented

Approving Official: Deputy Commissioner – Operations (DCO)

Contact: Coordination and Oversight Group (COG) Chairman

1. **Introduction.**

   A. Reclamation has developed a business model to provide agency-wide processes and procedures for obtaining and managing technical services in collaboration with its customers. This D&S directs a process for communicating future plans for the use of service providers in accomplishing Reclamation's technical services work.

   B. Advance planning of technical services work by program offices is intended to meet a variety of objectives including:

      (1) improving coordination and communication between program offices and service providers in Reclamation;

      (2) collecting and analyzing data on workload distribution and performance; and

      (3) monitoring the outsourcing of technical services work.

   C. This D&S acknowledges the link between advance planning of technical services work and implementation of fee-for-service practices. The advance planning process provides the initial indication of projects needing service agreements in accordance with the fee-for-service practices identified in Reclamation Manual (RM) D&S, *Fee-for-Service Business Practices for Technical Services Work* (CMP 10-02).

   D. There is also a link between the budget formulation process and advance planning because program managers must make preliminary estimates of the technical services work which will be required to carry out the projects and programs for which funding is being sought.

2. **Applicability.**

   A. This D&S applies to Reclamation employees involved in technical services work performed by program offices and service providers for all Reclamation project and resources program activities, other than routine project operation and maintenance. It is, therefore, applicable to technical services work required for construction of new projects or project features and safety of dams modifications, additions, modernizations, and replacements; for rehabilitation of project features; for extraordinary maintenance; for special, appraisal, and feasibility planning studies; and for the environmental and cultural resources compliance (including regulatory permitting) associated with construction activities, project operations, and land management activities. The practices described in this D&S may also apply to work requested by and, in some cases, conducted by non-Reclamation entities (see definition for program office below, and Paragraph 5).

   B. The practices set forth in this D&S are not required when Reclamation receives non-discretionary "pass-through" funding; however, should recipients of financial assistance from Reclamation choose to then request technical services work from Reclamation to accomplish the purposes of such assistance, such entities become program offices for purposes of this D&S, and the associated requirements will apply in those instances.

3. **Definitions.** The definitions included in RM Policy, *Bureau of Reclamation's Business Model for Managing Technical Services* (CMP P10) apply to this D&S.

4. **Responsibilities.**

   A. **DCO**. The DCO is responsible for assuring that the advance planning process articulated in this D&S is implemented, followed, and adjusted as necessary to achieve its intended purpose.

   B. **Deputy Commissioner – Policy, Administration, and Budget (DC-PAB)**. The DC-PAB is responsible for assuring that the annual budget formulation process incorporates requests from program offices for the estimated technical services work which will be required from service providers in order to accomplish a program office's proposed projects and programs.

   C. **Directors**. Directors are responsible for assuring that program offices estimate and communicate to service providers the technical services work needed for carrying out the projects and programs proposed in their budgets.

   D. **Reclamation Managers, Supervisors, and Employees**. Reclamation managers, supervisors, and employees will promote effective and appropriate implementation of this D&S.

E. **COG.** The COG is responsible for collecting, consolidating, and distributing advance planning information to service providers, reporting findings to the DCO, and recommending appropriate changes in the advance planning process.

5. **Advance Planning Process.** The advance planning process is initiated each year with the call for preparation of Budget Review Committee (BRC) notebooks. Each office's BRC notebook shall contain tables identifying the program offices' estimates of the technical services work which will be needed from each Reclamation service provider. Advance planning tables shall be included for both the fiscal year of budget formulation and the prior fiscal year. Advance planning tables submitted with the BRC notebooks shall be consolidated by the COG and distributed to the service providers to aid them in planning their staffing and workload. The advance planning table for the year prior to the BRC budget year shall be updated to reflect changes that have occurred as a result of key budget decisions. See Appendix A for a template of the advance planning table.

6. **Items to be Advance Planned.** The goal of the advance planning process is to identify the technical services work which will be needed from service providers. Technical services work from all funding sources (e.g., appropriations, direct-funding, customer funding, other government agencies, etc.) will be included in the advance planning tables if the technical services work required equals or exceeds a total estimated cost of $25,000.

7. **Accuracy of Estimates.** Values included in advance planning tables are early projections based on the best available information and are preliminary to service agreement commitments. These estimates are expected to be revised during the budget process as more information about specific projects and programs becomes available. The estimates will also provide an opportunity for service providers to initiate discussions with program offices to gain a better understanding of each project or program and the specific skills that will be required to successfully perform the required technical services work.

8. **Multiple Office Programs.** Several programs have shared or distributed management. To assure coordination of advance planning, the responsibility for communicating technical services work requirements is assigned as follows:

   A. **Safety of Dams (SOD).** The Dam Safety Office will provide advance planning estimates based on data contained in project management plans.

   B. **Safety Examination of Existing Dams.** The Dam Safety Office will provide advance planning estimates based on activity plans developed in coordination with regional SOD coordinators.

   C. **Facilities Security.** The Chief Security Officer will provide advance planning estimates based on work plans developed in coordination with Regional Security Officers.

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Directives and Standards

Advance Planning for Engineering and Other Technical Services (E&OTS)

Dollars in ($000)

				FY 20XX															
					Estimated E & OTS Dollar Amount by Service Provider														
			FY 20XX						Construction Offices										
			Total	Estimated														Contract	Customer
		Funding	Project/Program	E&OTS	TSC		Regional Offices		Provo A. O.		Four Corners		Mid-Pacific		Regional Drill Crews		Services	Services
Project or Program	**Project or Program Activity**	Source	Request	Total	$	Staff-days	$	Staff-days	$	Staff-days	$	Staff-days	$	Staff-days	$	Staff-days	$	$
Total			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Reclamation Manual

Directives and Standards

Subject: Fee-for-Service Business Practices for Technical Services Work

Purpose: This Directive and Standard (D&S) identifies steps to be taken for executing technical services work using standardized fee-for-service business instruments, including statements of work, service agreements, and completion reports. Benefits include standardization and improvement of key business practices and development of associated data to track, monitor, report, and improve such practices.

Authority: Reclamation Act, June 17, 1902 (ch. 1093; 32 Stat. 388; 43 U.S.C. 391 *et seq.*), as amended and supplemented

Approving Official: Deputy Commissioner – Operations (DCO)

Contact: Coordination and Oversight Group (COG) Chairman

1. **Introduction.**

   A. The Bureau of Reclamation adopted a new business model to provide agency-wide processes and procedures for obtaining and managing technical services in collaboration with its customers. This D&S directs the use of standardized fee-for-service business instruments associated with the business model.

   B. Fee-for-service practices are intended to meet a variety of objectives, including improved coordination and communication between offices in Reclamation and collection and analysis of data on the distribution and performance of technical services work.

   C. This D&S acknowledges the link between advance planning of future technical services work and implementation of fee-for-service practices. Advance planning is addressed in Reclamation Manual (RM) D&S, *Advance Planning for Technical Services Work* (CMP 10-01). This D&S focuses on fee-for-service practices. These practices will follow a consistent format which will generate standardized data to achieve transparency and accountability.

   D. There is also a link between project management and fee-for-service business practices, as illustrated by RM D&S, *Project Management* (CMP 07-01).

2. **Applicability.**

   A. This D&S applies to Reclamation employees involved in technical services work performed by program offices and service providers for all Reclamation project and resources program activities, other than routine project operation and maintenance. It is, therefore, applicable to technical services work required for construction of new projects or project features and safety of dams modifications, additions,

modernizations, and replacements; for rehabilitation of project features; for extraordinary maintenance; for special, appraisal, and feasibility planning studies; and for the environmental and cultural resources compliance (including regulatory permitting) associated with construction activities, project operations, and land management activities. The practices described in this D&S may also apply to work requested by and, in some cases, conducted by non-Reclamation entities (see definition for program office below, and Paragraph 5).

B. The practices set forth in this D&S are not required when Reclamation receives non-discretionary "pass-through" funding; however, should recipients of financial assistance from Reclamation choose to then request technical services work from Reclamation to accomplish the purposes of such assistance, such entities become program offices for purposes of this D&S, and the associated requirements will apply in those instances.

3. **Definitions.** The definitions included in RM Policy, *Bureau of Reclamation's Business Model for Managing Technical Services* (CMP P10) for Pass-through Funding, Service Providers, and Technical Services Work, apply to this D&S. In addition, the following terms are defined for purposes of this D&S:

A. **Completion Reports.** Completion reports are documents which provide data necessary to understand and report on performance, costs, and satisfaction associated with technical services work performed by a Reclamation service provider.

B. **Fee-for-Service.** In recognition of the principles of project management outlined in RM Policy, *Project Management* (CMP P07) and the associated D&S (CMP 07-01), fee-for-service is the business practice of a service provider performing technical services work on a reimbursable basis at the request of a program office. While fee-for-service business practices have often been associated with programs managed through a working capital fund with standard billable rates, fee-for-service practices as described in this D&S do not require a working capital fund approach.

C. **Program Office.** Any Reclamation organizational unit that has been delegated the authority and allocated the budget necessary to operate and maintain projects and to conduct the programs for which it is responsible. Area offices; Security, Safety, and Law Enforcement; and certain offices within the regional offices are examples of "program offices." For this D&S, this definition is expanded to include non-Reclamation entities that typically use a separate business instrument (e.g., contracts, cooperative agreements, interagency agreements, etc.) to identify and request services of Reclamation on a reimbursable basis.

D. **Service Agreement.** A service agreement documents the mutually agreed-upon scope, schedule, and budget for a specific package of engineering and/or other technical services needed by the program office and to be performed by the service provider. The service agreement reflects all or part of the work identified in the statement of

work and documents a commitment by the service provider to execute the work as indicated, within the agreed-upon schedule and budget, as well as a commitment by the program office to fund that work.

E. **Statement of Work.** A statement of work is the initial document that provides a narrative description of the technical services work to be completed and the timeframe in which it will be accomplished. Detailed and specific information on scope, schedule, and budget is provided subsequent to statements of work in the service agreement or other appropriate business instrument. A statement of work is prepared by a program office. A "project management plan" used within the Project Management Body of Knowledge may contain elements essential to a statement of work. Nothing in this D&S supersedes the Federal Acquisition Regulation (FAR) governing contract requirements.

4. **Responsibilities.**

A. **DCO**. The DCO is responsible for assuring that the fee-for-service business practices articulated in this D&S are implemented, followed, and adjusted as necessary to achieve their intended purpose. This includes evaluating report findings produced by the COG related to fee-for-service business practices.

B. **Directors**. Directors are responsible for determining how to obtain the technical services work they need in order to accomplish the objectives of their assigned projects and programs, including the distribution of technical services workload within their directorates. They are also responsible for ensuring that program offices and service providers within their directorate follow the requirements in this D&S.

C. **Reclamation Managers, Supervisors, and Employees**. Reclamation managers, supervisors, and employees will promote effective implementation of this D&S.

D. **COG**. The COG is responsible for evaluating the utility and effectiveness of the fee-for-service practices outlined in this D&S, reporting findings to the DCO, and recommending any appropriate changes to fee-for-service practices.

5. **Use of Fee-for-Service Business Instruments.** This D&S addresses three fee-for-service business instruments: statements of work; service agreements; and completion reports. The Electronic Service Agreement Module (ESAM) is Reclamation software designed to develop, track, and report on two of these three instruments; it includes electronic forms for service agreements and completion reports. This allows paperless data tracking for COG business practice evaluation and reporting. Program offices and service providers must, at a minimum, fill out all required ESAM service agreement and completion report data elements called for in the electronic forms. Service agreements developed using ESAM will include and/or link to statements of work as desired by the program office. The program office will develop the statement of work outside of ESAM and will use the format provided in Appendix A as a template or guide. Use of all three business instruments applies to

technical services work formulated through advance planning, as well as to work initiated on short notice (e.g., unscheduled or emergency work). These fee-for-service business instruments generally constitute official records, and must be preserved in accordance with the requirements set forth in RM D&S, *Information Management* (RCD 05-01).

A. **Statements of Work.** The statement of work describes the program office's expectations regarding the technical services work to be accomplished. Information about project considerations and constraints, such as schedule and budget limitations, must be included as applicable. Major milestones and/or deliverables, as well as the general project schedule, must also be described.

(1) Technical services work totaling an estimated $10,000 or more from a single service provider will require statements of work.

(2) The program office will prepare the statement of work and use it as a basis for seeking technical input from service providers to clarify needs and expected outcomes in terms of products or services. Interaction between Reclamation and potential contractors will be governed by the FAR.

(3) The statement of work format provided in Appendix A establishes the minimum components to be included, but it may be expanded as appropriate to accommodate project-specific needs. The goal is to maximize use of statements of work while ensuring a consistent approach across Reclamation.

B. **Service Agreements.** The service agreement will communicate program office expectations of the service provider(s) and articulate commitments related to products, services, budget, and schedule. Service agreements will be jointly developed by the program office and, where appropriate (i.e., excluding contractors), the service provider, for technical services work totaling $10,000 or more from a single service provider. When Reclamation works with outside entities – either providing or requesting services – a contract or other appropriate business instrument will serve as the service agreement. Service agreements will be developed no later than the budget year of execution in which the project or services are to be initiated and/or accomplished. The program office will determine whether to use one or more service agreements for multi-phase projects or for projects which involve multiple service providers.

(1) The service provider will, as appropriate, work with the program office to refine the scope, schedule, and budget and finalize a service agreement that adds detail to the statement of work to clarify specific understandings about who will do the work, how much it will cost, and when milestones will be achieved.

(2) In accordance with the program office's statement of work, ESAM service agreements will be populated electronically by the Reclamation service provider and will include, at a minimum, the data elements shown in Appendix B. If a

program office or service provider requires more detailed information for project management purposes, optional data elements may be included as shown in Appendix B.

C. **Completion Reports.** Completion reports will provide data to evaluate performance and costs relative to technical services work performed by Reclamation service providers. Completion reports must accompany service agreements at the conclusion of the technical services work.

(1) The program office will provide written input to the service provider as needed for completion reports to communicate "administrative closure" of a work assignment. Completion reports will be entered into ESAM by the service provider within 30 calendar days from date of the delivery to the program office of the final product or service and are required before cost accounts are closed. Required and optional data elements for completion reports are identified in Appendix B.

(2) Deliverables such as reports, drawings, and specifications will precede the completion report and be referenced as appropriate in the completion report.

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Directives and Standards

This appendix provides a statement of work template for use/reference by program offices in identifying expectations for technical services work. Statements of work will be developed outside of the Electronic Service Agreement Module (ESAM); however, once the ESAM software is fully functional, subsequent service agreements entered into ESAM may incorporate or link to corresponding statements of work as desired.

Statement of Work
Date submitted:
1. Program Office and Project Title:
2. Project Objectives: (The objectives of this project are to...include expected project outcomes)
3. Project Considerations/Constraints: (In terms of authority, budget, key technical issues, or other conditions that constrain the project)
4. Major Milestones/Deliverables and Project Schedule:
5. Roles and Responsibilities: (Identify key service providers, program office contact, etc., as needed)

Reclamation Manual

Directives and Standards

Subject: Workload Distribution Practices for Technical Services Work

Purpose: This Directive and Standard (D&S) identifies workload distribution practices for the technical services work required to carry out the Bureau of Reclamation's projects and resource programs, including work that will be outsourced or performed by Reclamation's contractors and stakeholders. Benefits include standardization and improvement of key business practices for workload planning, maintenance of technical capability, and succession planning.

Authority: Reclamation Act, June 17, 1902 (ch. 1093; 32 Stat. 388; 43 U.S.C. 391 *et seq.*), as amended and supplemented

Approving Official: Deputy Commissioner – Operations (DCO)

Contact: Coordination and Oversight Group (COG) Chairman

1. **Introduction.**

   A. Reclamation has developed a business model to provide agency-wide processes and procedures for obtaining and managing technical services work in collaboration with its customers. This D&S directs key business practices associated with workload distribution processes for the new business model.

   B. Business practices for the distribution of technical services work (i.e., workload distribution practices) are intended to meet a variety of objectives including:

      (1) improving coordination and communication between offices in Reclamation;

      (2) collecting and analyzing data on the planning and performance of technical services work; and

      (3) maintaining technical capabilities essential to carrying out Reclamation's mission.

   C. The workload distribution practices described in this D&S are the link between advance planning of future technical services work and fee-for-service practices in utilizing Reclamation's technical resource capabilities. Advance planning and fee-for-service practices are addressed in Reclamation Manual (RM) D&S, *Advance Planning for Technical Services Work* (CMP 10-01) and *Fee-for-Service Business Practices for Technical Services Work* (CMP 10-02).

   D. This D&S builds on the requirements in RM D&S, *Maintenance of Design and Construction Technical Capabilities* (FAC 03-01). The business practices in this D&S are applicable to all technical services work to which this D&S applies.

E. These workload distribution practices relate to collaboration with customers as identified in RM Policy, *Communication and Collaboration with Customers and Stakeholders Related to the Bureau of Reclamation's Mission* (CMP P08) and RM D&S, *Collaboration with Customers Regarding Technical Services Required for Work on Existing Bureau of Reclamation Facilities* (CMP 10-04).

2. **Applicability.**

A. This D&S applies to Reclamation employees involved in technical services work performed by program offices and service providers for all Reclamation project and resources program activities, other than routine project operation and maintenance. It is, therefore, applicable to technical services work required for construction of new projects or project features and safety of dams modifications, additions, modernizations, and replacements; for rehabilitation of project features; for extraordinary maintenance; for special, appraisal, and feasibility planning studies; and for the environmental and cultural resources compliance (including regulatory permitting) associated with construction activities, project operations, and land management activities.

B. The practices set forth in this D&S are not required when Reclamation receives non-discretionary "pass-through" funding; however, should recipients of financial assistance from Reclamation choose to then request technical services work from Reclamation to accomplish the purposes of such assistance, such entities become program oOffices for purposes of this D&S, and the associated requirements will apply in those instances.

3. **Definitions.** In addition to the definitions included in RM Policy, *Bureau of Reclamation's Business Model for Managing Technical Services*(CMP P10), for the purposes of this D&S, the following definitions apply:

A. **Capacity.** The availability of staff resources with the necessary technical capabilities to perform the technical services work required by a particular scope of work.

B. **Specialized Resources**. Specialized resources are the drill crews, dive teams, and construction management staff that are typically shared across regions.

C. **Technical Capability.** Technical capability is the skill, knowledge, and expertise to perform technical resources work to an appropriate level of quality.

4. **Responsibilities.**

A. **DCO**. The DCO is responsible for assuring that the workload distribution practices articulated in this D&S are implemented, followed, and adjusted as necessary to achieve their intended purpose. This includes evaluating report findings produced by the COG related to workload distribution.

B. **Directors.** Directors are responsible for determining how to obtain the technical services they need in order to accomplish the objectives of their assigned projects and programs. They are also responsible to the DCO for ensuring compliance with this D&S. Each Director will collaborate with other Directors to optimize maintenance of technical capabilities from a Reclamation-wide perspective.

C. **Program Offices.** Program offices are responsible for ensuring accomplishment of the technical services work they require within their respective areas of jurisdiction (geographic area, project, or program responsibility), including responsibility for identifying the preferred service provider for technical services work.

D. **Service Providers**. Service providers are responsible for making determinations regarding their technical capability and capacity to perform technical services work needed by program offices.

E. **Reclamation Managers, Supervisors, and Employees**. Reclamation managers, supervisors, and employees will promote effective implementation of this D&S.

F. **COG.** The COG is responsible for evaluating the utility and effectiveness of the workload distribution processes outlined in this D&S, reporting findings to the DCO, and recommending any appropriate changes to workload distribution practices.

5. **Technical Capability.**

A. In order to maintain technical capability, Reclamation must identify the technical expertise required to carry out the agency's mission; monitor and analyze the size of the technical workforce required; and ensure its sustainability. In many cases, the required technical expertise is essential to Reclamation's mission, and it is imperative that sufficient expertise be maintained.

B. Technical capability and capacity varies across Reclamation's program offices based upon project, program, and water management issues unique to each office. Each program office must maintain sufficient technical capability and capacity to allow it to carry out its day-to-day responsibilities efficiently and effectively. However, there are technical services that are required intermittently and are not, therefore, economical to maintain in every program office. In these cases, consolidation of equipment and technical capability and capacity in one or more service providers, with a corporate approach in prioritizing and scheduling of their services, is necessary.

6. **Workload Distribution Principles.**

A. The central tenet of this workload distribution D&S is that the authority to decide from where technical services work will be obtained remains with program offices. Program offices will maintain a corporate perspective and use the Workload Distribution Flowchart (Appendix A) when making decisions on where to obtain technical services.

B. Reclamation will retain technical capability sufficient to accomplish those activities essential to its mission. The COG will develop and maintain data regarding these capabilities.

C. The COG will monitor the distribution of technical services work to service providers and make recommendations to the DCO when the sustainability of a technical capability is threatened.

D. Consideration shall be given to the development of technical staff through succession planning, as well as sharing technical resources during periods when one office exceeds its capacity while another is operating below capacity.

7. **Workload Distribution Practices.**

A. Reclamation service providers are the providers of choice for technical services work. The procedures for distributing technical services work are shown schematically in Appendix A. Should a program office determine that workload will be distributed in some fashion other than that set forth in Appendix A, there will be written documentation for the decision. Stakeholders will be engaged in accordance with CMP P08 and CMP 10-04.

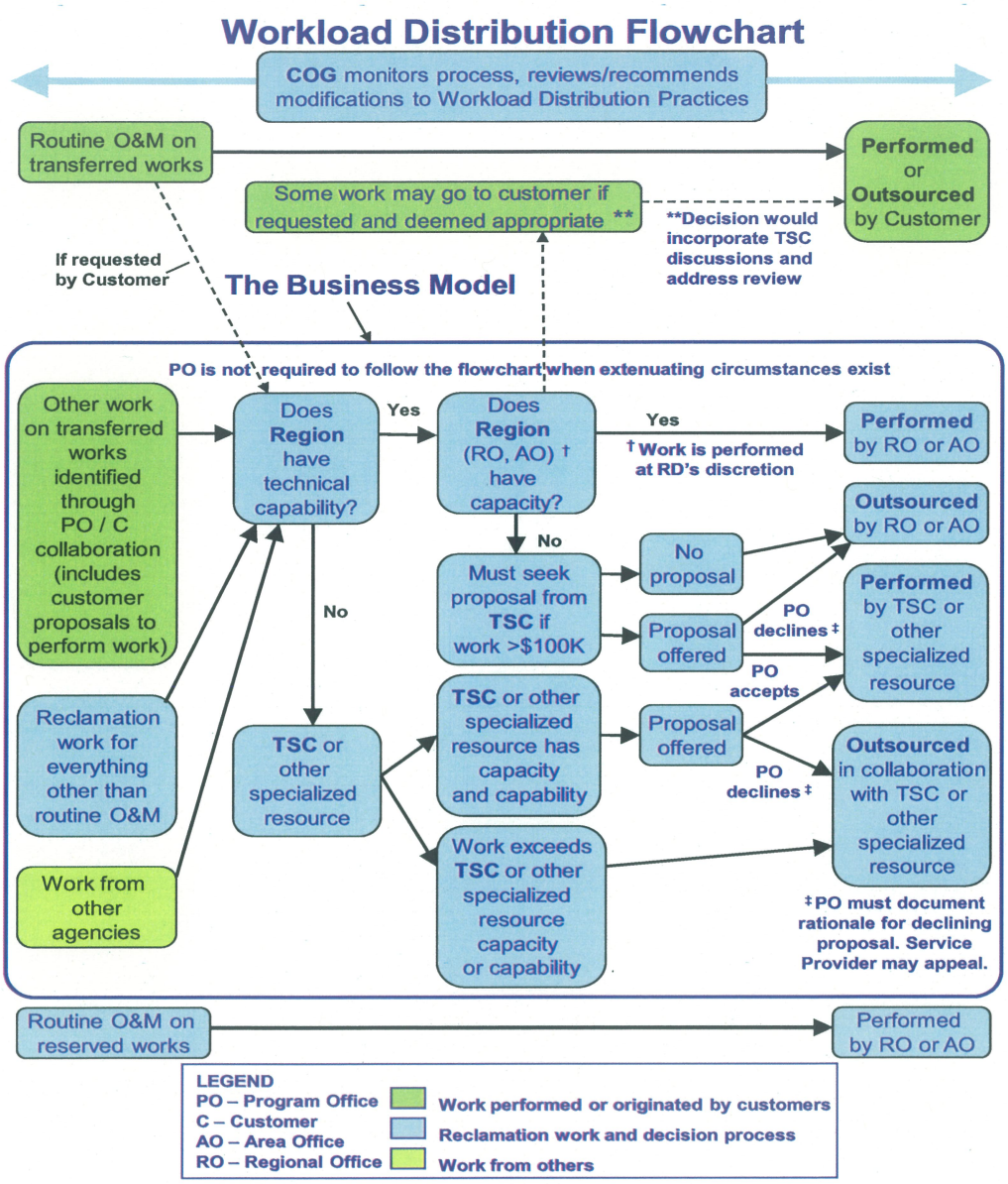
B. Should advance planning data identify technical services work to be outsourced that is considered by a specialized resource or the TSC to be integral to maintaining their technical capability, then they will initiate discussions with the program office to request reconsideration of the workload distribution decision. If the program office agrees, a proposal from the designated service provider will be requested when the project is appropriately defined.

8. **Appeal Path.**

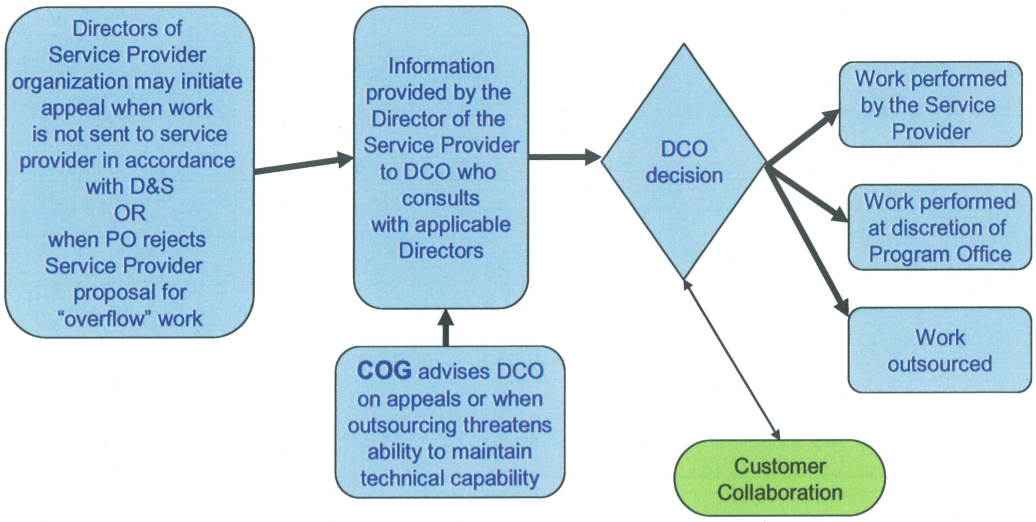
A. Directors of specialized technical resources and/or the TSC may appeal the decisions of a program office when a program office determines that extenuating circumstances preclude following the workload distribution process shown in Appendix A or when a program office declines a proposal developed by a service provider in accordance with the workload distribution process. See Appendix B for the appeal path. Under most circumstances, workload distribution decisions are expected to be resolved without formal appeal.

B. The COG will review appeals by service providers, as well as the program office decision documentation. COG recommendations will then be forwarded to the DCO for a final decision on the workload distribution.

9. **Outsourcing**. Technical services may be outsourced in instances where Reclamation service providers cannot meet program office objectives. Technical services work not integral to maintaining technical capability or using available capacity may also be outsourced.


Workload Distribution Flowchart
COG monitors process, reviews/recommends modifications to Workload Distribution Practices
Routine O&M on transferred works
Performed or Outsourced by Customer
Some work may go to customer if requested and deemed appropriate **
**Decision would incorporate TSC discussions and address review
If requested by Customer
The Business Model
PO is not required to follow the flowchart when extenuating circumstances exist
Other work on transferred works identified through PO / C collaboration (includes customer proposals to perform work)
Does Region have technical capability?
Yes
Does Region (RO, AO) † have capacity?
Yes
† Work is performed at RD's discretion
Performed by RO or AO
No
Must seek proposal from TSC if work >$100K
No proposal
Proposal offered
PO declines ‡
Outsourced by RO or AO
Performed by TSC or other specialized resource
PO accepts
Proposal offered
PO declines ‡
Outsourced in collaboration with TSC or other specialized resource
No
TSC or other specialized resource
TSC or other specialized resource has capacity and capability
Work exceeds TSC or other specialized resource capacity or capability
Reclamation work for everything other than routine O&M
Work from other agencies
‡ PO must document rationale for declining proposal. Service Provider may appeal.
Routine O&M on reserved works
Performed by RO or AO
LEGEND
PO – Program Office
C – Customer
AO – Area Office
RO – Regional Office
Work performed or originated by customers
Reclamation work and decision process
Work from others

Appeal Path



LEGEND
PO – Program Office
DCO – Deputy Commissioner, Operations

Appendix B

Technical Capabilities Within Reclamation – Summary Status Report for FY 2010

Technical Capabilities Within Reclamation

U.S. Department of the Interior
Bureau of Reclamation
Coordination Oversight Group

January 2011

Executive Summary

A Coordination Oversight Group (COG) responsibility is to track Reclamation's technical services business practices and monitor the agency's technical capability. Accordingly, the COG developed a comprehensive listing of technical capabilities that currently exist within Reclamation's nine Service Provider Organizations (SPOs). In September 2009 and September 2010, the COG asked each SPO to report on the number of staff with specific technical capabilities, the experience level of those staff, whether or not their organizations were "self sufficient" with regard to each technical capability, and whether or not their organization can sustain that capability.

After compiling this information, the COG analyzed the data and obtained clarification from the SPOs as necessary. The data reported for fiscal year (FY) 2009 and FY 2010 are presented in the attached "Summary Table of Functional Areas and Technical Capabilities."

Generally, it appears that Reclamation's broad range of technical expertise is sustainable and capable of performing the agency's mission. However, the COG identified four skill sets as potential "endangered" capabilities and has developed Action Plans for these skill sets: (1) structural analysis and design of plant facilities (powerplants); (2) structural and hydraulic analysis, evaluation, and design of concrete dams (nonlinear structural analysis); (3) design and analysis of temperature control/selective withdrawal structures; and (4) analysis of hydraulic transients in power system waterways. A COG team leader has been assigned to monitor Reclamation's progress in implementing each of these Action Plans.

These Action Plans further analyze the issue from a corporate perspective, including analysis of any related business practices, advance planning data, outsourcing advantages and disadvantages, human resource options, long-term corporate need, organizational options, etc. Subject matter experts and managers are engaged in this process as appropriate. The Action Plans and recommendation(s) will be presented to the Deputy Commissioner of Operations. In addition, the COG identified a couple of areas for close monitoring and urges the associated manager(s) to develop, where appropriate, staffing attrition plans.

The COG plans to continue updating and analyzing the technical capability data annually. The next update to the table will be initiated in August 2011, with a report issued in January 2012.

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Background

One of the principal responsibilities of the Coordination and Oversight Group (COG) is to monitor Reclamation's corporate and business processes for technical services by gathering data to track workload distribution and maintenance of technical capability. To this end, the COG has developed the attached Summary Table of Functional Areas and Technical Capabilities and has evaluated capability data reported for fiscal year (FY) 2009 and FY 2010 by Reclamation's Service Provider Organizations (SPOs) to identify possible "endangered capabilities" within the agency.

The COG considered a number of automated approaches to identify these "endangered capabilities," each having its own limitations and shortcomings. Since there is no viable automated approach to obtain this information, the COG has determined the most reliable means to gather this data is to solicit input from managers of SPOs regarding their technical capabilities and the workforce planning of their respective organizations.

The COG developed a comprehensive listing of technical capabilities that currently exist within Reclamation's technical resources, specifically within the SPOs, and issued data calls at the close of FY 2009 and FY 2010 for each of the SPOs to complete. Using this information, the COG has been monitoring Reclamation's technical resources to identify areas where the agency appears to be at greatest risk of losing expertise. When developing the Table of Functional Areas and Technical Capabilities, the COG focused on "critical" capabilities where Reclamation must have in-house capability to accomplish its mission and/or remain a "smart buyer" when procuring technical services. The COG will continue to add (and/or eliminate) technical capability categories in this table during future updates to reflect the changing needs and capabilities of the agency. As each SPO completes its annual update to the table, it will be asked to suggest changes to the table such as addition (or elimination) of technical capability categories from the table, or addition of more specialized technical capability "subcategories." The criticality of a capability to Reclamation's mission will be a key consideration as the COG evaluates requests to modify the table.

Process

On September 8, 2009, and September 17, 2010, data calls, as defined in Reclamation's CMP P10 (Reclamation's Business Model for Managing Technical Services), were sent to each of the SPOs through their respective COG team members and alternates. The SPOs are:

- Great Plains Region Engineering Design, Geology and Exploration Services, and Construction Services (GP Region)
- Pacific Northwest Region Resource and Technical Services (PN-RTTS)
- Mid-Pacific Region Division of Design and Construction, Division of Planning, and Division of Environmental Affairs - Environmental Monitoring Branch (MP Region)
- Upper Colorado Region Engineering Services Group (UC Region)
- Lower Colorado Region Engineering Services Office (LC ESO)
- Technical Service Center (TSC)
- Four Corners Construction Office (FCCO)
- Provo Area Office (Provo)
- Mid-Pacific Construction Office (MPCO)

The COG recognizes that much of Reclamation's technical capability resides outside of these SPOs in program offices such as Area Offices, Safety, Security, and Law Enforcement (SSLE), and nonservice provider organizations within the Regional Offices. However, these program offices are typically only retaining the technical services staff needed to manage the programs and projects for which they are responsible. They generally do not have highly specialized technical capability and/or the capacity to support other Reclamation offices and were, therefore, not included in this analysis. Should the data indicate a potential endangered capability, these resources may be more fully considered at that time.

Discussion of Data

The data call was in the form of an Excel spreadsheet. Each service provider was asked to identify the number of staff with specific technical capabilities within their organization, the level (entry level, journeyman level, or senior level) at which these capabilities exist, whether or not their organization was “self sufficient” with regard to the capability, and whether or not they expect to sustain the capability. Managers were asked to use their professional judgment when determining the skill level of their employees. It is important to note that the number of capable employees reported in the table does not relate in any way to the number of full-time equivalents (FTE) in an organization. One FTE may be capable of performing a wide range of technical work and would, therefore, be counted multiple times in the table.

The data presented in the attached Summary Table of Functional Areas and Technical Capabilities shows totals for each of the SPOs individually and collectively for FY 2009 and FY 2010. For the purposes of this report, the following definitions are provided:

CAPABLE: An organization that can complete identified work in-house to accomplish its mission and/or remain a “smart buyer" when procuring technical services.

SUSTAINABLE: An organization’s technical capability is considered sustainable, as determined by the appropriate manager, if it can be maintained in the long term given their workload projections, funding, anticipated attrition, and staffing and succession plans.

SELF SUFFICIENT: An organization, as determined by the appropriate manager, is considered self-sufficient if it is fully capable of performing technical work of standard complexity (reports, analyses, designs, etc.) to develop implementable plans, other final technical work products, or technical conclusions without regularly soliciting outside assistance. This definition assumes that intermittent collaborative outreach may be required due to an organization’s resource availability or developmental needs, and/or due to the need for specific subject matter expertise.

POSSIBLE ENDANGERED CAPABILITY: An identified work category, as determined by the COG’s analysis, where Reclamation is either not self-sufficient or the existing capability is not sustainable, or both.

The “SUM” columns in the table present the combined number of capable employees at each skill level for all Reclamation SPOs, and the “RECLAMATION TOTAL” column presents the total number of capable employees at all skill levels within Reclamation’s SPOs by fiscal year.

Table cells are color coded to identify capability and sustainability. Cells highlighted in green indicate that a Service Provider Organization is self-sufficient in a particular technical capability and expects to sustain that capability in the long term. Yellow highlighting indicates that a Service Provider Organization is not considered self-sufficient in a particular technical capability but expects to sustain their current level of technical capability in the long term. Red highlighting indicates that the SPO, regardless of the degree to which they are currently self-sufficient, does not expect to sustain a technical capability in the long term.

Analysis

After compiling the data, the COG performed a comprehensive review. Based on that review, the COG identified several capabilities that appeared endangered and/or required further clarification. These capabilities are highlighted in orange in the "RECLAMATION TOTAL" column of the table to indicate that further investigation and analysis were required. The results of this further investigation are presented in the following paragraphs.

When reviewing the table, the COG noted several instances where a significant decrease in capability was reported. In most cases (i.e., except for those cells highlighted in orange), these apparent decreases did not actually reflect a loss of capability but, rather, a reinterpretation of capability resulting from the COG refining instructions to improve reporting consistency between offices. The COG will further refine definitions to improve consistency of reporting between offices in future data calls.

a) **1.1.5 – Risk Analysis.** In July 2009, the U.S. Army Corps of Engineers (Corps) opened its Risk Management Center (RMC) in Denver, Colorado. One of the reasons the RMC was opened in Denver was to locate it where people with these technical capabilities lived and worked. The RMC began executing an active recruiting and hiring plan in 2010. While the Corps' original stated intent was to hire as many retired Reclamation employees as possible for their expertise in risk analysis and risk management, it has not hired any to date. However, the RMC has recruited 7 of its current 18 Denver area staff from the Technical Service Center (TSC). When looking at Reclamation's and the TSC's capability in this area, the loss of seven individuals may not seem very severe, but these seven individuals were senior level employees and most of them had 30 or more years of experience, and they were among the TSC's experts in this field. The impact has been most severe in the Geotechnical Services Division, which is already dealing with significant attrition among its dam safety workforce. This workload includes dam safety analysis, risk analysis, design, and construction. The RMC is staffed at about 50% of its anticipated size, so additional TSC staff losses are likely in 2011 and beyond. Continued attrition in this area threatens the TSC's ability to both accomplish current Reclamation dam safety workload and train younger staff in these critical areas. The TSC is actively recruiting entry level, journeyman, and senior level staff in response to this accelerated attrition and has recently signed an agreement with the RMC to collaborate on staff development and other dam safety and risk management related work activities. The COG will continue evaluating this critical capability on an annual basis.

b) **1.2.3 – Design of early warning systems, 1.2.4 – Installation of early warning systems, and 1.2.5 – Maintenance of early warning systems.** Design, installation, and maintenance of early warning systems capabilities

have not changed substantially in the TSC in the past year. The change in the number of reported resources is a result of reinterpreting capability rather than actual attrition. Though the number of individuals with these capabilities is small, the TSC believes that the current and future workload will be sufficient to sustain the capability and train new staff. These skills are interrelated, so an employee capable of one function is also capable in the others. These skills are self-sufficient and sustainable at the current staffing levels. No further action is planned by the COG at this time.

c) **1.3.4 – Examination of inaccessible features using remote equipment.** This function continues to have sufficient workload and currently has sufficient staff to be sustainable. While this capability has generally declined in the TSC, the COG analysis indicated some of the regions have been expanding their capabilities in this area, and there are sufficient resources to sustain the capability. No further action is planned by the COG at this time.

d) **1.3.5 – Underwater examination of inaccessible features by dive team.** Dive teams are currently located in Boise, Idaho, and Boulder City, Nevada, with supporting divers located throughout Reclamation. The technical capability data call goes only to the identified SPOs and, as a result, does not accurately portray Reclamation's overall capability in this area. Although the capability table indicates 12 total divers in Reclamation, the actual number is believed to be higher, and this capability should be sustainable. No further action is planned by the COG at this time.

e) **1.4.1 – Physical barrier analysis design, 1.4.2 – Intrusion detection systems, 1.4.3 – Design and analysis of security systems.** Much of Reclamation's capability in these fields resides in SSLE and is, therefore, not captured in the table since the technical capability data call goes only to the identified service providers. With the current staffing level in SSLE and the resources available from the SPOs, these functions should be sustainable. No further action is planned by the COG at this time.

f) **2.1.4 – Climate change impacts.** Apparent loss in capability was due, in part, to relocation of some TSC staff into Policy and Administration. The TSC is continuing to hire and train staff, and provide support to the Offices of Policy and Administration and Research and Development. With the current staffing levels in the TSC and Policy and Administration, and the resources available from other SPOs, this function has sufficient staff to be sustainable. No further action is planned by the COG at this time.

g) **2.1.8 – Paleo-hydrologic flood analysis.** Paleo-hydrologic information is a key component in flood hydrology work accomplishment. Reclamation's Dam Safety Program workload keeps the four staff in the TSC about 80-90% employed, and they fill the remainder of their time with fluvial geomorphologic work. The Dam Safety Office workload analysis showed

that the TSC was at least one FTE short of meeting their requested workload. To meet this need, one additional staff will be added in FY 2011. No further action is planned by the COG at this time.

h) **3.2.2.c – Structural analysis and design of plant facilities (power plants).** Staff with hands-on power plant design experience is eligible to retire, and the volume of new plant design work coming to the TSC is very limited and is not sufficient for training newer staff. The COG has identified this as an endangered capability and has developed an Action Plan to ensure Reclamation does not lose this capability. A COG team leader has been assigned to monitor Reclamation's progress in implementing the Action Plan.

i) **3.2.3.d – Structural and/or hydraulic analysis, evaluation, and design of concrete dams (nonlinear structural analysis).** When developing the FY 2009 Technical Capabilities Report, there was concern that the total number identified for "Structural and hydraulic analysis, evaluation, and design of concrete dams" was misleading. The reported capability reflected Reclamation's ability to perform "routine" analysis typical of the designs prepared by the Waterways and Concrete Dams Group (86-68130), but did not capture our ability to complete the more complex nonlinear structural analysis performed by the Structural Analysis Group (86-68110). For FY 2010, this category was split into "concrete dams (basic)" and "concrete dams (non-linear structural analysis). The COG developed an Action Plan for this capability, which documented that while our ability to perform the more complex non-linear structural analysis was endangered, the Group Managers in the Civil Engineering Services Division have developed and implemented a hiring and training strategy for the development of current new staff. The current workload is sufficient to train these staff and sustain this capability. The Action Plan concluded that the capability is no longer considered endangered.

j) **3.2.4.e - Design and analysis of tunnels.** Clarification was needed as to whether Reclamation currently has sufficient technical capacity and if there is workload to sustain this capability. Tunnel work in Reclamation is sporadic, which makes it difficult to keep tunnel expertise 100% billable. Maintaining Reclamation's ability to be a smart buyer and informed owner is necessary to ensure quick response to concerns with our existing tunnel inventory and to provide assistance with future planning studies. The TSC is moving towards tunnel expertise as a co-lateral duty in order to maintain expertise and high billability. Changes in the TSC's reported capability are the result of staff attrition in rock mechanics. As additional rock mechanics staff is hired, they will be provided opportunities to work on tunnel projects; until that time, those resources will not be listed as providing technical capabilities in tunnels. The apparent increase in entry-level tunnel design capability reported by the LC Region was the result of reinterpretation of the COG's reporting requirements. The COG will continue to closely monitor this capability in the future.

k) **4.1.1.c – Static analysis, evaluation, and design of underground excavations, and 4.1.2.b – Dynamic analysis, evaluation, and design of underground excavations.** Static design and analysis of underground excavations in soil or rock are typically performed by most geotechnical engineers, and the COG does not view these capabilities as endangered. Dynamic design and analysis of underground excavations in soil and rock are performed by a subset of the geotechnical engineering staff. Several of our geotechnical engineers are capable of dynamic design and analysis for soil slopes, but the number of engineers experienced in such design for rock slopes is declining. In future years, the COG will break out soil and rock excavations separately to develop a better understanding of the capabilities in each. Recent large construction projects have provided an opportunity for training newer engineers in static and dynamic design and analysis of underground excavations in rock, and at this time, these capabilities are considered both self-sufficient and sustainable. No further action is planned by the COG at this time, other than changes to the table.

l) **4.3.1 – Earthquake loading and response.** This was listed as a single category, "Earthquake loadings, ground motions, response spectra, and probabilistic hazard analysis," in the FY 2009 report. However, clarification was needed as to whether individual staff members were generally capable in all of these areas, or if each of the capabilities required a unique skill set. Therefore, this item was broken into three subcategories (Fault Source Characterization, Probabilistic Seismic Hazard Assessment, and Earthquake Time Histories and Response Spectra) for the FY 2010 report. Capability numbers for FY 2009 are reported in the grey bar on line 4.3.1, and numbers for FY 2010 are reported for each of the three new subcategories. The Seismotectonics and Geophysics Group in the TSC has an active plan for maintaining this capability, and no further action is planned by the COG at this time.

m) **5.2.6 – Analysis, condition assessment of penstocks and outlet works.** This function continues to have sufficient workload and staff to be sustainable. The TSC has one senior level expert, and recently hired one journeyman and one entry level employee. No further action is planned by the COG at this time.

n) **5.3.1, 5.3.2 and 5.3.3 – Other renewable energy: Design and analysis (electrical engineering) of wind turbines (5.3.1), solar power systems (5.3.2), and geothermal generation systems (5.3.3).** Reclamation does not currently have workload in these areas but does have the potential to develop these capabilities, including the ability to be a "smart buyer." This category was included in the COG study to allow evaluation of Reclamation's capability considering the U.S. Department of the Interior's (Department's) emphasis on the renewable development needs of the Nation. While this expertise could be further developed within Reclamation, the COG is simply presenting these findings, and no further action is planned by the COG at this

time. Any apparent decreases in capability from FY 2009 to FY 2010 are the result of reinterpretation of capability based on the COG's refined reporting instructions.

o) **6.1.6 – Analysis of hydraulic transients in power system waterways.** Reclamation has one senior level engineer in the TSC who completes these analyses using in-house developed computer models and software. The software will not be supported in the future, and the engineer is currently eligible to retire. The workload is minimal (approximately 5% to 10% of one FTE), but it is critically important in determining the safety and performance for new designs, operational changes, and upgrades at powerplants, pumping plants, and pipe systems. The small workload limits opportunities for training additional staff. The COG has identified this as an endangered capability and developed an Action Plan. A COG team leader has been assigned to monitor Reclamation's progress in implementing the Action Plan.

p) **6.2.4 - Design and analysis of temperature control/selective withdrawal structures.** There is not sufficient workload to sustain an FTE or train new employees specifically in this field; however, the TSC currently maintains the individual skills and capabilities required to properly analyze and design temperature control/selective withdrawal structures. The COG has identified this as an endangered capability and has developed an Action Plan to ensure Reclamation does not lose this capability. A COG team leader has been assigned to monitor Reclamation's progress in implementing the Action Plan.

q) **6.3.1, 6.3.2, and 6.3.3 – Other renewable energy: Design and analysis (mechanical engineering) of wind turbines (6.3.1), solar power systems (6.3.2), and geothermal generation systems (6.3.3).** Reclamation does not currently have workload in these areas but does have the potential to develop these capabilities, including the ability to be a "smart buyer." This category was included in the COG study to allow evaluation of Reclamation's capability considering the Department's emphasis on the renewable development needs of the Nation. While this expertise could be further developed within Reclamation, the COG is simply presenting these findings, and no further action is planned by the COG at this time. Any apparent decreases in capability from FY 2009 to FY 2010 are the result of reinterpretation of capability based on the COG's refined reporting instructions.

r) **7.1.8.a – Field testing of soil, and 7.1.8.b – Field testing of concrete.** The reporting of the staff available to perform this type of work varies among offices. Some offices have reported staff capable of performing these duties, while other offices have reported staff performing these duties as a principal portion of their job. The staff performing this work on a daily basis is primarily Material Engineering Technicians or Material Engineers. Recently (data date of November 2010), the Reclamation Design and Construction Coordination Team (RDCCT) updated their resource needs profile for Reclamation construction contracts. One resource tracked in the RDCCT

update is Material Technicians. In that update, the number of Material Technicians available is 26. The number reported in lines 7.1.8.a and 7.1.8.b is 44 and 38, respectively. It appears that a portion of the wide difference in numbers (26 versus 44 or 38) would be attributed to the inclusion of staff capable of performing field testing of concrete and soil, but not performing the task as a majority of their work. Additional definition should be provided regarding these resources, and a more detailed review of capability within Reclamation is suggested to be accomplished in FY 2011.

s) **8.1 – Environmental Studies.** The "Summary Table of Functional Areas and Technical Capabilities" reflects only those capabilities located within SPOs and not program offices. Since Reclamation's capability to complete environmental studies primarily resides within program offices (i.e., area offices and field offices in this case), the number of capable employees shown in the spreadsheet generally under represents Reclamation's technical capability to complete this type of work. No further action is planned by the COG at this time.

t) **8.2.3 – Payment capacity determinations, and 8.2.4 – Cost allocation analysis and computation.** The limited numbers and sustainability of staff capable of performing payment capacity determinations and cost allocation analysis and computation at all levels of expertise are a potential cause for concern. In addition, power economics, agricultural economics, and economic capability related to rural water assessments are areas of concern with respect to technical sustainability. Much of this work is inherently government workload, and loss of this capability could have possible negative consequences. The TSC Staffing Plan has one projected hire in 2011. In addition, the MP region is involved in specific planning for conducting a new cost allocation for the Central Valley Project, one of Reclamation's largest and most financially complex projects. Significant coordination is occurring between regional staff, the TSC, and the office of Policy and Administration regarding workload and expertise needed to conduct the study, and managers in these groups have specific plans to use this opportunity and corresponding workload to develop additional, sustainable capacity for performing this work. No further action is planned at this time, but the COG will continue to closely monitor this capability in the future.

u) **9.3.1.c – Research, testing, and specifications for Geotextiles.** Staffing levels are driven by workload and the lab's ability to meet the needs of Reclamation, and are assessed on an ongoing basis. The apparent decline in staffing from FY 2009 to FY 2010 was the result of reinterpretation of capability based on the COG's refined reporting instructions, not to actual changes in staff. The TSC only reported those individuals who have experience in research, testing, and specifications, not just in one segment. The capability is reported as unsustainable with the current staff of one, but the TSC plans on maintaining this expertise through cross-training of other

laboratory personnel. The COG will continue to closely monitor this capability in the future, but no further action is planned at this time.

v) **9.4.1 – Fish Laboratory.** The TSC can currently maintain capability with the workload it receives. No further action is planned by the COG at this time.

w) **9.4.2 – Greenhouse.** Reclamation should consider whether this is a capability it can continue to support. This category was included in the COG study to ensure it was considered in light of the Department's emphasis on global warming, and with respect to the ongoing need for control and management of invasive plant species. The greenhouse facility at the TSC will be abandoned at the end of FY 2011. However, trained and experienced ecology and plant biology technical specialists are available in the TSC and the technical capability will continue to exist. In addition, the TSC has initiated discussions with Colorado State University for potential use of "shared" greenhouse facilities on the University's campus. While this expertise could be further developed within Reclamation, the COG is simply presenting the current status, and no further action is planned by the COG at this time.

Trend Analysis from Previous Report

This is the second COG report on technical capability, and data from FY 2009 was reported alongside the new FY 2010 data to help the COG identify trends and/or areas where significant loss in capability had occurred. When reviewing the table, the COG noted several instances where a significant decrease in capability was reported. However, in most cases, the reported decreases did not actually reflect a loss of capability but, rather, a reinterpretation of capability resulting from the COG refining instructions to improve reporting consistency between offices. The COG will continue to include past data along with future updates so that trends can be readily identified.

Conclusions and Recommendations

The COG has developed Action Plans for the following capabilities which were determined to be "endangered." A COG team leader has been assigned for each of these Action Plans and will monitor implementation progress.

1. Structural analysis and design of plant facilities (power plants). (Item no. 3.2.2.c.)

2. Structural and/or hydraulic analysis, evaluation, and design of concrete dams (non-linear structural analysis). (Item no. 3.2.3.d)

3. Design and analysis of temperature control/selective withdrawal structures. (Item no 6.2.4)

4. Analysis of hydraulic transients in power system waterways. (Item no. 6.1.6)

These Action Plans further analyze the issue from a corporate perspective including analysis of any related business practices, advance planning data, outsourcing advantages and disadvantages, human resource options, long-term corporate need, organizational options, etc. Subject matter experts and managers are engaged in this process as appropriate. The Action Plans and implementation recommendation(s) will be presented to the Deputy Commissioner of Operations. The following areas were identified for close monitoring by the COG, and we urge the associated manager(s) to develop, where appropriate, staffing attrition plans:

1. Design and analysis of tunnels. (Item no. 3.2.4. e.)

2. Research, testing, and specifications for Geotextiles. (Item no. 9.3.1.c)

The COG plans to continue updating and analyzing the technical capability data annually. The next update to the table will be initiated in August 2011, with a report issued in January 2012.

With only a few exceptions, it appears that Reclamation's broad range of technical expertise is generally sustainable and capable of performing the agency's mission. A wider breadth of information, such as staff utilization, workload predictability, and strategic outsourcing will be analyzed in concert with the capability data in the future.

SUMMARY TABLE OF FUNCTIONAL AREAS AND TECHNICAL CAPABILITIES
FOR ALL RECLAMATION SERVICE PROVIDER ORGANIZATIONS

ver. 2010.12.21

FUNCTIONAL AREAS		TECHNICAL CAPABILITY	NUMBER OF CAPABLE EMPLOYEES																																																												
			ENTRY LEVEL																				JOURNEYMAN LEVEL																				SENIOR LEVEL																				RECLAMATION TOTAL	
			GP		PN		MP		UC		LC		TSC		FCCO		PROVO		MPCO		SUM		GP		PN		MP		UC		LC		TSC		FCCO		PROVO		MPCO		SUM		GP		PN		MP		UC		LC		TSC		FCCO		PROVO		MPCO		SUM			
			FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10
1.0 GENERAL																																																																
1.1 Dam Performance Monitoring	1.1.1	Design of performance monitoring instrumentation									5			1							5	1									5		5	4		1					10	5			3	3							3	5							6	8	21	14
	1.1.2	Installation of performance monitoring instrumentation										2	1	1		2					1	5	2	2							3	2	5	4	3	2	2	2			15	12	7	7	3	3							3	5		1					13	16	29	33
	1.1.3	Maintenance of performance monitoring instrumentation				3					1		1	1		2					2	6	2	2		4					4	2	5	4	3	3	2	2			16	17	7	7	3	3							3	5		1					13	16	31	39
	1.1.4	Analysis and evaluation of performance monitoring data			2	3					4		6	7							12	10			1	1					5	3	5	4				1			11	9	5	5	7	7					1		3	5							16	17	39	36
	1.1.5	Risk Analysis				2					4	4	6								10	6					2	2			3	1	10	12							15	15			1	1					1		27	24							29	25	54	46
1.2 Early Warning and Hazard Classification	1.2.1	Downstream hazard classification assessment			2	2					4	4	2								8	6			1	1					4	1	11	4							16	6			5	5					1		6	2							12	7	36	19
	1.2.2	Downstream consequence analysis including life loss			1	2					4	4	2								7	6									3	1	14	17							17	18			1	1					1		41	36							43	37	67	61
	1.2.3	Design of early warning systems									4										4	0					2				5			2							7	2			2	2		2			2		6	2							10	6	21	8
	1.2.4	Installation of early warning systems									4										4	0									2			2			1	1			3	3			2	2					1		4	2							7	4	14	7
	1.2.5	Maintenance of early warning systems									4										4	0									2			2			1	1			3	3			2	2					1		4	2							7	4	14	7
1.3 Examinations	1.3.1	On-site safety of dams examinations (CFR, PFR, ASI)			2	2			3	3	4			1			4	4			13	10			1	1	2				6		10	5	2	2	2	2			23	10	7	7	4	4		3			3		41	24			1	1			56	39	92	59
	1.3.2	Senior Engineer for Dam Safety CFR				1					1	4									1	5					2	2			2		12	11							16	13			1	1		2			2		41	33							44	36	61	54
	1.3.3	On-site mechanical examinations						1	1	1	1						4	4			6	6			2	1	1	2			1		3	3	2	2	2	2			11	10			4	4					1	1	9	9			1	1			15	15	32	31
	1.3.4	Examination of inaccessible features using remote equipment										2						2			0	4					3	3			1										4	3			1	1		1			1		4	4							6	6	10	13
	1.3.5	Underwater examination of inaccessible features by dive team																			0	0			2	5					1		1	1							4	6				1		1			1	1	2	3							3	6	7	12
	1.3.6	High scale examination of inaccessible features by climb team			2	3				1	2	2									4	6	1	1	1						1	1		1	4	3					7	6	2	2	4	2					2	1				1					8	6	19	18
	1.3.7	On-site O&M examination			2	2		2	3	3	4	2					4	4			13	13	3	3	1	1	6	6			5	8	3	4	3	3	2	2			23	27	9	9	4	4	8	8			3		11	15			1	1			36	37	72	77
	1.3.8	On-site examination of canals	3	3	1	1		3			2	2	3	1		5	4	4			13	19	1	1	1	1	5	2			7	10	9	4	4	3	2	2			29	23	9	9	4	4		5			5		14	12			1	1			33	31	75	73
	1.3.9	On-site examination of bridges	2	2		2					2	1					4	4			8	9			1		2	1			5	4					2	2			10	7	5	5	2	2		1	1	1	5	1					1	1			14	11	32	27
	1.3.10	Site security assessments				3			1	1	1		2	1			4	4			8	9			1								11	17			2	2			14	19			4	4					1		4	4			1	1			10	9	32	37
	1.3.11	Power O&M reviews			1	1					2		1	1	2	2					6	4			3	3	1				1										5	3	15	15			2	2			1		5	6							23	23	34	30
1.4 Site Security	1.4.1	Physical barrier analysis design				2		1	1	1		1									1	5			7	5	3	4	1	1											11	10						3													0	3	12	18
	1.4.2	Intrusion detection systems									1	2					4	4			5	6									1						2	2			3	2						2									1	1			1	3	9	11
	1.4.3	Design and analysis of security systems			1	1		1			2	2		1							3	5			3	3	3	4													6	7						5			1			1							1	6	10	18
1.5 Cost Estimating	1.5.1	Preparation of government cost estimates			2		2	2			4	4		1	1	6	1	1			10	14	6	6	11	1	4	6	3	4	4	5	9	7	1	8	6	6			44	43	3	3			8	7			10	9	3	2	2		2	2			28	23	82	80
1.6 Emergency Management	1.6.1	Emergency Action Plans			2						1		2				4	4			9	4			1	1	2				2	2	4	3	1	1	1	1			11	8	3	3	4	1		2			2		2	1				1			11	8	31	20
	1.6.2	Emergency management exercises			2						1		2								5	0			1	1					1	1	4	3			1	1			7	6	3	3	4	1					1		3	3				1			11	8	23	14
2.0 HYDROLOGY AND RIVER HYDRAULICS																																																																
2.1 Hydrology	2.1.1	Development of inflow design hydrographs			3	1	2	1			3	2	2	1			1	1			11	6			7			4			2	1	8	5			2	2			19	12			2	6		3			3	1	6	2							11	12	41	30
	2.1.2	Cross-drainage analysis	2	2	2	2	3	1			3	1	2	1			3	3			15	10	2	2	11	5		4			2	3	8	5							23	19	2	2		5		4			3		6	2							11	13	49	42
	2.1.3	Water supply forecasting									2			1							2	1			3			1			3	1		3			1	1			7	6			3	8					2			2							5	10	14	17
	2.1.4	Climate change impacts									1						1	1			2	1			2							1	4	2							6	3			1	1	1	1			1		4	2							7	4	15	8
	2.1.5	Snow (runoff) and precipitation estimating									3	1	2	1							5	2			2	2		1			2		8	5			1	1			13	9			3	8	1	1			3	1	6	2							13	12	31	23
	2.1.6	Flood frequency and statistical hydrologic analysis	2	2			2				2	1	4	3			1	1			11	7	2	2	8	8		2			2	1	17	15							29	28	2	2		5					3	1	18	15							23	23	63	58
	2.1.7	Extreme precipitation and flood event analysis up to the PMF					1				3	1	4	1			2	2			10	4						1			2		8	6							10	7				5					3	1	8	2							11	8	31	19
	2.1.8	Paleo-hydrologic flood analysis									1										1	0										1	1	2							1	3									1		2	3							3	3	5	6
	2.1.9	Flood inundation mapping				2					3	1	2					2			5	5			7	5			1	1	2	1	12	4							22	11				5					3	2	6	2							9	9	36	25
	2.1.10	Groundwater modeling			1						2						1	1			4	1					2	2			1			2							3	4			1	1	2	3			2	1	1								6	5	13	10

Green = Self sufficient and sustainable. Yellow = Not self sufficient, but sustainable. Red = Capability is not sustainable. Orange = Possible endangered capability - See report.

FUNCTIONAL AREAS		TECHNICAL CAPABILITY	NUMBER OF CAPABLE EMPLOYEES — ENTRY LEVEL																				JOURNEYMAN LEVEL																				SENIOR LEVEL																				RECLAMATION TOTAL	
			GP		PN		MP		UC		LC		TSC		FCCO		PROVO		MPCO		SUM		GP		PN		MP		UC		LC		TSC		FCCO		PROVO		MPCO		SUM		GP		PN		MP		UC		LC		TSC		FCCO		PROVO		MPCO		SUM			
			FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10
	2.1.11	Reservoir yield analysis									2			1			3	3			5	4			3	3	3	3			1	1	3	2							10	9			1	1					2	1	5	4							8	6	23	19
2.2 Sedimentation & River Hydraulics	2.2.1	1D river hydraulic modeling			5	5					3	1	1	2			3	3			12	11	3	3	8	6	2	1			3	2	11	8							27	20	2	2		5		1			3	2	6	8							11	18	50	49
	2.2.2	2D & 3D river hydraulic modeling	3	3				1			3	1	1	1			1	1			8	7	2	2	2	1		2			3	2	11	9							18	16						1			3		2	8							5	9	31	32
	2.2.3	River and reservoir numerical simulation			1	1			1		3	1					2	2			7	4			4	4	3	3			1	2	15	9							23	18			1	7					2	1	14	9							17	17	47	39
	2.2.4	Sediment transport numerical modeling and analysis									3	1									3	1			2	2					2	2	10	8							14	12				6					3		6	8							9	14	26	27
	2.2.5	River restoration analysis & design	2	2							3	1									5	3	1	1	4	4	3				2	2	10	8							20	15	2	2	1	8		2			3		6	8							12	20	37	38
	2.2.6	Geomorphologic analysis of river systems									2	1									2	1			1	1					2	1	4	2							7	4			3	8					1		6	3							10	11	19	16
3.0 ARCHITECTURE AND CIVIL ENGINEERING																																																																
3.1 Architecture	3.1.1	Architectural design of buildings and other structures					2		1	1	1										4	1			1	1		1	3	3	1	1					2	2			7	8						1					1	1							1	2	12	11
	3.1.2	Landscape architectural design	3	3			2		3	3	2										10	6						2			1										1	2	1	1									1	1			1	1			3	3	14	11
3.2 Civil Engineering	3.2.1	Structural design of buildings and other structures	2	2	2	2		1			5	6	4	6			2	2			15	19	2	2	6	6	5	5			1	1	11	11			2	2			27	27	1	1			2	2	2	2	5		9	9			1	1			20	15	62	61
	3.2.2	Structural analysis and design of plant facilities:																																																														
	3.2.2.a	water and wastewater treatment systems							1	1	5		1	1			2	2			9	4			2	2			1	1	1		2	2			3	3			9	8									5		2	6							7	6	25	18
	3.2.2.b	pumping plants							1	1	5	5	5	9			1	1			12	16			2		2	2	1	1	1		1	1			1	1			8	5						1			5		5	6							10	7	30	28
	3.2.2.c	power plants							1	1	3		3	7							7	8					2	2			2										4	2									3		4	5							7	5	18	15
	3.2.2.d	switchyards									3		3	4							6	4						2			2		1	1							3	3									3		2	2							5	2	14	9
	3.2.3	Structural and/or hydraulic analysis, evaluation, and design of:																																																														
	3.2.3.a	spillways							2	2	4	4	3	6			2	2			11	14			4		2		1	1	4	3	14	14							25	18						2			1		20	20			2	2			23	24	59	56
	3.2.3.b	outlet works					2		2	2	3	4	2	6			2	2			11	14							1	1	3	3	15	16							19	20						1			1		20	20			2	2			23	23	53	57
	3.2.3.c	concrete dams (basic)							1	1	1	6	3	2			3	3			8	12									1		13	8			2	2			16	10									1		14	12							15	12	39	34
	3.2.3.d	concrete dams (non-linear structural analysis)												1								1												5								5												2								2		8
	3.2.4	Design and analysis of:																																																														
	3.2.4.a	fish facilities			2	3	2	2	3	3	4		2	4			3	3			16	15			10	4		3			2	1	4	4			1	1			17	13						2			1	1	5	5			1	1			7	9	40	37
	3.2.4.b	diversion structures			2	3	3	1	2	2	3						2	2			12	8	3	3	10	4		5	1	1	2	5									16	18	2	2				5			3		1	1			2	2			8	10	36	36
	3.2.4.c	canals			2	3	2	1	1	1	3	2	1	1			2	2			11	10	3	3	9	4	1	3			2	5	3	3			2	2			20	20	2	2				3			3		3	3							8	8	39	38
	3.2.4.d	pipelines			2	6	1	1	1	1	3	1	1	1	1	3	2	2			11	15	3	3	9		2	2	2	2	2	5	6	6			2	2			26	20	2	2				4			3		4	4	1	1	2	2			12	13	49	48
	3.2.4.e	tunnels										5	1	1			3	3			4	9											4	3							4	3											2	2							2	2	10	14
	3.2.5	Roads	2	2	2	3	3	1	1	1	4	1	1	1			2	2			15	11	2	2	7		4	5	2	2	3	4	2	2			2	2			22	17	1	1				4			3										4	5	41	33
	3.2.6	Bridges	4	4		2	4		1	1	4	6					2	2			15	15			4	1	2	1	1	1	2		2	3			1	1			12	7	1	1				1			4		1	1							6	3	33	25
4.0 GEOTECHNICAL/GEOLOGICAL ENGINEERING SERVICES																																																																
4.1 Geotechnical Engineering	4.1.1	Static analysis, evaluation, and design of:																																																														
	4.1.1.a	embankment dams									3	6	7	4			6	6			16	16						3			1		10	19			2	1			13	23						3					23	21			2	1			25	25	54	64
	4.1.1.b	foundations			2	2					5	4	7	3			6	6			20	15	3	3	7	5	6	4	2	3	6		10	19			3	2			37	36	3	3				3			1		23	22			1				28	28	85	79
	4.1.1.c	underground excavations			2	2					6	1	1				3	3			12	6			7	6					5		2	2			2	2			16	10	2	2				1			1		2	5							5	8	33	24
	4.1.1.d	soil and rock slopes	2	2							4	1	7	5			3	3			16	11	3	3	3	1	4	4			5		10	21			1	1			26	30	2	2				3			1		23	22							26	27	68	68
	4.1.2	Dynamic analysis, evaluation, and design of:																																																														
	4.1.2.a	embankment dams										1	5	2			2	2			7	5											7	15			3	2			10	17						1					23	19							23	20	40	42
	4.1.2.b	underground excavations									3		1				2	2			6	2									1		2	2			2	2			5	4						1					2	3							2	4	13	10
	4.1.2.c	foundations									3	1	5	4			2	2			10	7									1		9	18			2	2			12	20						1					23	21							23	22	45	49
	4.1.2.d	soil and rock slopes									3		7	3			2	2			12	5									1		12	20			2	2			15	22						1					24	22							24	23	51	50
	4.1.3	Numerical modeling of seepage										3	7	2			2	2			9	7											11	16			2	2			13	18						1					16	22			3	2			19	25	41	50

Green = Self sufficient and sustainable. Yellow = Not self sufficient, but sustainable. Red = Capability is not sustainable. Orange = Possible endangered capability - See report.

NUMBER OF CAPABLE EMPLOYEES — ENTRY LEVEL

FUNCTIONAL AREAS		TECHNICAL CAPABILITY	GP FY09	GP FY10	PN FY09	PN FY10	MP FY09	MP FY10	UC FY09	UC FY10	LC FY09	LC FY10	TSC FY09	TSC FY10	FCCO FY09	FCCO FY10	PROVO FY09	PROVO FY10	MPCO FY09	MPCO FY10	SUM FY09	SUM FY10
	4.1.4	Dewatering evaluation and design									1	5	5				2	2			8	7
	4.1.5	Irrigation drainage analysis and design			2						4	4					2	2			8	6
4.2 Engineering Geology	4.2.1	Field mapping						1			2		1	1	1	1	3	3			7	6
	4.2.2	Field Exploration by:																				
	4.2.2.a	Hard rock drilling and sampling			2	2		1			1		1	1			1	1			5	5
	4.2.2.b	Augering			2	2		1			1	1	7	1			1	1			11	6
	4.2.2.c	SPT's			2	2		1			1	1	7	1			1	1			11	6
	4.2.2.d	CPT's						1			1		3	1							4	2
	4.2.3	Geologic logging and analysis of soil and rock						1					5	1	1	1	1	1			7	4
	4.2.4	Blasting analysis and design									1		2	1	1	1					4	2
	4.2.5	Grouting designs					1				1		1	1	1	1					4	2
	4.2.6	Borrow material investigations										1	7	1	1	1	1	1			9	4
	4.2.7	Groundwater investigations						1			3	1	1	1	1	1					5	4
	4.2.8	Foundation modeling (2-D and 3-D)									1		5	2							6	2
4.3 Seismotectonics & Geophysics	4.3.1	Earthquake loading and response:									2		1								3	
	4.3.1.a	Fault source characterization												2								2
	4.3.1.b	Probabilistic seismic hazard assessment										3										3
	4.3.1.c	Earthquake time histories and response spectra												1								1
	4.3.2	Geophysical site characterizations									1		2	3							3	3
5.0 ELECTRICAL ENGINEERING																						
5.1 Electrical Design	5.1.1	Electrical design for rotating machinery (generators and motors) and appurtenant equipment							1	1	1		1	2							3	3
	5.1.2	Design and analysis for electrical features of mechanical equipment			1	1			1	1	1	1	1	1		1					4	5
	5.1.3	Design and analysis of Plant electrical equipment			1	1					1	1	1	1		1					3	4
	5.1.4	Design and analysis of outdoor electrical distribution systems			1	1					1		1	1							3	2
	5.1.5	Design and analysis of substations, switchyards, transformers and circuit breakers			1	1			1	1	1	1	2	2		1					5	6
	5.1.6	Factory inspections of major electrical equipment			1	1					1		1	2							3	3
5.2 Hydropower Technical Services	5.2.1	High voltage insulation testing (AC, DC, Doble) of winding, bus, and cable systems			1	1					1	1	1	1							3	3
	5.2.2	Analysis, condition assessment, trouble-shooting, diagnostics, and testing associated with generators and appurtenant electrical components			1	1					2	2		2							3	5
	5.2.3	Analysis, condition assessment, trouble-shooting, diagnostics, and testing associated with power apparatus									1		2	2							3	2
	5.2.4	SCADA system design and analysis					1				1			1	1	1					3	2
	5.2.5	Analysis, condition assessment of mechanical components of pumping and hydroelectric powerplants					1		1	1	1	2									3	3
	5.2.6	Analysis, condition assessment of penstocks and outlet works					1		1	1	2			1	1	1					5	3
5.3 Other Renewable Energy	5.3.1	Design and analysis of wind turbines									1										1	0
	5.3.2	Design and analysis of solar power systems							1	1	1	1	1	1							3	3
	5.3.3	Design and analysis of geothermal generation systems									1										1	0
6.0 MECHANICAL ENGINEERING																						
6.1 Hydraulic Equipment	6.1.1	Design and analysis of hydraulic control systems					2	1			1	1		1	1	1					4	4
	6.1.2	Design and analysis of pumps, turbines					1	1	1	2	2	3		1	1	1					5	8
	6.1.3	Design and analysis of gates and valves			2	2	1	1	2	3	2	2	1	1	1	1					9	10

NUMBER OF CAPABLE EMPLOYEES — JOURNEYMAN LEVEL

FUNCTIONAL AREAS		TECHNICAL CAPABILITY	GP FY09	GP FY10	PN FY09	PN FY10	MP FY09	MP FY10	UC FY09	UC FY10	LC FY09	LC FY10	TSC FY09	TSC FY10	FCCO FY09	FCCO FY10	PROVO FY09	PROVO FY10	MPCO FY09	MPCO FY10	SUM FY09	SUM FY10
	4.1.4	Dewatering evaluation and design					4				2		8	9			2	2			16	11
	4.1.5	Irrigation drainage analysis and design			5		3				3	1					2	2			13	3
4.2 Engineering Geology	4.2.1	Field mapping			1	3	4	5			2	1	5	5	1	2					13	16
	4.2.2	Field Exploration by:																				
	4.2.2.a	Hard rock drilling and sampling			7	7		5			1	1	5	5							13	18
	4.2.2.b	Augering			7	7		5			1	2	14	5							22	19
	4.2.2.c	SPT's			7	7		5			1	2	14	4							22	18
	4.2.2.d	CPT's				3		5				2	7	3							7	13
	4.2.3	Geologic logging and analysis of soil and rock			1	1	4	5			1	2	14	5	1	2					21	15
	4.2.4	Blasting analysis and design						1					2	3	1	2					3	6
	4.2.5	Grouting designs					1	1			1		2	3	1	2					5	6
	4.2.6	Borrow material investigations			1	1	4	4			1		16	4	1	2					23	11
	4.2.7	Groundwater investigations			3	3	1	8			1	1	6	5	1	2					12	19
	4.2.8	Foundation modeling (2-D and 3-D)			1		4	4			1		3	3							9	7
4.3 Seismotectonics & Geophysics	4.3.1	Earthquake loading and response:									1		2				2				5	
	4.3.1.a	Fault source characterization												2								2
	4.3.1.b	Probabilistic seismic hazard assessment												1								1
	4.3.1.c	Earthquake time histories and response spectra												1								1
	4.3.2	Geophysical site characterizations					1				1			1			2	2			4	3
5.0 ELECTRICAL ENGINEERING																						
5.1 Electrical Design	5.1.1	Electrical design for rotating machinery (generators and motors) and appurtenant equipment					3						1	1							4	1
	5.1.2	Design and analysis for electrical features of mechanical equipment			3	3	1						3	3	1	1					8	7
	5.1.3	Design and analysis of Plant electrical equipment			3	3							4	4	1	1					8	8
	5.1.4	Design and analysis of outdoor electrical distribution systems			3	3							2	2							5	5
	5.1.5	Design and analysis of substations, switchyards, transformers and circuit breakers			3	3	1	1				1	2	2							6	7
	5.1.6	Factory inspections of major electrical equipment			3	3							6	6	1	2					10	11
5.2 Hydropower Technical Services	5.2.1	High voltage insulation testing (AC, DC, Doble) of winding, bus, and cable systems			3	3	1	1			1	1	1	1	3	3					9	9
	5.2.2	Analysis, condition assessment, trouble-shooting, diagnostics, and testing associated with generators and appurtenant electrical components			3	3	1	1			1		1	1							6	5
	5.2.3	Analysis, condition assessment, trouble-shooting, diagnostics, and testing associated with power apparatus									1		2	2							3	2
	5.2.4	SCADA system design and analysis					2					1	1	1				2			3	4
	5.2.5	Analysis, condition assessment of mechanical components of pumping and hydroelectric powerplants					2				1		3	3	4	3					10	6
	5.2.6	Analysis, condition assessment of penstocks and outlet works					1				1			1	1	1					3	2
5.3 Other Renewable Energy	5.3.1	Design and analysis of wind turbines									1										1	0
	5.3.2	Design and analysis of solar power systems									1		2	2			1	1			4	3
	5.3.3	Design and analysis of geothermal generation systems									1										1	0
6.0 MECHANICAL ENGINEERING																						
6.1 Hydraulic Equipment	6.1.1	Design and analysis of hydraulic control systems					1	1			1		2	2							4	3
	6.1.2	Design and analysis of pumps, turbines			2	2	2	1	1	1	4	2	2	2							11	8
	6.1.3	Design and analysis of gates and valves			10	8	2	1	1	1	4	3	1	2							18	15

NUMBER OF CAPABLE EMPLOYEES — SENIOR LEVEL AND RECLAMATION TOTAL

FUNCTIONAL AREAS		TECHNICAL CAPABILITY	GP FY09	GP FY10	PN FY09	PN FY10	MP FY09	MP FY10	UC FY09	UC FY10	LC FY09	LC FY10	TSC FY09	TSC FY10	FCCO FY09	FCCO FY10	PROVO FY09	PROVO FY10	MPCO FY09	MPCO FY10	SUM FY09	SUM FY10	RECLAMATION TOTAL FY09	RECLAMATION TOTAL FY10
	4.1.4	Dewatering evaluation and design						1					13	15				1			13	17	37	35
	4.1.5	Irrigation drainage analysis and design	1	1				1			2										3	2	24	11
4.2 Engineering Geology	4.2.1	Field mapping	4	4	6	6	4	5					6	3	1	1	3	3			24	22	44	44
	4.2.2	Field Exploration by:																						
	4.2.2.a	Hard rock drilling and sampling	4	4	5	5		5					6	4			3	3			18	21	36	44
	4.2.2.b	Augering	4	4	5	5		5			1		29	4			3	3			42	21	75	46
	4.2.2.c	SPT's	4	4	5	5		5					29	4			3	3			41	21	74	45
	4.2.2.d	CPT's	4	4	1	1		5					20	4							25	14	36	29
	4.2.3	Geologic logging and analysis of soil and rock	4	4	6	3	4	5			1		23	4	1	1	3	3			42	20	70	39
	4.2.4	Blasting analysis and design	4	4				4					3	2	1	1					8	11	15	19
	4.2.5	Grouting designs	4	4	2	3		4					4	5	1	1	1	1			12	18	21	26
	4.2.6	Borrow material investigations	4	4	6	3	4	4			1	1	29	6	1	1	3	3			48	22	80	37
	4.2.7	Groundwater investigations	4	4			1	9			2		6	4	1	1	3	3			17	21	34	44
	4.2.8	Foundation modeling (2-D and 3-D)	1	1	6	3	4	4						1			3	3			14	12	29	21
4.3 Seismotectonics & Geophysics	4.3.1	Earthquake loading and response:											4								4		12	
	4.3.1.a	Fault source characterization												3								3		7
	4.3.1.b	Probabilistic seismic hazard assessment												2								2		6
	4.3.1.c	Earthquake time histories and response spectra												5								5		7
	4.3.2	Geophysical site characterizations											4	2							4	2	11	8
5.0 ELECTRICAL ENGINEERING																								
5.1 Electrical Design	5.1.1	Electrical design for rotating machinery (generators and motors) and appurtenant equipment						2			1		2	1							3	3	10	7
	5.1.2	Design and analysis for electrical features of mechanical equipment					2	2			1	1	3	3							6	6	18	18
	5.1.3	Design and analysis of Plant electrical equipment					3	2			1	1	3	3							7	6	18	18
	5.1.4	Design and analysis of outdoor electrical distribution systems					3	2			1	1	2	2							6	5	14	12
	5.1.5	Design and analysis of substations, switchyards, transformers and circuit breakers					2	2			1		2	2	1	1					6	5	17	18
	5.1.6	Factory inspections of major electrical equipment									1	1	5	5	3	1					9	7	22	21
5.2 Hydropower Technical Services	5.2.1	High voltage insulation testing (AC, DC, Doble) of winding, bus, and cable systems	1	1			2	2					1	1							4	4	16	16
	5.2.2	Analysis, condition assessment, trouble-shooting, diagnostics, and testing associated with generators and appurtenant electrical components					2	2					2	2							4	4	13	14
	5.2.3	Analysis, condition assessment, trouble-shooting, diagnostics, and testing associated with power apparatus						2					1	1							1	3	7	7
	5.2.4	SCADA system design and analysis						2			1		2	2				1			3	5	9	11
	5.2.5	Analysis, condition assessment of mechanical components of pumping and hydroelectric powerplants						2					6	6							6	8	19	17
	5.2.6	Analysis, condition assessment of penstocks and outlet works					1	2					1	1							2	3	10	8
5.3 Other Renewable Energy	5.3.1	Design and analysis of wind turbines																			0	0	2	0
	5.3.2	Design and analysis of solar power systems						1					1	1							1	2	8	8
	5.3.3	Design and analysis of geothermal generation systems																			0	0	2	0
6.0 MECHANICAL ENGINEERING																								
6.1 Hydraulic Equipment	6.1.1	Design and analysis of hydraulic control systems						1					4	4							4	5	12	12
	6.1.2	Design and analysis of pumps, turbines						1			5		3	3							8	4	24	20
	6.1.3	Design and analysis of gates and valves						1			5		4	4							9	5	36	30

Green = Self sufficient and sustainable. Yellow = Not self sufficient, but sustainable. Red = Capability is not sustainable. Orange = Possible endangered capability - See report.

FUNCTIONAL AREAS		TECHNICAL CAPABILITY	NUMBER OF CAPABLE EMPLOYEES																																																													
			ENTRY LEVEL																				JOURNEYMAN LEVEL																				SENIOR LEVEL																					
			GP		PN		MP		UC		LC		TSC		FCCO		PROVO		MPCO		SUM		GP		PN		MP		UC		LC		TSC		FCCO		PROVO		MPCO		SUM		GP		PN		MP		UC		LC		TSC		FCCO		PROVO		MPCO		SUM		RECLAMATION TOTAL	
			FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10	FY09	FY10
	6.1.4	Design and analysis of penstocks and manifolds					3		1	2	1	1			1	1					6	4									1		1	1							2	1											2	2							2	2	10	7
	6.1.5	Design and analysis of steel tanks (air chambers, surge tanks, etc.)					3	1	2	3	2				1	1					8	5						1			3										3	1						1			4		2	2							6	3	17	9
	6.1.6	Analysis of hydraulic transients in power system waterways																			0	0																			0	0											2	2							2	2	2	2
6.2 Mechanical Equipment	6.2.1	Design of heating, ventilation, and air conditioning systems					2				1	3									3	3			2	2	1	1	1	1	1		2	2							7	6						1													0	1	10	10
	6.2.2	Design analysis of stoplogs, gatehoists, trash racks, etc.					1	1	3	3	1	4	1	1	1	1					7	10			5	6	2	1	1	1	1	2	2	2							11	12					1	1					1	1							2	2	20	24
	6.2.3	Design and analysis of fire detection and suppression systems							1	1	1	2	1	1							3	4			2						1		1	1							4	1											1	1							1	1	8	6
	6.2.4	Design and analysis of temperature control/selective withdrawal structures					2	1			1		5	5							8	6			1	1	2	1			1		4	4							8	6						1					2	2							2	3	18	15
	6.2.5	Design and analysis of cranes	2	2					2	2	1										5	4			2	2	2	1			1										5	3	1	1				1					1	1							2	3	12	10
	6.2.6	Design and analysis of fish screens				1		1	2	2	1	1	1	2							4	7			5		2	1			1		3	3							11	4				3		2					1	1							1	6	16	17
	6.2.7	Turbine/pump performance and uprate analysis																			0	0			1				1	1			2	2	1	1					5	4											1	1							1	1	6	5
	6.2.8	Factory inspections of mechanical equipment									3	2					1	1			4	3					2	1			1	1	4	4	1		2	2			10	8						1					4	4	2	2	1	1			7	8	21	19
	6.2.9	On-site testing/inspection and assessments for startup and performance of:																																																														
	6.2.9.a	pumps and turbines					1				1	5				4	2	2			4	11					1	1			1	2	1	1	2						5	4						1				1	3	3	3	2					6	7	15	22
	6.2.9.b	penstocks					1				1	2		1			2	2			4	5					1	1			1	3					1	1			3	5						1					1	1	2	2	1	1			4	5	11	15
	6.2.9.c	outlet works					1				1	2					2	2			4	4				1	1	1			1	3			1	1	1	1			4	7						1					2	2	2	2	1	1			5	6	13	17
	6.2.9.d	pressure vessels									1	1		1			3	3			4	5									1										1	0											1	1	2	2					3	3	8	8
6.3 Other Renewable Energy	6.3.1	Design and analysis of wind turbines									1										1	0									1										1	0																			0	0	2	0
	6.3.2	Design and analysis of solar power systems							1	1	1	2									2	3									1						1	1			2	1																			0	0	4	4
	6.3.3	Design and analysis of geothermal generation systems									1										1	0									1										1	0																			0	0	2	0
7.0 CONSTRUCTION AND OTHER SERVICES																																																																
7.1 Construction Management	7.1.1	Resident Engineer			1						2					2	2	2	4	5	9	9	3	3	2	2					3						1	1	4	4	13	10	2	2	1	3		1			2	1							1	2	6	9	28	28
	7.1.2	Field Engineer			1	2					2	1							4	5	7	8	3	3	4	1					3	3					1	1	4	4	15	12	2	2	1	1		1			2	1			1	1	1	1	1	2	8	9	30	29
	7.1.3	Construction inspection of:																																																														
	7.1.3.a	Grouting	2	2					1		2	2							3	3	8	7	3	3	5	3					5	2				3	2	2	2	2	17	15	6	6				1			3	1			4	4	4	5	1	1	18	18	43	40
	7.1.3.b	Rapid Tunneling	5	5							1	2					1	1	4	4	11	12	2	2	5	3					2				2	2	2	2	2	2	15	11						1							1	1	4	5	2	2	7	9	33	32
	7.1.3.c	Controlled Blasting							1		2	3					3	3	4	6	10	12			5	3					1	2			2	2	2	2	3	4	13	13	1	1				1							3	3		1	3	3	7	9	30	34
	7.1.3.d	Dam Embankment Const.	2	2		2					7	4	2		3	3			5	10	19	21	4	4	5	3					6	1	9		7	7	3	3	5	6	39	24	3	3				1			2	2	20		3	3	3	4	4	5	35	18	93	63
	7.1.3.e	Dam Concrete Const.	2	2		2			1	1	7				3	5	3	3	5	8	21	21	4	4	5	3					6	2			7	6	1	1	3	4	26	20	2	2				1			2				3				3	4	10	7	57	48
	7.1.3.f	Rock Bolts/Tendon Install	2	2							5	2	2				2	2	4	7	15	13	3	3	5						4	3	7	3	2	2	2	2	3	4	26	17	3	3		1					2		8		3	3	4	5	3	3	23	15	64	45
	7.1.3.g	Large Pump/Turbine Install	2	2		1					4	3		1	4	3	2	2	2	3	14	15			7	2					4	3	2	2	1	1	1	1	1	1	16	10				1					2	1	3	3	4	4			2	2	11	11	41	36
	7.1.3.h	Generator Rewinds			1						4	2							2	2	7	4			2	1					4	3							2	2	8	6				1					2	1							1	1	3	3	18	13
	7.1.3.i	Medium/High Voltage Equipment Install	6	6	1						4	3					1	1	2	3	14	13	2	2	2	1					4	1			3	2			1	2	12	8				1					2	1			3	1			1	1	6	4	32	25
	7.1.3.j	Electrical Control System Install	6	6	1	1					4	6	1	1	1	1	1	1	2	3	16	19	2	2	2	1					4	1	2	2	1	1			2	2	13	9				1					2	1	3	3	2	1			1	1	8	7	37	35
	7.1.3.k	Plant Startup									4	1		1	5	5			3	4	12	11			2	1					4	1			2	2	1	1	2	3	11	8									3		1	1	3	2			2	3	9	6	32	25
	7.1.3.l	NACE Coatings Inspect.	3	3		1					4	2			4	4					11	10	5	5	5	3					3	1			1		1	1			15	10									5				4	3	1	1			10	4	36	24
	7.1.3.m	Steel NDT Inspect.			1						4										5	0			5	2					3				2	2	2	2			12	6									3				2	2	1	1			6	3	23	9
	7.1.3.n	Structural Concrete	2	2	1	1			1	1	7	3			4	4			7	11	22	22	4	4	5	3					4	3			4	6	2	2	4	5	23	23	2	2							2	3			2	2	4	4	3	4	13	15	58	60
	7.1.4	Construction claims analysis				1			1	1	2				6	7	1	1	5	6	15	16			5	2					3	8	1	1	1	5	2	2	2	2	14	20	5	5	1	2					4	3	1	1	2	1	2	2	4	4	19	18	48	54
	7.1.5	Construction Contract administration				1					2	9			5	3	1	1	6	9	14	23			5	3					3	3			2	6			4	3	14	15	5	5	4	7					4	5			4	1	2	2	2	3	21	23	49	61
	7.1.6	Construction scheduling			1	1					2	8		1	2	5	3	3	5	9	13	27			1	1					3	7	2	2	2	2	1	1	3	6	12	19	5	5	1	1					4	3	2	1	1				2	3	15	13	40	59
	7.1.7	Constructability reviews and guidance			1						2	5			5	5	1	1	4	6	13	17			3	5					3	4			6	6	1	1	4	4	17	20	5	5	1						4	6	2	1	4	4	1	1	4	5	21	22	51	59

Green = Self sufficient and sustainable. Yellow = Not self sufficient, but sustainable. Red = Capability is not sustainable. Orange = Possible endangered capability - See report.

NUMBER OF CAPABLE EMPLOYEES — ENTRY LEVEL

FUNCTIONAL AREAS		TECHNICAL CAPABILITY	GP FY09	GP FY10	PN FY09	PN FY10	MP FY09	MP FY10	UC FY09	UC FY10	LC FY09	LC FY10	TSC FY09	TSC FY10	FCCO FY09	FCCO FY10	PROVO FY09	PROVO FY10	MPCO FY09	MPCO FY10	SUM FY09	SUM FY10
	7.1.8	Field Testing of:																				
	7.1.8.a	soil	2	2					1	1	3	1	6		3	1			4	4	19	9
	7.1.8.b	concrete	2	2					1	1	3	1			3	1			4	4	13	9
7.2 Surveys, Mapping, & GIS/Remote Sensing	7.2.1	Land Surveys (GPS)			2		2	2		1	3	3									7	6
	7.2.2	Land Surveys (Lidar)					2	2			3						1	1			6	3
	7.2.3	Construction surveys			2	2	2	2			3	11									7	15
	7.2.4	Photogrammetry					2	2			2	1	1				1	1			6	4
	7.2.5	Reservoir sedimentation surveys									1	1	5	5							6	6
	7.2.6	Bathymetric surveys of rivers and reservoirs					1	1			1	2	5	5							7	8
	7.2.7	Hydroacoustic surveys									1	1	5	5							6	6
	7.2.8	GIS	1	1		3					2	1									3	5
	7.2.9	Remote Sensing									2	1									2	1
8.0 ENVIRONMENTAL AND ECONOMIC SERVICES																						
8.1 Environmental Studies	8.1.1	Limnological studies									1						1	1			2	1
	8.1.2	Aquatic habitat analysis											2	2			1	1			3	3
	8.1.3	Fish and wildlife population analysis																			0	0
	8.1.4	Field bio-assessments															1	1			1	1
	8.1.5	Fish hatchery evaluations																			0	0
	8.1.6	Invasive species research and management									1						1	1			2	1
	8.1.7	Aquatic ecology research											1	1			1	1			2	2
	8.1.8	ESA Consultation																			0	0
	8.1.9	NEPA (EA/EIS Preparation)									2	1					1	1			3	2
	8.1.10	Water quality modeling																1			0	1
	8.1.11	Water quality studies						6										1			0	7
	8.1.12	Cultural resource assessments					1	2			1										2	2
8.2 Economics	8.2.1	NEPA economic impact analysis									1										1	0
	8.2.2	Cost/Benefit analyses for project planning									1	2									1	2
	8.2.3	Payment capacity determinations									1										1	0
	8.2.4	Cost allocation analysis and computation									1										1	0
9.0 LABORATORY SERVICES																						
9.1 Water Quality	9.1.1	Research and development for water desalination processes											1	1							1	1
	9.1.2	Research and development of other impaired water treatment processes											1	1							1	1
	9.1.3	Lab analysis of substances in soil, sediment and water				3		1													0	4
	9.1.4	Field Sampling						2			2		1								3	2
9.2 Hydraulic Laboratory Services	9.2.1	Hydraulic research, testing, analysis using:																				
	9.2.1.a	Computational modeling									1		1	2							2	2
	9.2.1.b	Physical modeling											1	3							1	3
	9.2.1.c	Erosion and sediment deposition modeling									2			1							2	1
9.3 Materials Research and Engineering	9.3.1	Research, testing and specifications for:																				
	9.3.1.a	Concrete									2	2	1	1			1	1			4	4
	9.3.1.b	Soils/rock									2	2	6	2			1	1			9	5

NUMBER OF CAPABLE EMPLOYEES — JOURNEYMAN LEVEL

FUNCTIONAL AREAS		TECHNICAL CAPABILITY	GP FY09	GP FY10	PN FY09	PN FY10	MP FY09	MP FY10	UC FY09	UC FY10	LC FY09	LC FY10	TSC FY09	TSC FY10	FCCO FY09	FCCO FY10	PROVO FY09	PROVO FY10	MPCO FY09	MPCO FY10	SUM FY09	SUM FY10
	7.1.8	Field Testing of:																				
	7.1.8.a	soil	4	4							2	1	11	3	4	6	2	2	2	3	25	19
	7.1.8.b	concrete	4	4							2	1			4	5	2	2	2	3	14	15
7.2 Surveys, Mapping, & GIS/Remote Sensing	7.2.1	Land Surveys (GPS)			11	12	2	2			2	1	6	9		2	2	2			23	28
	7.2.2	Land Surveys (Lidar)					1	2			1	1	1	1							3	4
	7.2.3	Construction surveys			5	5	2	2			2	4					2	2			11	13
	7.2.4	Photogrammetry					2	2			1	1	2	6							5	9
	7.2.5	Reservoir sedimentation surveys						1			1		1	8							2	9
	7.2.6	Bathymetric surveys of rivers and reservoirs					1	1			1		1	8							3	9
	7.2.7	Hydroacoustic surveys									1		5	9							6	9
	7.2.8	GIS	1	1	3		2	3	1	1	1	1	11	5							19	11
	7.2.9	Remote Sensing					1	2	1	1	1										3	3
8.0 ENVIRONMENTAL AND ECONOMIC SERVICES																						
8.1 Environmental Studies	8.1.1	Limnological studies			1	1							2	2							3	3
	8.1.2	Aquatic habitat analysis				1	3						5	5							8	6
	8.1.3	Fish and wildlife population analysis				1	3						8	8							11	9
	8.1.4	Field bio-assessments				1	5	2					4	4							9	7
	8.1.5	Fish hatchery evaluations				1	2			1											2	2
	8.1.6	Invasive species research and management			1	1					1		6	6							8	7
	8.1.7	Aquatic ecology research			3	1	3						7	7			2	2			15	10
	8.1.8	ESA Consultation			1	1	6	5					1	2							8	8
	8.1.9	NEPA (EA/EIS Preparation)			1	1	6	1			4		2	2							13	4
	8.1.10	Water quality modeling			2			2													2	2
	8.1.11	Water quality studies			2			7					3	2							5	9
	8.1.12	Cultural resource assessments					4	2						2							4	4
8.2 Economics	8.2.1	NEPA economic impact analysis									2		6	6			1	1			9	7
	8.2.2	Cost/Benefit analyses for project planning									1		4	4			1	1			6	5
	8.2.3	Payment capacity determinations			1	1					1		2	2			1	1			5	4
	8.2.4	Cost allocation analysis and computation			2	2					1		1	1			1	1			5	4
9.0 LABORATORY SERVICES																						
9.1 Water Quality	9.1.1	Research and development for water desalination processes											6	7							6	7
	9.1.2	Research and development of other impaired water treatment processes											6	7							6	7
	9.1.3	Lab analysis of substances in soil, sediment and water			1	1		2			1		2	2							4	5
	9.1.4	Field Sampling			1	2	1	6			4	1	6	5							12	14
9.2 Hydraulic Laboratory Services	9.2.1	Hydraulic research, testing, analysis using:																				
	9.2.1.a	Computational modeling				1					2		11	9							13	10
	9.2.1.b	Physical modeling				1							3	3							3	4
	9.2.1.c	Erosion and sediment deposition modeling				1					3		11	9							14	10
9.3 Materials Research and Engineering	9.3.1	Research, testing and specifications for:																				
	9.3.1.a	Concrete									3		3	3			1	1			7	4
	9.3.1.b	Soils/rock									3		6	2			1	1			10	3

NUMBER OF CAPABLE EMPLOYEES — SENIOR LEVEL

FUNCTIONAL AREAS		TECHNICAL CAPABILITY	GP FY09	GP FY10	PN FY09	PN FY10	MP FY09	MP FY10	UC FY09	UC FY10	LC FY09	LC FY10	TSC FY09	TSC FY10	FCCO FY09	FCCO FY10	PROVO FY09	PROVO FY10	MPCO FY09	MPCO FY10	SUM FY09	SUM FY10	RECLAMATION TOTAL FY09	RECLAMATION TOTAL FY10
	7.1.8	Field Testing of:																						
	7.1.8.a	soil	3	3							3	3	18	4	2	2	3	3	3	4	32	19	76	47
	7.1.8.b	concrete	2	2							3	2			2	2	3	3	3	4	13	13	40	37
7.2 Surveys, Mapping, & GIS/Remote Sensing	7.2.1	Land Surveys (GPS)					2	2			1		5	6	3	1	2	2			13	11	43	45
	7.2.2	Land Surveys (Lidar)			4	4	1	2			1		1	1							7	7	16	14
	7.2.3	Construction surveys					1	2			1	1			3	3	2	2			7	8	25	36
	7.2.4	Photogrammetry					1	1					2	1							3	2	14	15
	7.2.5	Reservoir sedimentation surveys						2					3	4			2	2			5	8	13	23
	7.2.6	Bathymetric surveys of rivers and reservoirs					1	1					4	5			2	2			7	8	17	25
	7.2.7	Hydroacoustic surveys											6	4							6	4	18	19
	7.2.8	GIS	1	1	4	4							9	5			1	1			15	11	37	27
	7.2.9	Remote Sensing			4	4	1	1					1	1							6	6	11	10
8.0 ENVIRONMENTAL AND ECONOMIC SERVICES																								
8.1 Environmental Studies	8.1.1	Limnological studies			2	1		1					4	4			2	2			8	8	13	12
	8.1.2	Aquatic habitat analysis			4	1	2	6					5	5			3	3			14	15	25	24
	8.1.3	Fish and wildlife population analysis			2	1	2	5					4	4			2	2			10	12	21	21
	8.1.4	Field bio-assessments			2	1		6						5			3	3			5	15	15	23
	8.1.5	Fish hatchery evaluations			1			3					1	1							2	4	4	6
	8.1.6	Invasive species research and management			1	1		1					2	2			2	2			5	6	15	14
	8.1.7	Aquatic ecology research			3	1	2	6					9	7							14	14	31	26
	8.1.8	ESA Consultation			4	1	2	9									2	2			8	12	16	20
	8.1.9	NEPA (EA/EIS Preparation)			3		2	11					1	2			2	2			8	15	24	21
	8.1.10	Water quality modeling			1	2		4						1							1	7	3	10
	8.1.11	Water quality studies			3	1		9					6	5							9	15	14	31
	8.1.12	Cultural resource assessments			1	1	2	5									1	1			4	7	10	13
8.2 Economics	8.2.1	NEPA economic impact analysis					1	3					4	4			1	1			6	8	16	15
	8.2.2	Cost/Benefit analyses for project planning					1	1			4		4	4			1	1			10	6	17	13
	8.2.3	Payment capacity determinations					1	1			4		1	1			1	1			7	3	13	7
	8.2.4	Cost allocation analysis and computation					1	1			4		2	2			1	1			8	4	14	8
9.0 LABORATORY SERVICES																								
9.1 Water Quality	9.1.1	Research and development for water desalination processes											6	5							6	5	13	13
	9.1.2	Research and development of other impaired water treatment processes											6	5							6	5	13	13
	9.1.3	Lab analysis of substances in soil, sediment and water			3	2		3					1	1							4	6	8	15
	9.1.4	Field Sampling			4	2	7	6				1	5	3							16	12	31	28
9.2 Hydraulic Laboratory Services	9.2.1	Hydraulic research, testing, analysis using:																						
	9.2.1.a	Computational modeling									3		6	9							9	9	24	21
	9.2.1.b	Physical modeling											7	7							7	7	11	14
	9.2.1.c	Erosion and sediment deposition modeling											8	10							8	10	24	21
9.3 Materials Research and Engineering	9.3.1	Research, testing and specifications for:																						
	9.3.1.a	Concrete											4	4							4	4	15	12
	9.3.1.b	Soils/rock											20	4							20	4	39	12

Green = Self sufficient and sustainable. Yellow = Not self sufficient, but sustainable. Red = Capability is not sustainable. Orange = Possible endangered capability - See report.

NUMBER OF CAPABLE EMPLOYEES — ENTRY LEVEL

FUNCTIONAL AREAS	TECHNICAL CAPABILITY		GP FY09	GP FY10	PN FY09	PN FY10	MP FY09	MP FY10	UC FY09	UC FY10	LC FY09	LC FY10	TSC FY09	TSC FY10	FCCO FY09	FCCO FY10	PROVO FY09	PROVO FY10	MPCO FY09	MPCO FY10	SUM FY09	SUM FY10
	9.3.1.c	Geotextiles											1								1	0
	9.3.1.d	Coatings											1	1							1	1
	9.3.1.e	Corrosion											1	1							1	1
9.4 Environmental Laboratories	9.4.1	Fish laboratory											1	1							1	1
	9.4.2	Greenhouse											1	1							1	1
	9.4.3	Invasive species																			0	0

NUMBER OF CAPABLE EMPLOYEES — JOURNEYMAN LEVEL

FUNCTIONAL AREAS	TECHNICAL CAPABILITY		GP FY09	GP FY10	PN FY09	PN FY10	MP FY09	MP FY10	UC FY09	UC FY10	LC FY09	LC FY10	TSC FY09	TSC FY10	FCCO FY09	FCCO FY10	PROVO FY09	PROVO FY10	MPCO FY09	MPCO FY10	SUM FY09	SUM FY10
	9.3.1.c	Geotextiles											2								2	0
	9.3.1.d	Coatings											2	2							2	2
	9.3.1.e	Corrosion											1	1							1	1
9.4 Environmental Laboratories	9.4.1	Fish laboratory																			0	0
	9.4.2	Greenhouse																			0	0
	9.4.3	Invasive species									1										1	0

NUMBER OF CAPABLE EMPLOYEES — SENIOR LEVEL / RECLAMATION TOTAL

FUNCTIONAL AREAS	TECHNICAL CAPABILITY		GP FY09	GP FY10	PN FY09	PN FY10	MP FY09	MP FY10	UC FY09	UC FY10	LC FY09	LC FY10	TSC FY09	TSC FY10	FCCO FY09	FCCO FY10	PROVO FY09	PROVO FY10	MPCO FY09	MPCO FY10	SUM FY09	SUM FY10	RECLAMATION TOTAL FY09	RECLAMATION TOTAL FY10
	9.3.1.c	Geotextiles											5	1							5	1	8	1
	9.3.1.d	Coatings											1	1							1	1	4	4
	9.3.1.e	Corrosion											1	1							1	1	3	3
9.4 Environmental Laboratories	9.4.1	Fish laboratory																			0	0	1	1
	9.4.2	Greenhouse																			0	0	1	1
	9.4.3	Invasive species												3							0	3	1	3

Green = Self sufficient and sustainable. Yellow = Not self sufficient, but sustainable. Red = Capability is not sustainable. Orange = Possible endangered capability - See report.

Appendix C

FY 2009 and FY 2010 Action Plans

Reclamation Coordination and Oversight Group Action Plan for Endangered Capabilities

Civil Engineering – Powerplants
September 2010

Purpose

This Action Plan will create a business case to address endangered capabilities identified in the July 1, 2010, Technical Capability Report (Report), including a recommended preferred approach. The effort will include the formation of a small team to complete the Action Plan. The team will include a Coordination and Oversight Group (COG) member, a subject matter expert, and management representative identified by the service provider with the endangered capability.

Elements of the Action Plan

1. Endangered Capability: Civil Engineering – Powerplants

Action Plan Team Response

The data from the 2009 data call indicates that there are 18 Bureau of Reclamation (Reclamation) employees within the service provider organizations who have various levels of capability, including 7 entry level, 4 journeyman level, and 7 senior level. In researching the groups that indicated capability, it appears that the results may overstate Reclamation's current capability. Based on direct discussions with the regional service providers that identified capability at both the journeyman level and senior level, none of those identified had, in fact, worked directly on the structural/civil design of moderately complex powerplants. Positive responses were based largely on general structural engineering experiences that could/might be reasonably translated to powerplants. The Technical Service Center (TSC) employees (4 senior level and 3 entry level) appeared to be the only identified staff that had actual experience specific to powerplant design.

Given the disparity as to how individual service providers determined capability, the COG should consider including more definition to senior level, journeyman level, and entry level staff as it applies to each individual capability. There should be a prescribed level of experience (i.e., number of years) for both senior and journeyman levels **specific** to the capability being considered.

2. Action Plan Team

- Team lead (COG member): Rich Dent

- Team members/subject matter experts (including management from the subject capability): Mike O'Shea, Structural Engineer, Plant Structures Group, and Dick LaFond, Chief, Civil Engineering Division, TSC

- Scope: Perform the analysis in this Action Plan necessary to propose a solution to address the endangered capability if it exists.

3. Discussion: Is the Endangered Capability a Capability Required by Reclamation?

Considerations

The Report states that (page 3) "… the COG focused on "critical" capabilities where Reclamation must have in-house capability to accomplish its mission and/or remain a "smart buyer" when procuring technical resources." The report goes on to say that updates to the capability listing will be made to reflect the changing needs of the organization. The intent of this element in the Action Plan is to discuss the subject endangered capability to confirm the mission criticality of the capability. The discussion should include coordination with regional service providers (as appropriate) to confirm the distribution of the capability throughout the organization.

Action Plan Team Response

The number of new powerplants designed and constructed by Reclamation in the last few years is very small; however, with a renewed emphasis on developing new forms of green energy, specifically hydropower and the aging infrastructure that Reclamation oversees, the need to maintain this capability would appear to be mission critical. As the owner of dams across the 16 Western States with operating powerplants, Reclamation clearly has a need for some capacity of technical competency in this field for ongoing maintenance, retrofits, and rebuilds, as well as any new plants that may be proposed in the future. It will also have a need to remain a "smart-buyer" of engineering services to complement this capability because there are a number of new powerplants being constructed that are associated with Reclamation dams but funded by and owned by others.

4. Clients of the Endangered Capability

Considerations

The business case made by this Action Plan should include a listing of the clients of the endangered capability. Are there clients from organizations outside of Reclamation? If so, what proportion of the total workload for the endangered capability is associated with these external clients?

Action Plan Team Response

The development of new powerplants by Reclamation has been very limited in recent years; thus, the client base is limited. Most, if not all, current experience is associated with Reclamation facilities. The most recent is Black Canyon (currently at the 30-percent design stage). We have to go back several years prior to Black Canyon to identify the last significant powerplant designed by Reclamation. It appears that there have been few, if any, other clients outside of Reclamation that have requested powerplant design services from Reclamation, at least during the last decade.

There have been multiple occasions recently where powerplants associated with Reclamation facilities have been designed, funded, and constructed by others. These examples, if they continue to occur, could become potential Reclamation clients if Reclamation could effectively market its capabilities.

5. Contracting of the Endangered Capability?

Considerations

Discuss the proportion of the total workload for the endangered capability that is being contracted to resources outside of Reclamation. Sources to determine the amount of contracting can be the Reclamation Design and Construction Coordination Team (RDCCT) or procurement database queries. In some cases, the Action Plan team members may be aware of the complete contracting environment without any additional research.

Action Plan Team Response

The COG was tasked with examining contract reports/documents that might be helpful in identifying any contracts in fiscal year (FY) 2009 that may have been awarded specifically associated with civil/structural powerplant design. Reports were pulled and specifically searched for North American Industry Classification System code 541330 (Engineering Services). This report (39 pages) was reviewed to identify any of these services that might have been related to powerplant design. Of all the engineering services listed, none were identified that were equivalent to civil/structural design of powerplants. A subsequent survey of all individual regional engineers (through the RDCCT) was conducted to determine if they were aware of any such services being contracted within their regions. The response was negative as well. To the COG's knowledge, there were no Reclamation powerplant civil/structural design jobs contracted outside of Reclamation that could have been conducted in-house.

6. Is the Endangered Capability a Short-Term or Long-Term Need?

Considerations

Short term could be considered 4 years or less.

Action Plan Team Response

Powerplants are an integral component of Reclamation infrastructure. As long as Reclamation continues to own, operate, and maintain these facilities, Reclamation will require this capability.

7. Results of Short-Term and Long-Term Workload and Staffing Projections

Considerations

The Report includes staffing levels for the capabilities and the assessment of the sustainability of those capabilities by the appropriate manager. This element of the Action Plan will update that analysis with the results of specific short- and long-term workload and staffing projections with a reconsideration of the sustainability assessment.

Action Plan Team Response

Currently, the TSC is the only office in Reclamation that maintains staff that has had specific experience at either the journeyman or senior level. Other offices listed staff at both the journeyman level and senior level based on the assumption that listed staff have enough experience in related fields (i.e., general structural engineering) that would make them capable; however, none had specifically designed or participated in design of moderately complex powerplant structures.

Of the four individuals identified at the TSC as having senior level experience, it was estimated that three of them would retire within 2 years. There was no staff listed at the journeyman level and three at the entry level. Workload in this field has been limited; thus, opportunities to train entry level staff have also been limited, although currently, the TSC is designing the Black Canyon Powerplant and engaging entry level engineers as much as possible. Additionally, although there are significant differences between pumping plant design considerations and powerplant design considerations, there is enough similarity to sustain a limited capability. The conclusion is, without additional powerplant design work or employment of other strategies, this capability is not sustainable at a high level.

8. Strategies Considered to Maintain the Capability

Considerations

Feasible alternatives should be developed to consider solutions to address the endangered capability. The alternatives should include pros, cons, and the risks associated. The position of the affected parties should be discussed, including the service provider upper management and the clients of the capability.

Action Plan Team Response

There are a number of actions that could be taken to strengthen or enhance Reclamation’s capability in the future:

(a) Update civil/structural design standards for powerplants. As senior level staff retire, much of the corporate knowledge and skill will walk out the door. It would be beneficial for those senior level engineers to update and enhance the design standards. At a minimum, this should provide a strong base for less experienced staff as attrition occurs

(b) Identify and initiate opportunities to collaborate with other entities that are more actively involved with powerplant design work. This collaboration could include detailing or "loaning" TSC staff to these entities to develop or maintain skills associated with powerplant designs. It was suggested that collaboration with an organization such as Quebec Hydro (about 95 percent of power generated in Quebec is hydro) could be a viable option. Reclamation conceivably would have to pick up some of the associated costs

(c) Provide as much opportunity to entry level engineers as possible to gain experience under the guidance of TSC's senior level design staff. Again, some of this participation may not be billable to the client

(d) Explore opportunities for new hydropower generation on Reclamation owned facilities. In this era of new emphasis on green power, there may be more economically viable power generation opportunities than in the past

(e) Review policies related to Reclamation's role in new powerplants being developed by outside entities that are tied to Reclamation facilities. Currently, there are multiple powerplants that are under design, or have been designed, that Reclamation has had little or no participation in. At a minimum, these policies should consider a significant role in reviewing designs tied to Reclamation facilities to ensure Reclamation's risk is minimal.

9. Proposed Recommendation

Considerations

A preferred alternative should be recommended with timeframes for implementation.

Action Plan Team Response

Based on the foregoing analysis, it is the COG's opinion that the capability associated with designing large powerplants is endangered or at least will be endangered in the near future. Steps should be taken to maintain this capability at some level. As Reclamation facilities age, more work will be required to repair and retrofit such facilities, and in-house capability will be critical. Given the

projected retirement of current senior level staff, it is recommended that a plan to preserve or maintain this capability should be implemented within the next 2 years.

Specifically, the plan should include a memorandum from the Deputy Commissioner for Operations to the regions, directing staff that any opportunities for powerplant design be kept in-house. Additionally, per the alternatives described above, Reclamation should commit the resources, either through current senior staff or through contract employees, to complete associated design standards during calendar year 2011. Lastly, Reclamation, working through current relationships between TSC staff and Quebec Hydro, should immediately initiate discussions to explore opportunities for collaboration and create a two-party Memorandum of Understanding (MOU) that outlines appropriate terms and conditions of such a relationship, with a portion focusing on enhancing and preserving each agency's capability.

Reclamation Coordination and Oversight Group Action Plan for Endangered Capabilities

High-End Structural Analysis (Nonlinear Structural Analysis)
September 2010

Purpose

This Action Plan will create a business case to address endangered capabilities identified in the July 1, 2010, Technical Capability Report (Report), including a recommended preferred approach. The effort will include the formation of a small team to complete the Action Plan. The team will include a Coordination and Oversight Group (COG) member, a subject matter expert, and management representative identified by the service provider with the endangered capability.

Elements of the Action Plan

1. Endangered Capability and Organization Code: High-End Structural Analysis, 86-68110

Action Plan Team Response

A more accurate description of the capability would be the Nonlinear Structural Analysis of Concrete Dams.

2. Action Plan Team

- Team lead (COG member): John Baals

- Team members/subject matter experts (including management from the subject capability): Barb Mills-Bria, Manager, Structural Analysis Group, and Dick LaFond, Chief, Civil Engineering Division, Technical Services Center

- Scope: Perform the analysis in this Action Plan necessary to propose a solution to address the endangered capability.

3. Discussion: Is the Endangered Capability a Capability Required by Reclamation?

Considerations

The Report states that (page 3) "… the COG focused on "critical" capabilities where the Bureau of Reclamation (Reclamation) must have in-house capability to accomplish its mission and/or remain a "smart buyer" when procuring technical resources." The Report goes on to say that updates to the capability listing will be made to reflect the changing needs of the organization. The intent of this element in the Action Plan is to discuss the subject endangered capability to confirm the mission criticality of the capability. The discussion should include coordination with regional service providers (as appropriate) to confirm the distribution of the capability throughout the organization.

Action Plan Team Response

As the owner of 79 concrete dams, many of which are considered high or significant hazard dams, Reclamation clearly has a need for the capability of nonlinear, dynamic analysis of concrete dams, as well as the need to remain a "smart-buyer" of engineering services to complement this capability. Reclamation's Dam Safety Office is the primary client of this capability and agrees that the continued maintenance of the capability is critical to the mission of the agency.

4. Clients of the Endangered Capability

Considerations

The business case made by this Action Plan should include a listing of the clients of the endangered capability. Are there clients from organizations outside of Reclamation? If so, what proportion of the total workload for the endangered capability is associated with these external clients?

Action Plan Team Response

The primary client of this capability is Reclamation's Dam Safety Office, although the regions and area offices request the services funded outside of the Dam Safety Program on a less frequent basis. In addition, Reclamation has provided this expertise to the U.S. Army Corps of Engineers, the California Department of Water Resources, and the Puerto Rican Electric Power Authority. The Dam Safety Program provides support to the Department of the Interior (DOI) and its bureaus' Dam Safety Programs but the other DOI bureaus have few concrete dams so the application of the analysis capabilities to those bureaus is rare.

5. Contracting of the Endangered Capability?

Considerations

Discuss the proportion of the total workload for the endangered capability that is being contracted to resources outside of Reclamation. Sources to determine the amount of contracting can be the Reclamation Design and Construction Coordination Team or procurement database queries. In some cases, the Action Plan team members may be aware of the complete contracting environment without any additional research.

Action Plan Team Response

Reclamation has developed and refined the successful nonlinear dynamic structural analysis capability over the last 15 years. This capability, which models the structure-reservoir-foundation system interactions, is not well developed outside of Reclamation and is, therefore, not typically contracted to resources outside of Reclamation. During the capability development period, when resource management issues prompted Reclamation's attempts to procure similar high-end analysis capabilities, the contract costs were much greater when compared to Reclamation costs, and there was recognition that the contractor products were inadequate. In the past several years, the U.S. Army Corps of Engineers and the California Department of Water Resources has asked Reclamation to advise them in their development of the capability and application of the capability to their structures. Reclamation has the capability to apply this high-level analysis to gates, concrete dams, and concrete appurtenances associated with embankment dams.

6. Is the Endangered Capability a Short-Term or Long-Term Need?

Considerations

Short term could be considered 4 years or less.

Action Plan Team Response

Reclamation will require this capability in the long term to manage the risk for the large inventory of concrete dams.

7. Results of Short-Term and Long-Term Workload and Staffing Projections

Considerations

The Report includes staffing levels for the capabilities and the assessment of the sustainability of that capability by the appropriate manager. This element of the Action Plan will update that analysis with the results of specific short- and long-term workload and staffing projections with a reconsideration of the sustainability assessment.

Action Plan Team Response

Within the last several years, a succession plan has been implemented in the Structural Analysis Group (86-68110) to ensure that this capability not only continues but is enhanced. As a result, staffing has increased to offset attrition, and the capability is no longer considered endangered. The team recommends the removal of the capability from the COG's endangered capability listing. The succession planning includes attrition estimates and staff training requirements to balance the short- and long-term staffing with the workload projected by the customers. Currently, there are three experienced analysts and three analysts that are participating in the Group's Development Program to gain the necessary journeyman experience. The long-range succession plan is focused on continuing the maintenance and advancement of this capability by estimating an increase in workload of 10 percent per year and balancing the staffing necessary on this number to maintain this capability.

8. Strategies Considered to Maintain the Capability

Considerations

Feasible alternatives should be developed to consider solutions to address the endangered capability. The alternatives should include pros, cons, and the risks associated. The position of the affected parties should be discussed, including the service provider upper management and the clients of the capability.

Action Plan Team Response

As detailed in the section above, "Results of Short-Term and Long-Term Workload and Staffing Projections," implementation of the succession plan has resulted in hiring that has balanced the staffing to the workload. This succession planning will continue to maintain the capability into the future, and the capability can now be removed from the COG's endangered listing.

9. Proposed Recommendation

Considerations

A preferred alternative should be recommended with timeframes for implementation.

Action Plan Team Response

As detailed above, the capability is no longer endangered, so a recommendation to protect or maintain the capability is not necessary. A recommendation is made to remove the capability from the COG's endangered capability listing.

Reclamation Coordination and Oversight Group Action Plan for Design and Analysis of Temperature Control/Selective Withdrawal Structures

September 30, 2010

Purpose

This Action Plan will create a business case to address the endangered capabilities identified in the July 1, 2010, Technical Capability Report (Report), including a recommended preferred approach. The effort will include the formation of a small team to complete the Action Plan. The team will include a Coordination and Oversight Group (COG) member, a subject matter expert, and management representative identified by the service provider with the endangered capability.

Elements of the Action Plan

1. Endangered Capability and Organization Code: Design and Analysis of Temperature Control/Selective Withdrawal Structures (TCD), 86-68120 and 86-68410

Action Plan Team Response

TCD design and analysis has been identified as endangered, due more to a lack of workload than a lack of expertise. Although the Bureau of Reclamation (Reclamation) has lost some key staff with specific, hands-on, TCD design and construction experience to retirement, the Technical Service Center (TSC) currently maintains the individual skills and capabilities required to properly analyze and design a TCD because this expertise is not exclusive to TCD design. TCD design and analysis would be accomplished by a team approach, as there are several areas of expertise involved. If TCD design and analysis work was pursued outside of Reclamation, TSC would require additional staff to accomplish this work due to current high workload levels.

2. Action Plan Team

- Team lead (COG member): Rick Scott
- Team members/subject matter experts: Dick LaFond and Dave Hulse
- Scope: Perform the analysis in this Action Plan necessary to propose a solution to address the endangered capability.

3. Discussion: Is the Endangered Capability a Capability Required by Reclamation?

Considerations

The Report states that (page 3) "… the COG focused on "critical" capabilities where Reclamation must have in-house capability to accomplish its mission and/or remain a "smart buyer" when procuring technical resources." The Report goes on to say that updates to the capability listing will be made to reflect the changing needs of the organization. The intent of this element in the Action Plan is to discuss the subject endangered capability to confirm the mission criticality of the capability. The discussion should include coordination with regional service providers (as appropriate) to confirm the distribution of the capability throughout the organization.

Action Plan Team Response

TCD design and analysis is a capability that should be maintained by Reclamation. Where biological and environmental criteria are established, TCDs are added to existing dam outlet works and penstock intakes to enable reservoir releases to be made at various elevations, which allows for better control of the water temperature being released. Whenever modifications are performed on Reclamation facilities, particularly dams, it is critical for Reclamation to maintain the expertise required to ensure that the modification is done correctly and will not adversely impact the dam or its intended purposes. This is particularly critical in regard to the potential for increased risk or introduction of a failure mode that may result from the modification.

4. Clients of the Endangered Capability

Considerations

The business case made by this Action Plan should include a listing of the clients of the endangered capability. Are there clients from organizations outside of Reclamation? If so, what proportion of the total workload for the endangered capability is associated with these external clients?

Action Plan Team Response

Clients for this capability include those Reclamation offices that have a need for TCDs on the dams within their respective area of responsibility. As noted previously, TCD design and analysis work is generally not prevalent, and this scarcity of work does not appear to be limited to Reclamation. As such, there are limited opportunities to pursue this type of work outside of Reclamation.

5. Contracting of the Endangered Capability?

Considerations

Discuss the proportion of the total workload for the endangered capability that is being contracted to resources outside of Reclamation. Sources to determine the

amount of contracting can be the Reclamation Design and Construction Coordination Team or procurement database queries. In some cases, the Action Plan team members may be aware of the complete contracting environment without any additional research.

Action Plan Team Response

Currently, there is no contracting out of design and analysis of TCDs within any Reclamation offices. Because of the critical nature of attaching TCDs and selective withdrawal structures to the faces of Reclamation dams, the team feels it is unwise to hire an outside entity to perform this work.

6. Is the Endangered Capability a Short-Term or Long-Term Need?

Considerations

Short term could be considered 4 years or less.

Action Plan Team Response

As previously noted, design and analysis of TCDs has been identified as endangered due to a lack of workload and not the result of available expertise. However, climate change and global warming concerns could result in an increased TCD workload in the future. The need to maintain this capability is considered to be a long-term need.

7. Results of Short-Term and Long-Term Workload and Staffing Projections

Considerations

The Report includes staffing levels for the capabilities and the assessment of the sustainability of that capability by the appropriate manager. This element of the Action Plan will update that analysis with the results of specific short- and long-term workload and staffing projections with a reconsideration of the sustainability assessment.

Action Plan Team Response

If TCD work was pursued outside of Reclamation, TSC would require additional staff to accomplish this work because all of the disciplines required to perform this type of work are fully occupied at present. Because the expertise currently exists and is being fully utilized, it is not recommended to increase staff levels at this time.

8. Strategies Considered to Maintain the Capability

Considerations

Feasible alternatives should be developed to consider solutions to address the endangered capability. The alternatives should include pros, cons, and the risks associated and the position of the affected parties (service provider and clients).

Action Plan Team Response

Two alternatives listed below were identified to address this issue.

a. Actively pursue TCD design and analysis work outside of Reclamation. The greatest benefit to this approach is that it would provide real experience in this area. However, the cons and risks far outweigh any benefits derived. It is felt that the expertise can be adequately maintained without actually performing specific TCD design and analysis. Areas such as structural design, water hammer analysis, temperature modeling (both physical and numerical), hoists, gate and relief panel and electrical control design currently exist, and it is not necessary to dedicate these functions solely to TCDs. Given the current environment and workload at the TSC, if TCD work was obtained, it would require the hiring of additional staff to accomplish this work, which could be viewed as mission creep and unnecessary. TCD design and analysis is not currently in high demand, and adding additional staff to accomplish this work would create an unnecessary risk to making sure that sufficient workload is available to occupy current staff.

b. Document the design and analysis process in a design standard that would be utilized in the future when TCD work is required. Because the expertise currently exists, it is important to ensure that the design standards, codes, and considerations are properly documented such that personnel can use their expertise to accomplish the design and analysis of TCDs in the future. There are several engineers within the TSC that currently have this expertise, and they should memorialize their knowledge for future use. It is recommended that this information be included in a new chapter in Design Standard No. 8 and in chapter 17 of Design Standard No. 9. Collaboration between chapter authors will be necessary to make sure conflicting and/or duplicate guidance is avoided. As a result of recommendations from the Managing For Excellence Team 16, funding has been, and continues to be, made available from Policy &Administration and Dam Safety sources to update Reclamation Design Standards. A conservative estimate for producing these chapters is $30,000 per chapter.

Although the documentation of the design and analysis process is a critical component to ensuring that the technical expertise is maintained, it is also recognized that having experienced senior level technical experts available is essential to a successful project. Therefore, in the future design and analysis of TCDs, if experienced personnel are not available within Reclamation, it would be advisable to procure this service either in a peer review capacity or as a consultant during the process. Depending on the project, it is likely that the contracted person would serve in both capacities and would be able to directly pass on the nuances and intricacies required in the process. It is anticipated that the contracted person would be either a retired Reclamation employee or other qualified individual who has had intimate involvement with design and analysis of TCDs on Reclamation facilities.

9. Proposed Recommendation

Considerations

A preferred alternative should be recommended with timeframes for implementation.

Action Plan Team Response

The proposed recommendation is to develop a design standard that documents the procedures, design considerations, design stresses and codes, and other factors required to be able to perform the design and analysis of TCDs. Currently, there are several personnel within the TSC that have experience in this area, and it is important to capture as much of their knowledge as possible prior to their leaving Reclamation. In order to take advantage of this expertise, the COG strongly recommends that design standards for TCDs be completed as soon as possible, preferably within the next 12 months.

Reclamation Coordination and Oversight Group Action Plan for Endangered Capabilities

Analyses of Hydraulic Transients in Power System Waterways
December 2010

Purpose

This Action Plan will create a business case to address endangered capabilities identified as a result of the September 2010 data call and the associated Technical Capability Report (Report) (appendix B), including a recommended preferred approach. The effort will include the formation of a small team to complete the Action Plan. The team will include a Coordination and Oversight (COG) member, a subject matter expert, and management representative identified by the service provider with the endangered capability.

Elements of the Action Plan

1. Endangered Capability and Organization Code: Analyses of Hydraulic Transients in Power System Waterways, Technical Service Center (TSC) Mechanical Equipment Group (86-68410) and TSC Hydraulic Equipment Group (86-68420)

Action Plan Team Response

Currently, the expertise lies in two senior engineers, one in each group (86-68410 and 86-68420). Both engineers are eligible to retire, with one engineer (the engineer who performs most of the analyses) receiving a retirement incentive.

2. Action Plan Team

- Team lead (COG member): Mark Boyle

- Team members/subject matter experts (including management from the subject capability): Dan Drake, Manager, Hydraulic Equipment Group, and Dave Hulse, Acting Chief, Infrastructure Services Division, TSC

- Scope: Perform the analysis in this Action Plan necessary to propose a solution to address the endangered capability.

3. Discussion: Is the Endangered Capability a Capability Required by Reclamation?

Considerations

The Report states that (page 3) "… the COG focused on "critical" capabilities where Reclamation must have in-house capability to accomplish its mission and/or remain a "smart buyer" when procuring technical resources." The Report goes on to say that updates to the capability listing will be made to reflect the changing needs of the organization. The intent of this element in the Action Plan is to discuss the subject endangered capability to confirm the mission criticality of the capability. The discussion should include coordination with regional service providers (as appropriate) to confirm the distribution of the capability throughout the organization.

Action Plan Team Response

The capability to perform hydraulic transient analyses in power system waterways is a critical capability that needs to be maintained within Reclamation. These analyses are required whenever operating conditions change, such as when turbine runners are replaced or generators are uprated. Designs of new powerplants also require these analyses. These analyses are used to design turbine and pump casings and penstocks, as well as set turbine wicket gate timing to control waterhammer pressures. If the timing is set too fast, the penstock could rupture, endangering life. As the owner and operator of 58 hydroelectric facilities, many of which are part of critical power systems, the Bureau of Reclamation (Reclamation) clearly has a need for the capability of understanding and performing hydraulic transient analyses, and the continued maintenance of the capability is critical to the mission of the agency.

4. Clients of the Endangered Capability

Considerations

The business case made by this Action Plan should include a listing of the clients of the endangered capability. Are there clients from organizations outside of Reclamation? If so, what proportion of the total workload for the endangered capability is associated with these external clients?

Action Plan Team Response

Clients of this capability are the facility managers at the powerplants, pumping plants, and power offices throughout Reclamation.

5. Contracting of the Endangered Capability?

Considerations

Discuss the proportion of the total workload for the endangered capability that is being contracted to resources outside of Reclamation. Sources to determine the

amount of contracting can be the Reclamation Design and Construction Coordination Team or procurement database queries. In some cases, the Action Plan team members may be aware of the complete contracting environment without any additional research.

Action Plan Team Response

Currently, there is no contracting out of design and analysis of hydraulic transients in power system waterways within Reclamation. Because of the critical nature of these analyses and the potential danger to the public if the analyses are not performed correctly, the team feels it is unwise to hire an outside entity to perform this work. Over the years, Reclamation has developed computer models of many of Reclamation's facilities, which can be updated and reused. These models are in the format of our current software, "Waterhammer and Mass Oscillation" (WHAMO). There may be consulting engineers, the U.S. Army Corps of Engineers Hydro Design Center, and turbine manufacturers who could perform these analyses, but without the continuity of our existing models.

6. Is the Endangered Capability a Short-Term or Long-Term Need?

Considerations

Short term could be considered 4 years or less.

Action Plan Team Response

Reclamation will require this capability in the long term as long as it owns and operates powerplants.

7. Results of Short-Term and Long-Term Workload and Staffing Projections

Considerations

The Report includes staffing levels for the capabilities and the assessment of the sustainability of that capability by the appropriate manager. This element of the Action Plan will update that analysis with the results of specific short- and long-term workload and staffing projections with a reconsideration of the sustainability assessment.

Action Plan Team Response

Within the last several years, a succession plan has been implemented in the Hydraulic Equipment Group (86-68420) to ensure that this capability continues. The current, heavy workload makes finding time to train entry and mid-level employees in this activity very difficult. This work is currently performed by one GS-14 technical specialist, who spends approximately 5 to 10 percent of his time performing this work on an annual basis.

8. Strategies Considered to Maintain the Capability

Considerations

Feasible alternatives should be developed to consider solutions to address the endangered capability. The alternatives should include pros, cons, and the risks associated. The position of the affected parties should be discussed, including the service provider upper management and the clients of the capability.

Action Plan Team Response

As mentioned above, the current, heavy workload is impacting the ability to find time for in-house training. The computer program used to perform these analyses, WHAMO, was developed jointly by the U.S. Army Corps of Engineers and Reclamation in the 1970s and updated in the 1990s. This program is not particularly user friendly. A survey of available hydraulic transient analysis software could be performed, with the assumption that the vendors offer training in the use of their product. This would allow less experienced engineers to use the software, but with limited understanding of the underlying physics.

9. Proposed Recommendation

Considerations

A preferred alternative should be recommended with timeframes for implementation.

Action Plan Team Response

Perform a survey of available hydraulic transient analysis software, buy the software in the near future, and train at least one entry level and one journeyman engineer in the software. Begin using the software while the experienced engineer can help add insight to the results of the analyses. Use the new software to repeat analyses performed using WHAMO and compare results to ensure that the new software has the necessary capabilities and is being used correctly. This should be accomplished in the next 1 to 2 years. TSC Hydraulic Equipment Group, 86-68420, will seek funding to begin this survey and procurement this year (fiscal year 2011).

Appendix D

FY 2010 COG Activities

Appendix D

FY 2010 COG Activities

COG Membership and Meetings

The Coordination and Oversight Group (COG) consists of eight members, including a chairman. The COG membership is intended to represent the diversity of Reclamation interests, roles, and responsibilities, which can include, but is not limited to, Regional Directors, Area Managers, Program Leads, Project Management Leads, Assistant/Deputy Directors, and leaders in technical fields such as design, construction, environmental compliance, planning, and geology. Each of the five Regional Directors; the Director, Technical Resources; the Deputy Commissioner, Policy, Administration and Budget (DC-PAB); and the Deputy Commissioner of Operations (DCO) has one member and one alternate. The member appointed by the DCO is a permanent member of the COG, whereas the other members serve on a rotational basis and as a collateral duty. The commitment for serving as a COG member is generally expected to cover 2 years, and as much as 3 years, to allow for continuity and transfer of knowledge.

The COG held six meetings in fiscal year (FY) 2010, usually about every 2 months. Due to the significant effort associated with initial development of business practices/processes and implementation activities, both primary and alternate COG members were asked to attend the meetings in FY 2010. After finalizing the FY 2010 Annual Report, the COG plans to require only primary member attendance at the meetings. Four of the six FY 2010 meetings were held in Denver; one was held in Albuquerque, New Mexico, following the Reclamation Manager's Conference; and one was held in the Phoenix Area Office. The current COG membership is shown in table D-1.

Table D-1. FY 2010 COG Membership

Region/Office	Primary	Alternate
DC-PAB	Karl Stock	John Baals
Technical Service Center (TSC)	Karen Knight	Mark Boyle
Great Plains (GP)	James Allard	Roxanne Peterson
Upper Colorado (UC)	Rick Scott	Rick Ehat
Pacific Northwest (PN)	Jennifer Beardsley	Bryan Horsburgh
Mid-Pacific (MP)	Richard Welsh	David Gore
Lower Colorado (LC)	Richard Dent	Scott Tincher
DCO	Barbara Schuelke	

Changes to the COG team since its October 2008 inception include:

- Fred Ore (chair) retired; Rick Ehat appointed chair (April 2009).

- Chris Jansen-Lute (PN primary) retired. Mike Relf moved to primary from alternate; Bryan Horsburgh appointed as alternate (April 2009).

- Pablo Arroyave (MP primary) replaced by David Gore (October 2009).

- Barbara Schuelke became the DCO COG member in February 2010.

- Bruce Muller (PAB primary) moved to Deputy Chief Information Officer (CIO). Karl Stock named PAB primary (April 2010). John Baals named PAB alternate (April 2010).

- Jennifer Beardsley (PN) replaced Mike Relf (September 2010).

- Richard Dent replaced Ed Virden as LC primary. Scott Tincher appointed LC alternate. (October 29, 2010).

- Bill McDonald served as the Executive Sponsor until his retirement on September 30, 2010. Bob Quint, Acting DCO, was Executive Sponsor until David Murillo was named the DCO, effective November 22, 2010.

FY 2010 Outreach activities/briefings:

- October 20, 2009 – Rick Ehat, COG chairman, made a presentation to the Reclamation Leadership Team (RLT)/Area Managers on the Business Model and Technical Services. (Karl Wirkus, then the Deputy Commissioner, Operations, and Bill McDonald, then the COG Executive Sponsor, also participated.)

- October 21, 2009 – COG panel presentation on Implementation of the Business Model at the Reclamation Manager's Conference in Albuquerque, New Mexico.

- February 18, 2010 – Rick Ehat, COG chairman, and Roxanne Peterson, Electronic Service Agreeement Model (ESAM) subteam lead, made a presentation at the Finance and Budget Officers Conference in Denver to provide an update and information on the ESAM.

- April 9, 2010 – Memorandum from Rick Ehat, COG chairman, to Reclamation group/team chairpersons and to the budget, finance, and human resources communities to follow up on whether there is overlap between any of their team/group efforts and the COG's activities.

- April 20-21, 2010 – A meeting was held in Denver as a followup to the February 18 presentation. The purpose of the meeting was to focus on clarifying the ESAM requirements and how it relates to other budget, finance, and human resources systems. Participants included representatives from Information Technology (IT), ESAM subteam, and points of contact for human resources, budget, and finance communities.

- April 23, 2010 – Barbara Schuelke, Special Assistant to Operations, electronically transmitted Advance Planning worksheets for FY 2011 and FY 2012 to Service Provider Organizations (SPO) with a copy to the RLT. The purpose of these worksheets is to assist the SPOs with workload planning.

- April 27, 2010 – Established standing ESAM status calls on the fourth Tuesday of each month. The purpose is to inform leadership of the ESAM status and of any issues. Invited participants include the DCO, the COG Executive Sponsor, the CIO and Deputy CIO, the ESAM Project Manager, the COG chairman, the COG ESAM subteam lead, Special Assistant to Operations, and representatives from the TSC.

- August 12, 2010 – Barbara Schuelke, Special Assistant to Operations, provided a presentation on COG activities to the Reclamation Facilities Operation and Maintenance Team.

Web-based Work - On July 21, 2010, the COG Business Practice Web site went live at www.usbr.gov/bp. The Web site currently includes background on the COG; its mission statement and charter; links to the Policy and Directives and Standards, and Frequently Asked Questions; the Technical Capability Report; COG member contact information; and a case study. New documents will be posted as they become available, and the COG expects to update the Web site at least twice per year.

Appendix E

Cost-Effective and Quality Services

Appendix E

Cost-Effective and Quality Services

Tables E-1 and E-2 were developed to give a general overview of the magnitude of service agreements (SA) by Service Provider Organization (SPOs). Table E-1 provides data related to the number of SAs, whereas table E-2 provides data related to the dollar value of the SAs. Figure E-1 displays the percentage of SAs completed within the agreed upon schedule and budget. The Technical Service Center (TSC) is Reclamation's largest SPO, with the largest number and dollar value of SAs; therefore, their data heavily influences the overall results.

As indicated in table E-1, there were few completion reports in fiscal year (FY) 2010. The customer feedback data submitted by the Mid-Pacific Construction Office (MPCO) and the Provo Area Office (Provo) was favorable; however, these were the only two SPOs that collected this data in FY 2010. Although these data are included in appendix E for reference, the Coordination and Oversight Group (COG) decided there was insufficient data to analyze.

Table E-1. Measure Cost Effectiveness and Quality of Services (Numerical Data)

SPO	Total No. of SAs in FY 2010	% of Total SAs	Total No. of SAs Completed in FY 2010	Total No. of SAs Completed Within Completion Date	Total No. of SAs Completed Within Budget	No. of SAs With Completion Reports
PN-RTTS	48	2.0%	6	5	6	0
GP Region	53	2.2%	32	32	32	0
MP Region (200, 700, 157)	55	2.3%	16	16	16	0
MPCO	65	2.7%	6	6	6	5
Provo	27	1.1%	7	7	7	0
FCCO	92	3.8%	92	92	80	0
UC Region	1	0.0%	1	0	0	1
LC ESO	75	3.1%	28	24	23	20
TSC	1,976	82.6%	1,029	966	990	0
Total	2,392	100%	1,217	1,148	1,160	26

Note: PN-RTTS = Pacific Northwest Region Resource and Technical Services, GP = Great Plains, FCCO = Four Corners Construction Office, UC = Upper Colorado, LC ESO = Lower Colorado Regional Office Engineering Services Office

Table E-2. Measure Cost Effectiveness and Quality of Services (Dollar Data)

SPO	Total Value of SAs ($)	Value of SAs Completed by Completion Date ($)	Value of SAs Completed Within Budget ($)
PN-RTTS	168,028	159,861	168,028
GP Region	2,519,101	2,519,101	2,519,101
MP Region (200, 700, 157)	1,683,682	1,683,682	1,683,682
MPCO	66,500	66,500	66,500
Provo	145,600	145,600	145,600
FCCO	8,649,000	8,621,630	8,621,630
UC Region	65,220	-	-
LC ESO	1,964,746	1,682,935	1,612,935
TSC	49,430,046	47,065,579	48,061,448
Total	64,691,923	61,944,888	62,878,924

The following figures display the data collected from the SPOs for percentage of utilization. Six of the nine SPOs provide only technical services (i.e., no program assistance work such as land resource management, examination of existing structures, etc.). The remaining three of the nine SPOs provide both technical service work under SAs and program work (without SAs). All nine SPOs may have some percentage utilization on overhead accounts.

Figures E-2 through E-7 present the percentage of time billable for the six SPOs that provide only technical services. The data is presented for the SPO as a whole, as well as by the work groups within the organization. In general, the data indicates high utilization rates for the majority of the SPOs.

The TSC does not receive any program funding, and therefore does no program work. All work in the TSC is either a Service Agreement or Overhead.

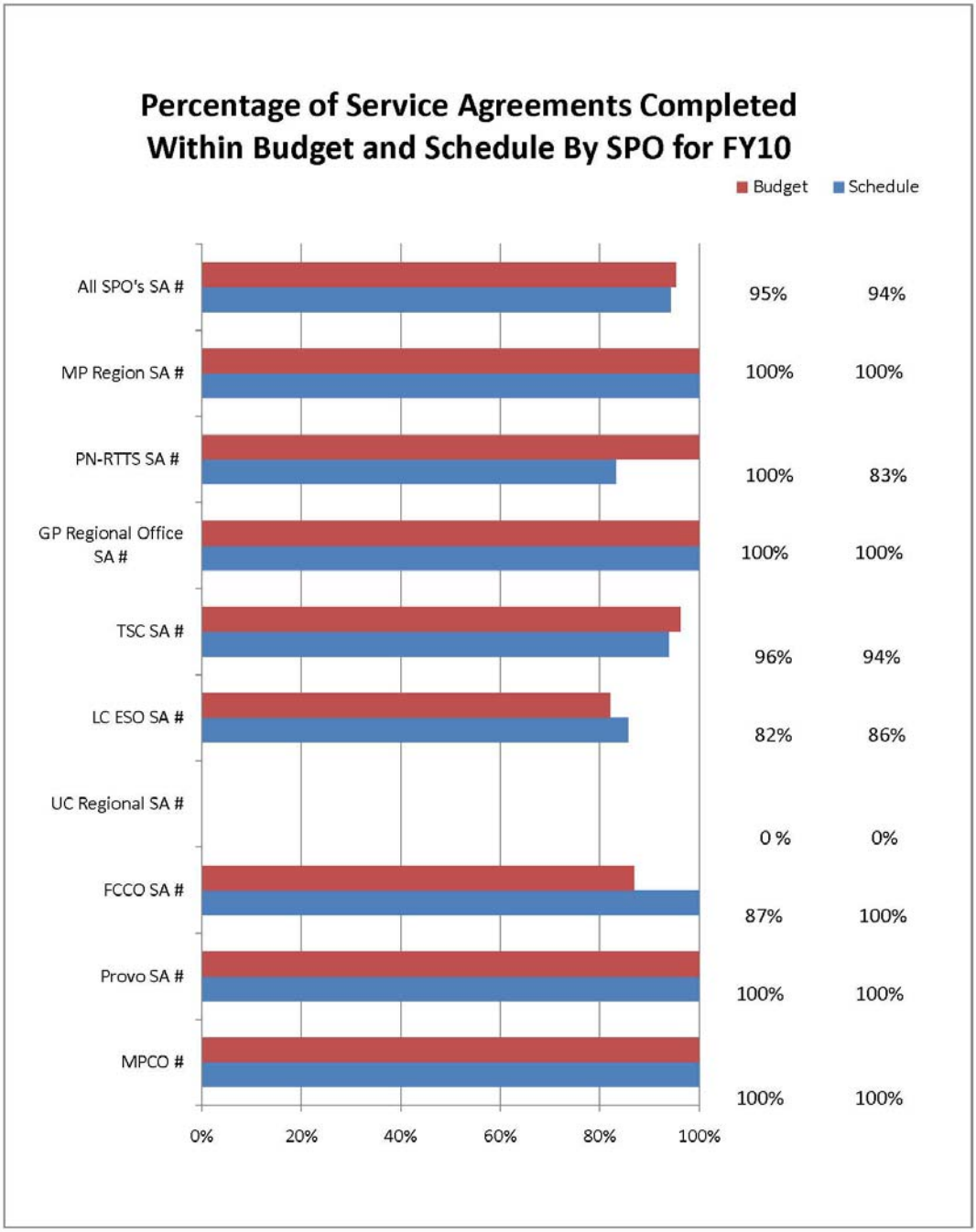

Figure E-1. Percentage of SAs completed within budget and schedule by SPO for FY 2010.

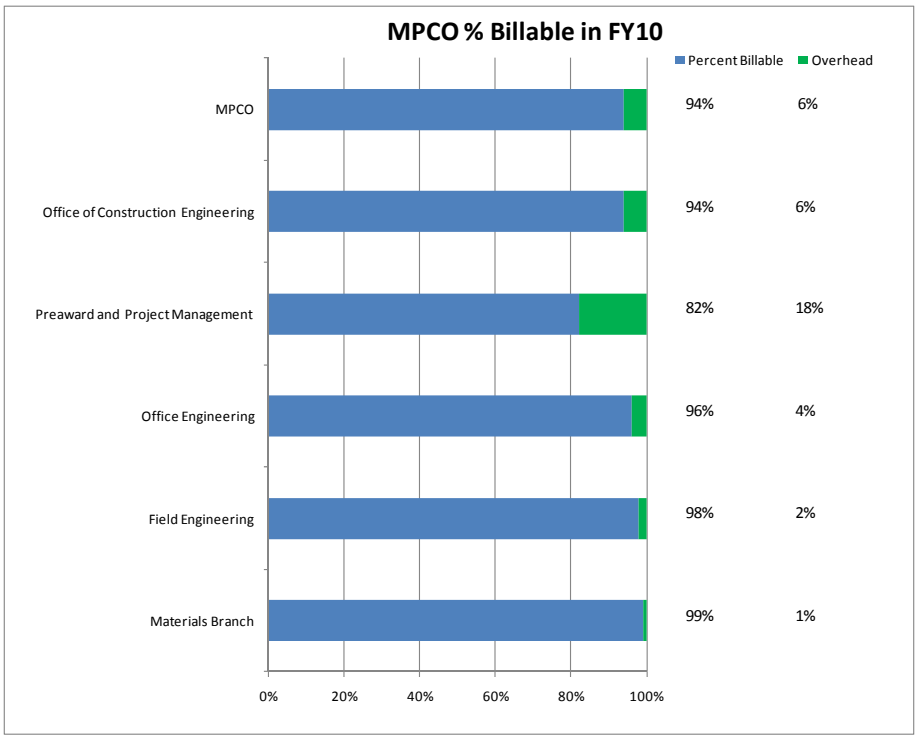

Figure E-2. Time billable in FY 2010 for MPCO.

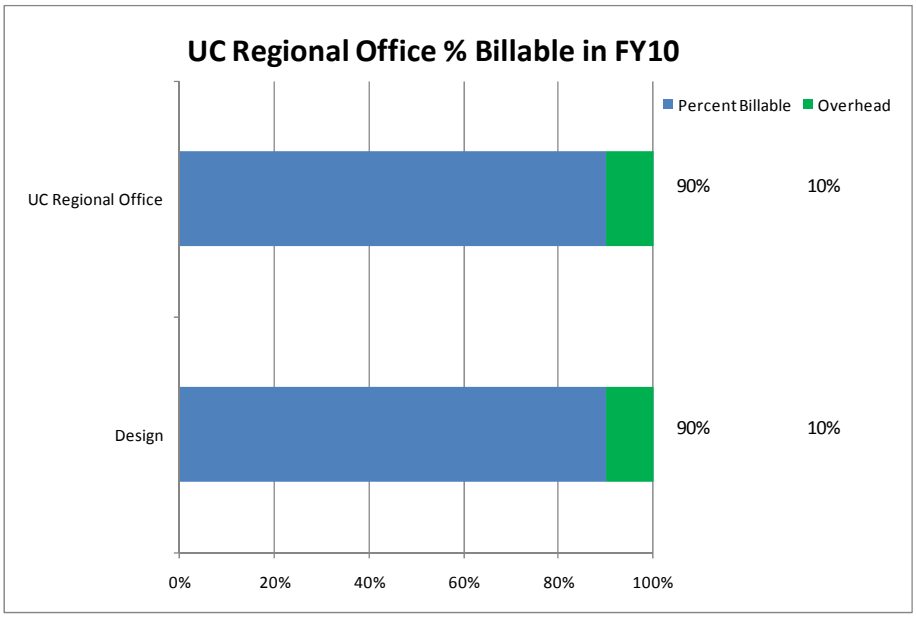

Figure E-3. Time billable in 2010 for UC Regional Office.

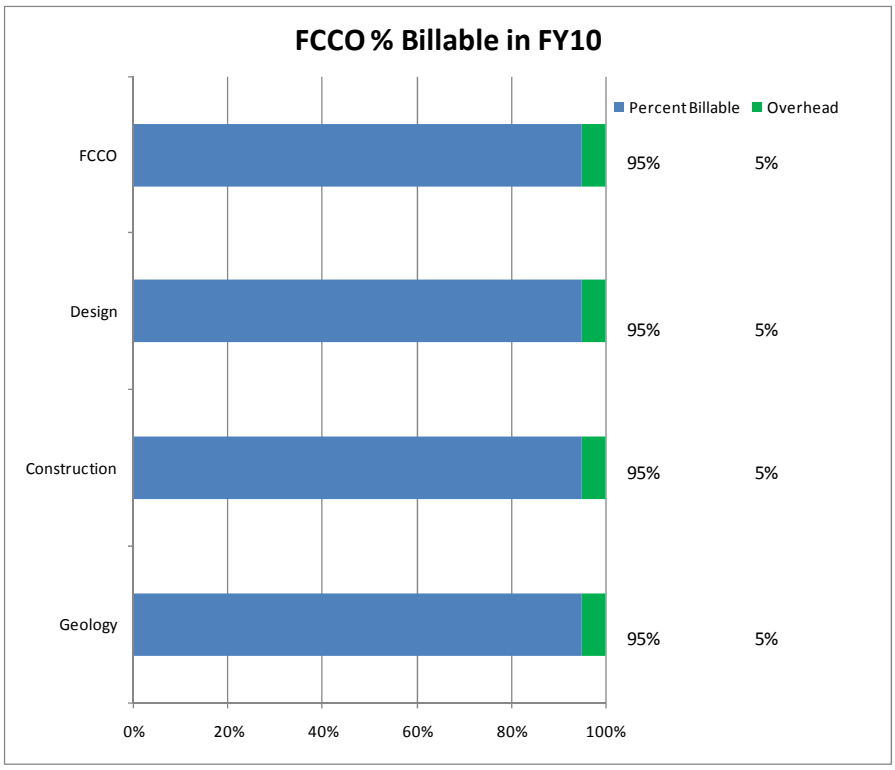

Figure E-4. Time billable in FY 2010 for the FCCO.

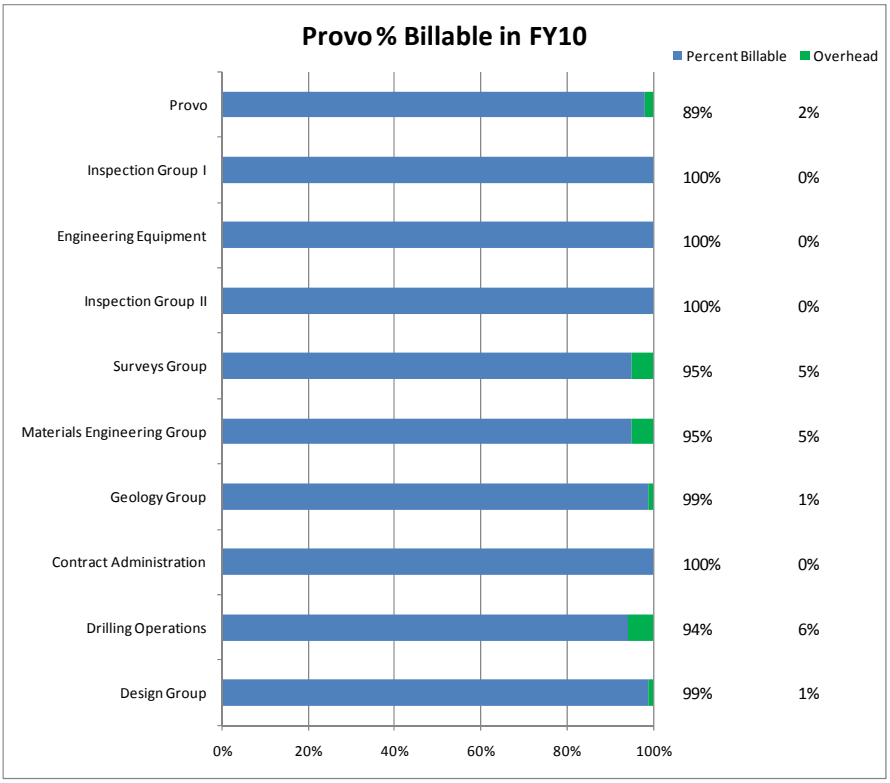

Figure E-5. Time billable in FY 2010 for Provo.

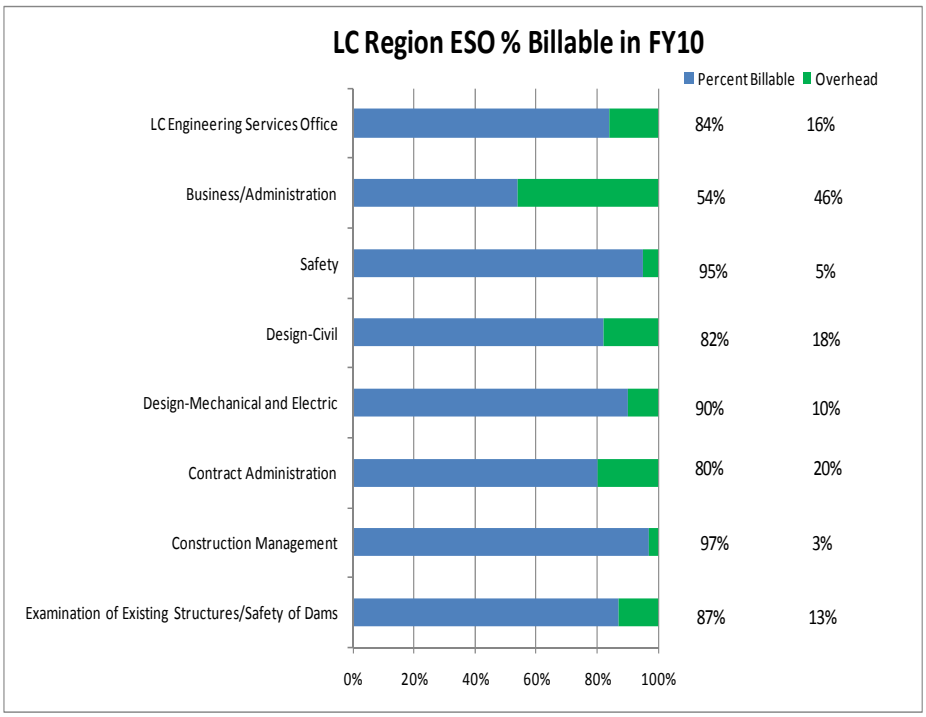

Figure E-6. Time billable in FY 2010 for LC ESO.

Figures E-8 through E-10 present the percentage of utilization for the three SPOs that provide technical services and program services. The SPOs indicated that there are some instances where technical work was performed without a service agreement in FY 2010. Therefore, the program work may be somewhat overstated and the technical work somewhat understated. The COG believes that as the SPOs become more accustomed to the business model and the Electronic Service Agreement Model (ESAM) is operational, these instances will be reduced. Until the ESAM is operational, the program work is not a direct measure of dollars spent or percentage utilization. The data is presented for the SPO as a whole, as well as by the work groups within the organization.

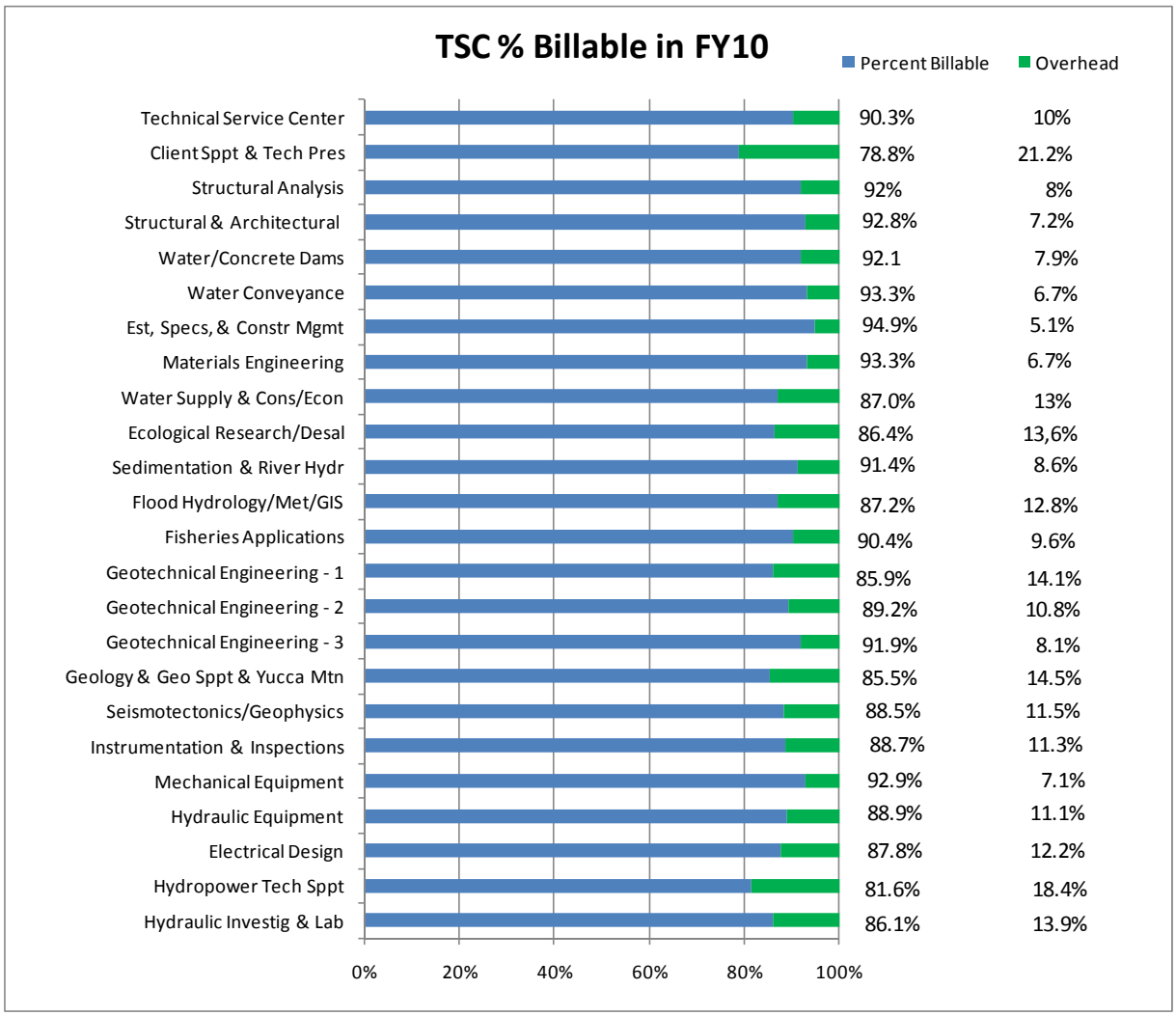

Figure E-7. Billable time for FY 2010 for TSC.

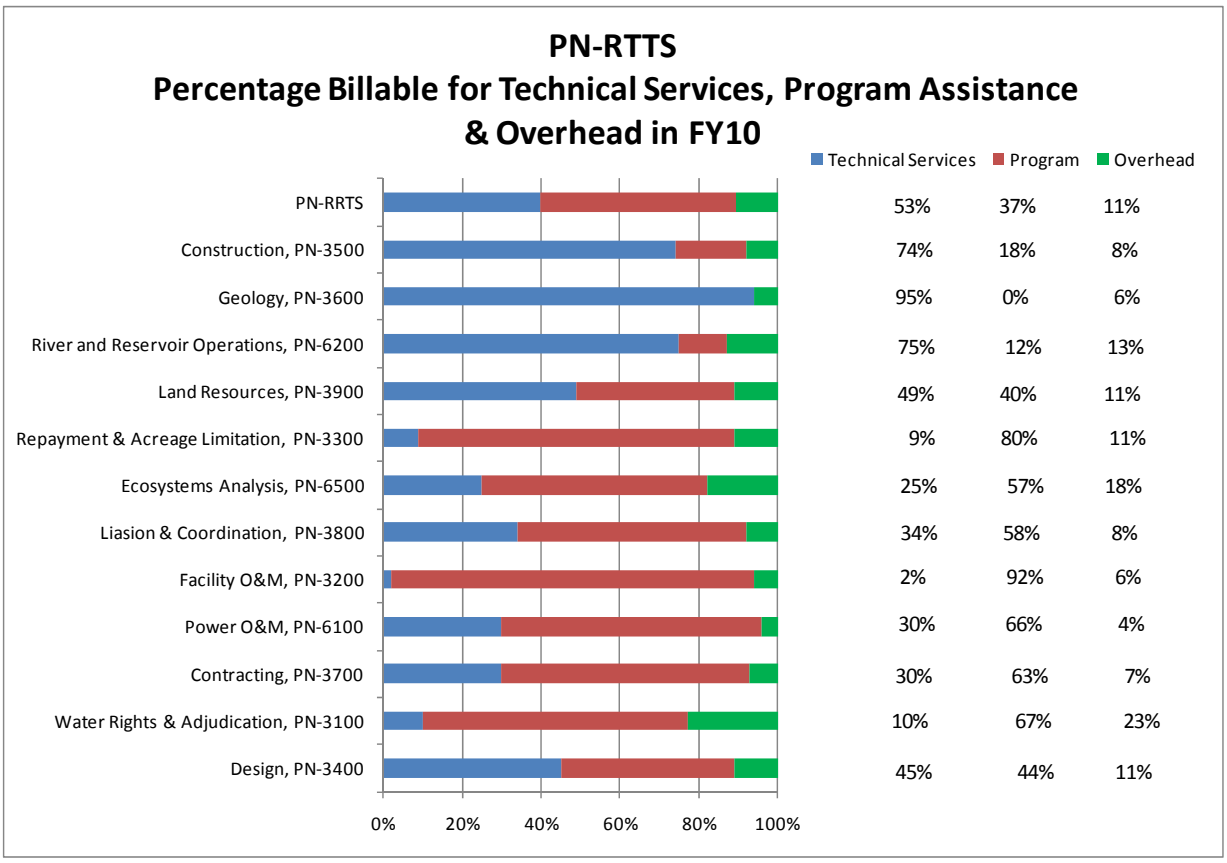

Figure E-8. Billable time in FY 2010 for PN-RTTS.

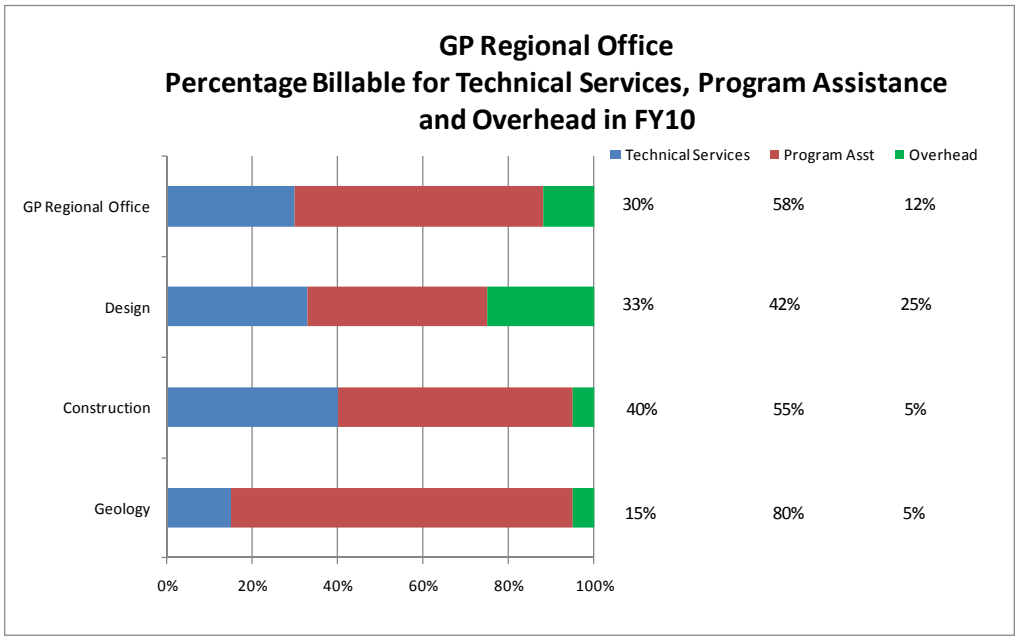

Figure E-9. Time billable in FY 2010 for GP Regional Office.

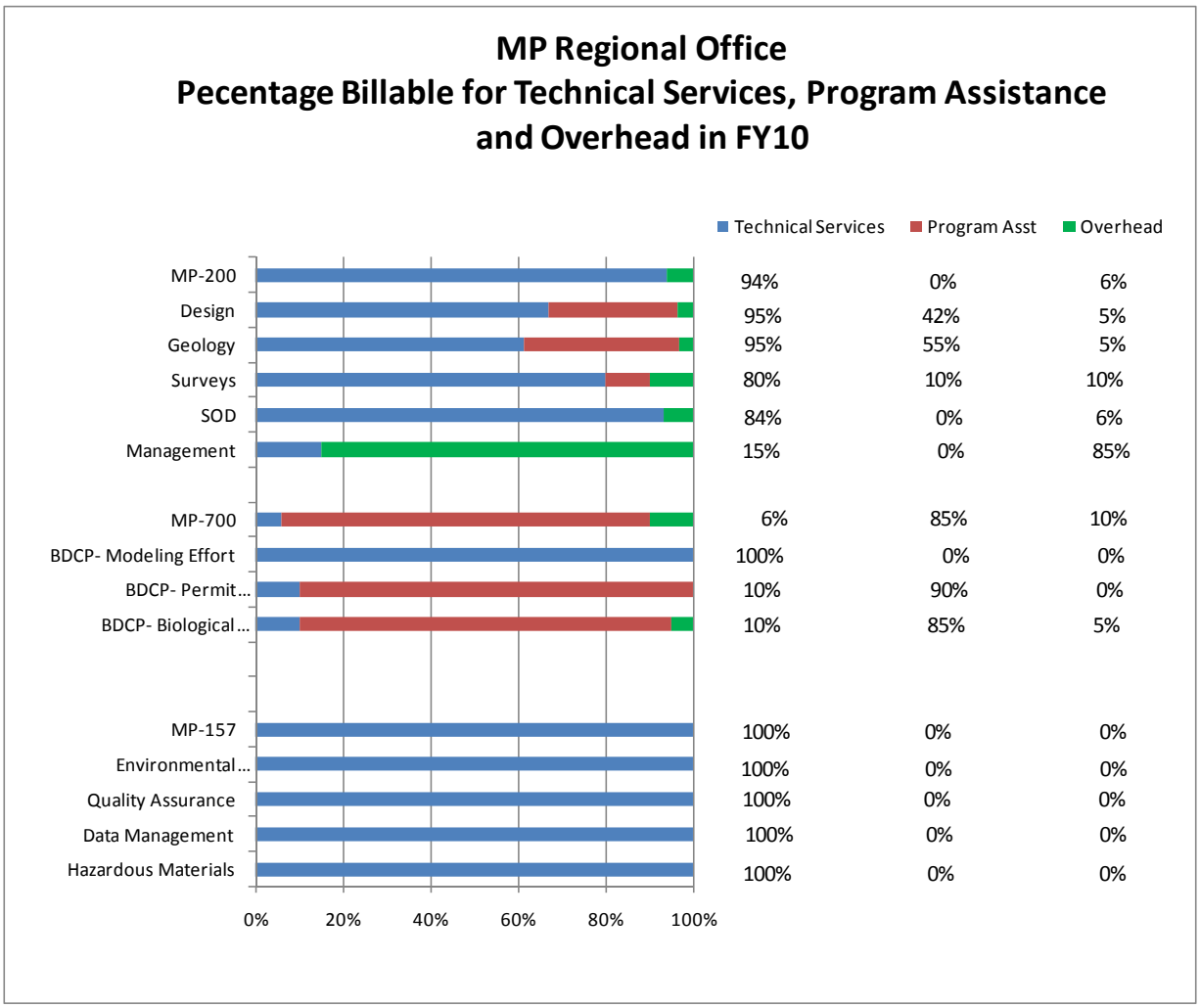

Figure E-10. Time billable in FY 2010 for MP Regional Office.

Appendix F

FY 2010 Data – Cost-Effective and Quality Services and Customer Feedback

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Product Delivery (Sum of all Reclamation SPOs)

SOP	Data Requested for FY 2010	***Data Reported***	Results Reported
II.A	Total Number of Service Agreements in FY 2010	***2,392***	
II.A	Total Number of Service Agreements Completed in FY 2010	***1,217***	
II.A	Total $ Value of Service Agreements Completed in FY 2010	***$64,691,923***	
II.A.1	Total number of Service Agreements completed by the agreed upon final completion date	***1,148***	
	Calculation		94.3%
II.A.2	Total number of Service Agreements completed within the agreed upon budget	***1,160***	
	Calculation		95.3%
II.A.3	Dollar value of Service Agreements completed by the agreed upon final completion date	***$61,944,888***	
	Calculation		95.8%
II.A.4	Dollar value of Service Agreements completed within the agreed upon budget	***$62,878,924***	
	Calculation		97.2%
II.A.5	Number of Service Agreements with Completion Reports	***26***	
	Calculation		2.1%

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Product Delivery (GP Regional Office Data)

SOP	Data Requested for FY 2010	***Data Reported***	Results Reported
II.A	Total Number of Service Agreements in FY 2010	***53***	
II.A	Total Number of Service Agreements Completed in FY 2010	***32***	
II.A	Total $ Value of Service Agreements Completed in FY 2010	***$2,519,101***	
II.A.1	Total number of Service Agreements completed by the agreed upon final completion date	***32***	
	Calculation		100.0%
II.A.2	Total number of Service Agreements completed within the agreed upon budget	***32***	
	Calculation		100.0%
II.A.3	Dollar value of Service Agreements completed by the agreed upon final completion date	***$2,519,101***	
	Calculation		100.0%
II.A.4	Dollar value of Service Agreements completed within the agreed upon budget	***$2,519,101***	
	Calculation		100.0%
II.A.5	Number of Service Agreements with Completion Reports	***0***	
	Calculation		0.0%

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Percent Utilization

SOPs II.C.1 II.C.2 II.C.3	Name	Category	Objective measure of time spent working under service agreements in %	Objective measure of time working on small projects (<$10,000) in %	Objective measure of time worked on overhead (K-accounts) in %
	GP Regional Office	By your Service Provider Organization (SPO)	***30***	***?***	***12***
		By each working group within your SPO? (Insert working groups and respective percentages. Add rows as needed.)			
	Design		***33***	***?***	***25***
	Construction		***40***	***0***	***5***
	Geology		***15***	***0***	***5***
		By positions/individuals within your SPO? (Insert positions/names (optional) and respective percentages. Add rows as needed.)			
			?	***?***	***?***
	No data provided		***?***	***?***	***?***

This section is intended to measure Customer Satisfaction with the overall project

SOP II.B

Service Provider Organization (SPO) Code List (used for sorting/reporting by SPO)

Technical Service Center =	TSC	
PN Regional Office =	PN	
GP Regional Office =	GP	No completion report data for GP Region in FY2010
MP Regional Office =	MP	
LC Regional Office =	LC	
UC Regional Office =	UC	
Provo Area Office =	PRO	
Four Corners Construction Office =	FCCO	
Mid-Pacific Construction Office =	MPCO	
Drill Crew =	DC	
Outsourced Contractor =	OC	

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Product Delivery (PN-RTTS)

SOP	Data Requested for FY 2010	***Data Reported***	Results Reported
II.A	Total Number of Service Agreements in FY 2010	***48***	
II.A	Total Number of Service Agreements Completed in FY 2010	***6***	
II.A	Total $ Value of Service Agreements Completed in FY 2010	***$168,028***	
II.A.1	Total number of Service Agreements completed by the agreed upon final completion date	***5***	
	Calculation		83.3%
II.A.2	Total number of Service Agreements completed within the agreed upon budget	***6***	
	Calculation		100.0%
II.A.3	Dollar value of Service Agreements completed by the agreed upon final completion date	***$159,861***	
	Calculation		95.1%
II.A.4	Dollar value of Service Agreements completed within the agreed upon budget	***$168,028***	
	Calculation		100.0%
II.A.5	Number of Service Agreements with Completion Reports	***0***	
	Calculation		0.0%

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Percent Utilization

SOPs II.C.1 II.C.2 II.C.3 Name	Category	Objective measure of time spent working under service agreements in %	Objective measure of time working on small projects (<$10,000) in %	Objective measure of time worked on overhead (K-accounts) in %
PN-RRTS	By your Service Provider Organization (SPO)	***22%***	***17%***	***11%***
	By each working group within your SPO? (Insert working groups and respective percentages. Add rows as needed.)			
Construction, PN-3500		***66%***	***8%***	***8%***
Geology, PN-3600		***66%***	***28%***	***6%***
River and Reservoir Operations, PN-6200		***74%***	***1%***	***13%***
Land Resources, PN-3900		***18%***	***31%***	***11%***
Repayment & Acreage Limitation, PN-3300		***0%***	***9%***	***11%***
Ecosystems Analysis, PN-6500		***0%***	***25%***	***18%***
Liasion & Coordination, PN-3800		***5%***	***29%***	***8%***
Facility O&M, PN-3200		***0%***	***2%***	***6%***
Power O&M, PN-6100		***0%***	***30%***	***4%***
Contracting, PN-3700		***0%***	***30%***	***7%***
Water Rights & Adjudication, PN-3100		***0%***	***10%***	***23%***
Design, PN-3400		***40%***	***5%***	***11%***
	By positions/individuals within your SPO? (Insert positions/names (optional) and respective percentages. Add rows as needed.)			
Facility O&M, PN-3200				
O&M Group Manager, GS-13		***0%***	***0%***	***12%***
SOD Program Manager, GS-13		***0%***	***6%***	***0%***
Civil Engineer, GS-12		***0%***	***0%***	***3%***
Civil Engineer, GS-12		***0%***	***0%***	***0%***
Civil Engineer, GS-12		***0%***	***0%***	***1%***
Civil Engineer, GS-9		***0%***	***9%***	***2%***
Mechanical Engineer, GS-9		***0%***	***2%***	***3%***
Editorial Assistant, GS-6		***0%***	***0%***	***20%***
Engineering Technician (Student), GS-4		***0%***	***3%***	***17%***

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

Repayment & Acreage Limitation, PN-3300			
Program Manager, GS-13	*0%*	*83%*	*7%*
Repayment Contracts Assistant, GS-5	*0%*	*22%*	*78%*
Economist, GS-12	*0%*	*99%*	*< 1%*
Economist, GS-12	*0%*	*99%*	*< 1%*
Economist, GS-12	*0%*	*98%*	*2%*
Regional Acreage Limitation Coordinator, GS-12	*0%*	*99%*	*< 1%*
Compliance Specialist, GS-12	*0%*	*99%*	*< 1%*
Compliance Specialist, GS-12	*0%*	*99%*	*< 1%*
Land Resources, PN-3900			
Program Manager, GS-13	0%	0%	39%
GIS Program Manager, GS-13	0%	15%	20%
GIS Specialist, GS -13	0%	5%	0%
GIS Specialist, GS -12	90%	10%	0%
GIS Specialist, GS -12	2%	32%	0%
*Cartographic Technician, GS-7 ***	0%	82%	18%
Archeologist GS 12	0%	0%	0%
Realty Specilist GS 13	0%	0%	7%
Realty Specilist GS 12	0%	0%	6%
Realty Specialist GS 12	0%	0%	9%
Outdoor Recreation GS 12	0%	0%	0%
Outdoor Recreation GS 11	0%	0%	3%
Water Rights & Adjudication, PN-3100			
Program Manager, GS-13	0%	*100%*	*40%*
Paralegal Specialist, GS-12	0%	*100%*	*20%*
Water Rights Analyst, GS-13	0%	*100%*	*10%*
Ecosystems Analysis, PN-6500			
Program Manager, GS-13	0%	5%	44%
Fish Biologist , GS-13	0%	76%	0%
Biologist, GS-12	0%	40%	8%
Fish Biologist, GS-12/13	0%	46%	4%
Fish Biologist, GS-12	0%	23%	1%
Environmental Specialist - NEPA, GS-12	0%	19%	0%
Natural Resource Specialist, GS-11/12	0%	47%	21%

Secretary, GS-06	0%	2%	98%
Chemist, GS-12	0%	23%	2%
Chemist, GS-11	0%	21%	2%
Chemist, GS-7/9/11	0%	23%	7%
Physical Science Tech, GS-04	0%	28%	1%
Physical Science Tech, GS-04	0%	19%	2%
Physical Science Tech, GS-04	0%	27%	2%
Physical Science Tech, GS-04	0%	20%	1%
Physical Science Tech, GS-03	0%	28%	1%
Construction, PN-3500			
Safety Officer	*94%*	10%	6%
Field Engineer	*93%*	15%	7%
Construction Inspector	*100%*	5%	0%
Civil Engineering Technician	*100%*	5%	0%
Program Manager, GS-14	*96%*	5%	4%
Construcation Representative	*100%*	5%	0%
Construction Inspector	*100%*	15%	0%
Civil Engineer	*94%*	5%	6%
Lead Construction Rep.	*93%*	15%	7%
Civil Engineering Technician	*99%*	10%	1%
Engineering Aid	*100%*	5%	0%
Administrative Assistant	*0%*	5%	18%
Civil Engineer	*99%*	15%	1%
Supervisory Electrical Engineer	*100%*	5%	0%
Civil Engineering Technician	*99%*	10%	1%
Electrical Engineer	*82%*	30%	18%
Civil Engineering Technician	*100%*	5%	0%
Construction Inspector	*98%*	2%	2%
Construction Control Rep	*98%*	2%	2%
Construction Inspector	*99%*	15%	1%

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

River and Reservoir Operations, PN-6200			
Program Manager, GS-0810-14	*0%*	*2%*	*20%*
Supervisory Civil Engineer GS-0810-13	*0%*	*0%*	*5%*
Supervisory Civil Engineer (Hydro) GS-0810-13	*0%*	*0%*	*32%*
Information Tech Specialist GS-2210-12	*0%*	*0%*	*1%*
Geologist GS-0810-12	*0%*	*0%*	*4%*
Civil Engineer (Hydro) GS-0812-12	*0%*	*20%*	*2%*
Civil Engineer (Hydro) GS-1350-12	*0%*	*0%*	*3%*
Information Tech Specialist GS-2210-12	*0%*	*0%*	*2%*
Hydrologist GS-1315-12	*0%*	*3%*	*5%*
Hydrologist GS-1315-12	*0%*	*0%*	*2%*
Civil Engineer (Hydro) GS-0810-12	*0%*	*0%*	*12%*
Civil Engineer (Hydro) GS-0810-12	*0%*	*0%*	*1%*
Civil Engineer (Hydro) GS-0810-11	*0%*	*0%*	*27%*
Electronics Technician GS-0856-11	*0%*	*0%*	*1%*
Student Trainee (CE) GS-0899-07	*0%*	*0%*	*1%*
Secretary (Ofc Automation) GS-0318-05	*0%*	*0%*	*100%*
Hydrologic Technician GS-1316-03	*0%*	*0%*	*1%*
Design, PN-3400			
Program Manager, GS-13	*40%*	*20%*	*32%*
Supv. Civil Engineer, GS-13	*40%*	*20%*	*32%*
Supv. Civil Engineer, GS-13	*0%*	*80%*	*21%*
Civil Engineer, GS-12	*60%*	*5%*	*3%*
Civil Engineer, GS-12	*30%*	*20%*	*2%*
Civil Engineer, GS-12	*40%*	*10%*	*5%*
Civil Engineer, GS-11	*10%*	*5%*	*9%*
Civil Engineer, GS-12	*30%*	*5%*	*3%*
Civil Engineer, GS-12	*40%*	*0%*	*4%*
Civil Engineer, GS-09	*30%*	*10%*	*6%*
General Engineer, GS-12	*80%*	*5%*	*3%*
Mechanical Engineer, GS-12	*75%*	*5%*	*1%*
Engineering Technician, GS-8	40%	15%	8%
Engineering Technician, GS-5	40%	5%	7%

Engineering Technician (student), GS-5	40%	5%	6%
Engineering Technician, GS-9	40%	15%	16%
Engineering Technician, GS-11	40%	5%	3%
Engineering Technician (student), GS-7	40%	15%	5%
Technical Writer (engineering) GS-9	40%	5%	23%
IT Specialist GS-11	25%	5%	54%
Office Automation Clerk GS-4	40%	20%	7%
Liasion & Coordination, PN-3800			
Program Manager, GS-13	5%	0%	5%
Resource Mgmt Coordinator & Activity Manager, GS-13	0%	0%	0%
Activity Manager, GS-12	0%	0%	6%
Activity Manager, GS-12	0%	0%	0%
Activity Manager, GS-12	57%	0%	7%
Activity Manager, GS-12	2%	20%	0%
Activity Manager, GS-12	0%	0%	1%
Water Conservation Program Specialist, GS-12	4%	0%	1%
Supervisory Technical Writer, GS-13	0%	69%	31%
Technical Publisher Writer/Editor, GS-12	0%	6%	1%
Technical Publisher Writer/Editor, GS-11	0%	74%	6%
Technical Publisher Writer/Editor, GS-11	0%	68%	32%
Technical Publisher Writer/Editor, GS-11	0%	79%	21%
Technical Publisher Writer/Editor, GS-11	0%	86%	3%
Geology, PN-3600			
Program Manager, GS-13	15%	40%	45%
Activity Coordinator, GS-12	20%	80%	0%
Geologist, GS-12	65%	35%	0%
Geologist, GS-12	70%	30%	0%
Cartographic Technician, GS-8	70%	30%	2%
Geomorphologist, GS-13	77%	15%	8%
Geologist, GS-12	85%	15%	0%
Geologist, GS-12	70%	30%	1%
Geologist, GS -11	85%	15%	0%
Hydraulic Engineer, GS-13	85%	15%	6%
Drill Crew	100%	0%	0%

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

Power O & M, PN-6100			
O&M Group Manager, GS-14	*0%*	*100%*	*5%*
Supervisory General Engineer GS-13	*0%*	*80%*	*5%*
Electrical Engineer GS-12	*0%*	*50%*	*0%*
NERC/WECC Program Manager GS-13	*0%*	*50%*	*0%*
Electrical Engineer GS-9	*0%*	*50%*	*2%*
Civil Engineer GS-12	*0%*	*40%*	*11%*
Environmental Protection Specialist GS-12	*0%*	*50%*	*0%*
Electrical Engineer GS-12	*0%*	*70%*	*10%*
Electrical Engineer GS-12	*0%*	*70%*	*0%*
Editorial Assistant, GS-7	*0%*	*100%*	*9%*
Contracting, PN-3700			
Contracts Program Manager GS-14	*0%*	*100%*	*5%*
Supervisory Contract Specialist GS-13	*0%*	*100%*	*1%*
Contract Specialist GS-12	*0%*	*60%*	*1%*
Contract Specialist GS-12	*0%*	*60%*	*1%*
Contract Specialist GS-12	*0%*	*60%*	*5%*
Contract Specialist GS-12	*0%*	*60%*	*2%*
Contracts Specialist GS-11	*0%*	*60%*	*1%*
Financial Assistant Officer GS-12	*0%*	*70%*	*5%*
Procurement Analyst GS-11	*0%*	*90%*	*29%*
Purchasing Agent GS-07	*0%*	*90%*	*4%*
Purchasing Agent GS-07	*0%*	*90%*	*11%*
Procurement Technician GS-07	*0%*	*90%*	*1%*
Interagency Acquisition Technician GS-07	*0%*	*90%*	*27%*

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Customer Satisfaction with the overall project

SOP	**Service Provider Organization (SPO) Code List (used for sorting/reporting by SPO)**		
II.B	Technical Service Center =	TSC	
	PN Regional Office =	PN	**No completion reports were prepared in FY2010 for PN-RTTS**
	GP Regional Office =	GP	
	MP Regional Office =	MP	
	LC Regional Office =	LC	
	UC Regional Office =	UC	
	Provo Area Office =	PRO	
	Four Corners Construction Office =	FCCO	
	Mid-Pacific Construction Office =	MPCO	
	Drill Crew =	DC	
	Outsourced Contractor =	OC	

Mid-Pacific Region Division of Design and Construction (MP-200) FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Product Delivery (MP-200)

SOP	Data Requested for FY 2010	***Data Reported***	Results Reported
II.A	Total Number of Service Agreements in FY 2010	***52***	
II.A	*Total Number of Service Agreements Completed in FY 2010	***13***	
II.A	Total $ Value of Service Agreements Completed in FY 2010	***$963,682***	
II.A.1	Total number of Service Agreements completed by the agreed upon final completion date **Calculation**	***13***	100.0%
II.A.2	Total number of Service Agreements completed within the agreed upon budget **Calculation**	***13***	100.0%
II.A.3	Dollar value of Service Agreements completed by the agreed upon final completion date **Calculation**	***$963,682***	100.0%
II.A.4	Dollar value of Service Agreements completed within the agreed upon budget **Calculation**	***$963,682***	100.0%
II.A.5	**Number of Service Agreements with Completion Reports **Calculation**	***0***	0.0%

*FY11 completion due date; work ongoing.
**No Completion Reports requested in FY10.
***50% of time - large projects without Service Agreements (informal with FERs and/or Cost Authority #s).
****90% of time - large projects without Service Agreements.

MP-200 Division of Design and Construction

This section is intended to measure Percent Utilization (MP-200)

SOPs
II.C.1
II.C.2
II.C.3

Name	Category	Objective measure of time spent working under service agreements in %	Objective measure of time working on small projects (<$10,000) in %	Objective measure of time worked on overhead (K-accounts) in %
MP-200	By your Service Provider Organization (SPO)	******84***	***10***	***6***
	By each working group within your SPO? (Insert working groups and respective percentages. Add rows as needed.)			
Design		***90***	***5***	***5***
Geology		***90***	***5***	***5***
Surveys		***70***	***20***	***10***
SOD		***84***	***10***	***6***
Management		***10***	***5***	***85***
	By positions/individuals within your SPO? (Insert positions/names (optional) and respective percentages. Add rows as needed.)			
Regional Engineer		***10***	***5***	***85***
Senior Project Manager		***40***	***40***	***20***
Senior Project Manager (Environmental)		***100***	***0***	***0***
Chief Geologist		***70***	***10***	***20***
Senior Level Geologist		*******90***	***5***	***5***
Senior Level Geologist		*******90***	***5***	***5***
Senior Level Geologist		*******90***	***5***	***5***
Senior Level Geologist		*******90***	***5***	***5***
Journeyman Level Geologist		*******90***	***5***	***5***
Journeyman Level Geologist		*******90***	***5***	***5***
Journeyman Level Geologist		*******90***	***5***	***5***
Journeyman Level Geologist		*******90***	***5***	***5***
Journeyman Level Geologist		*******90***	***5***	***5***
Chief, Surveys and Mapping		***60***	***15***	***25***
Regional Surveyor		***70***	***20***	***10***
Senior Cartographic Technician		***80***	***15***	***5***
Junior Cartographic Technician		***80***	***15***	***5***

*FY11 completion due date; work ongoing.

**No Completion Reports requested in FY10.

***50% of time - large projects without Service Agreements (informal with FERs and/or Cost Authority #s).

****90% of time - large projects without Service Agreements.

14	*Engineering Branch Chief, GS-13*	*70*	*5*	*25*
	Civil Engineer PL, GS-12	*90*	*5*	*5*
	Civil Engineer PL, GS-12	*80*	*5*	*15*
	Electrical Engineer PL, GS-12	*90*	*5*	*5*
	Mechanical Engineer PL, GS-11	*90*	*5*	*5*
	Electrical Engineer PM, GS-12	*84*	*1*	*15*
	Civil Engineer, GS-11	*90*	*5*	*5*
	Civil Engineer, GS-11	*90*	*5*	*5*
	Civil Engineer, GS-11	*90*	*5*	*5*
	Civil Engineer, GS-11	*90*	*5*	*5*
	Civil Engineer, GS-11	*90*	*5*	*5*
	Mechanical Engineer, GS-11	*90*	*5*	*5*
	Mechanical Engineer, GS-9	*90*	*5*	*5*
	Civil Engineer, GS-7	*90*	*5*	*5*
	Secretary, GS-5	*5*	*5*	*90*
	Safety of Dams Chief	*75*	*5*	*20*
	Senior Safety of Dams Project Manager	*93*	*5*	*2*

This section is intended to measure Customer Satisfaction with the overall project

SOP II.B

Service Provider Organization (SPO) Code List (used for sorting/reporting by SPO)

Technical Service Center =	TSC	
PN Regional Office =	PN	
GP Regional Office =	GP	
MP Regional Office =	MP	No Completion Reports requested by MP-200 in FY10
LC Regional Office =	LC	
UC Regional Office =	UC	
Provo Area Office =	PRO	
Four Corners Construction Office =	FCCO	
Mid-Pacific Construction Office =	MPCO	
Drill Crew =	DC	
Outsourced Contractor =	OC	

*FY11 completion due date; work ongoing.

**No Completion Reports requested in FY10.

***50% of time - large projects without Service Agreements (informal with FERs and/or Cost Authority #s).

****90% of time - large projects without Service Agreements.

Mid-Pacific Region Division of Planning (MP-700) FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Product Delivery (MP-700)

SOP	Data Requested for FY 2010	***Data Reported***	Results Reported
II.A	Total Number of Service Agreements in FY 2010	***1***	
II.A	Total Number of Service Agreements Completed in FY 2010	***1***	
II.A	Total $ Value of Service Agreements Completed in FY 2010	***$350,000***	
II.A.1	Total number of Service Agreements completed by the agreed	***1***	
	Calculation		100.0%
II.A.2	Total number of Service Agreements completed within the	***1***	
	Calculation		100.0%
II.A.3	Dollar value of Service Agreements completed by the agreed	***$350,000***	
	Calculation		100.0%
II.A.4	Dollar value of Service Agreements completed within the agreed	***$350,000***	
	Calculation		100.0%
II.A.5	Number of Service Agreements with Completion Reports	***0***	
	Calculation		0.0%

*FY11 completion due date; work ongoing.

**No Completion Reports requested in FY10.

***50% of time - large projects without Service Agreements (informal with FERs and/or Cost Authority #s).

****90% of time - large projects without Service Agreements.

MP-700 Division of Planning

This section is intended to measure Percent Utilization (MP-700)

SOPs II.C.1 II.C.2 II.C.3

Name	Category	Objective measure of time spent working under service agreements in %	Objective measure of time working on small projects (<$10,000) in %	Objective measure of time worked on overhead (K-accounts) in %
MP-700	By your Service Provider Organization (SPO)	***2***	***4***	***10***
	By each working group within your SPO? (Insert working groups and respective percentages. Add rows as needed.)			
BDCP - Modeling Effort		***65***	***35***	***0***
BDCP - Permit Coordination		***10***	***0***	***0***
BDCP - Biological Assessement		***10***	***0***	***5***
	By positions/individuals within your SPO? (Insert positions/names (optional) and respective percentages. Add rows as needed.)			
Hydraulic Engineer, GS-13		***90***	***70***	***5***
Hydraulic Engineer, GS-12				
Landscape Architect, GS-13				

This section is intended to measure Customer Satisfaction with the overall project

SOP II.B

Service Provider Organization (SPO) Code List (used for sorting/reporting by SPO)

Technical Service Center =	TSC	
PN Regional Office =	PN	
GP Regional Office =	GP	
MP Regional Office =	MP	No Completion Reports requested by MP-700 in FY10
LC Regional Office =	LC	
UC Regional Office =	UC	
Provo Area Office =	PRO	
Four Corners Construction Office =	FCCO	
Mid-Pacific Construction Office =	MPCO	
Drill Crew =	DC	
Outsourced Contractor =	OC	

*FY11 completion due date; work ongoing.

**No Completion Reports requested in FY10.

***50% of time - large projects without Service Agreements (informal with FERs and/or Cost Authority #s).

****90% of time - large projects without Service Agreements.

Mid-Pacific Region Division of Environmental Affairs MP-150 FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

MP-157 Environmental Monitoring Branch

This section is intended to measure Product Delivery (MP-157)

SOP	Data Requested for FY 2010	***Data Reported***	Results Reported
II.A	Total Number of Service Agreements in FY 2010	***2***	
II.A	Total Number of Service Agreements Completed in FY 2010	***2***	
II.A	Total $ Value of Service Agreements Completed in FY 2010	***$370,000***	
II.A.1	Total number of Service Agreements completed by the agreed	***2***	
	Calculation		100.0%
II.A.2	Total number of Service Agreements completed within the	***2***	
	Calculation		100.0%
II.A.3	Dollar value of Service Agreements completed by the agreed	***$370,000***	
	Calculation		100.0%
II.A.4	Dollar value of Service Agreements completed within the agreed	***$370,000***	
	Calculation		100.0%
II.A.5	Number of Service Agreements with Completion Reports	***0***	
	Calculation		0.0%

*FY11 completion due date; work ongoing.

**No Completion Reports requested in FY10.

***50% of time - large projects without Service Agreements (informal with FERs and/or Cost Authority #s).

****90% of time - large projects without Service Agreements.

18 SOPs II.C.1 II.C.2 II.C.3

This section is intended to measure Percent Utilization (MP-157, Environmental Monitoring Branch)

Name	Category	Objective measure of time spent working under service agreements in %	Objective measure of time working on small projects (<$10,000) in %	Objective measure of time worked on overhead (K-accounts) in %
MP-157	By your Service Provider Organazation (SPO)	***13***	***87***	***0***
	By each working group within your SPO? (Insert working groups and respective percentages. Add rows as needed.)			
Monitoring	Environmental Monitoring	***18***	***82***	***0***
QA	Quality Assurance	***18***	***82***	***0***
Data Mgt	Data Management	***18***	***82***	***0***
Hazmat	Hazardous Materials	***0***	***100***	***0***
	By positions/individuals within your SPO? (Insert positions/names (optional) and respective percentages. Add rows as needed.)			
GS-13	Supervisory Physical Scientist (Branch Chief)	***0***	***100***	***0***
GS-12	Supervisory Physical Scientist (Quality Assurance Team)	***18***	***82%***	***0***
GS-11	Physical Scientist (Quality Assurance Team)	***18***	***82%***	***0***
GS-7	Physical Scientist (Quality Assurance Team)	***18***	***82***	***0***
GS-12	Supervisory Natural Resource Specialist (Hazmat Team)	***0***	***100***	***0***
GS-12	Natural Resource Specialist (Hazmat Team)	***0***	***100***	***0***
GS-12	Physical Scientist (Hazmat Team)	***0***	***100***	***0***
GS-4	Physical Scientist Aide (Hazmat Team)	***0***	***100***	***0***
GS-12	Supervisory Physical Scientist (Monitoring Team)	***18***	***82***	***0***
GS-9	Physical Scientist (Monitoring Team)	***18***	***82%***	***0***
GS-11	Physical Scientist (Monitoring Team)	***18***	***82%***	***0***
GS-11	Physical Scientist (Monitoring Team)	***18***	***82%***	***0***
GS-9	Physical Scientist Tech (Monitoring Team)	***18***	***82%***	***0***
GS-11	Supervisory IT Specialist (Data Management Team)	***18***	***82%***	***0***
GS-7	Computer Assistant (Data Management Team)	***18***	***82%***	***0***
GS-7	Computer Assistant (Data Management Team)	***18***	***82%***	***0***
GS-7	Computer Assistant (Data Management Team)	***18***	***82%***	***0***
GS-7	Geographer (Data Management Team)	***0***	***100***	***0***
GS-6	Computer Assistant (Data Management Team)	***18***	***82%***	***0***

*FY11 completion due date; work ongoing.

**No Completion Reports requested in FY10.

***50% of time - large projects without Service Agreements (informal with FERs and/or Cost Authority #s).

****90% of time - large projects without Service Agreements.

This section is intended to measure Customer Satisfaction with the overall project

SOP II.B

Service Provider Organization (SPO) Code List (used for sorting/reporting by SPO)		
Technical Service Center =	TSC	
PN Regional Office =	PN	
GP Regional Office =	GP	
MP Regional Office =	MP	No Completion Reports requested by MP-157 in FY10
LC Regional Office =	LC	
UC Regional Office =	UC	
Provo Area Office =	PRO	
Four Corners Construction Office =	FCCO	
Mid-Pacific Construction Office =	MPCO	
Drill Crew =	DC	
Outsourced Contractor =	OC	

*FY11 completion due date; work ongoing.
**No Completion Reports requested in FY10.
***50% of time - large projects without Service Agreements (informal with FERs and/or Cost Authority #s).
****90% of time - large projects without Service Agreements.

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Product Delivery (UC Regional Office)

SOP	Data Requested for FY 2010	***Data Reported***	Results Reported
II.A	Total Number of Service Agreements in FY 2010	***1***	
II.A	Total Number of Service Agreements Completed in FY 2010	***1***	
II.A	Total $ Value of Service Agreements Completed in FY 2010	***$65,220***	
II.A.1	Total number of Service Agreements completed by the agreed upon final completion date	***0***	
	Calculation		0.0%
II.A.2	Total number of Service Agreements completed within the agreed upon budget	***0***	
	Calculation		0.0%
II.A.3	Dollar value of Service Agreements completed by the agreed upon final completion date	***$0***	
	Calculation		0.0%
II.A.4	Dollar value of Service Agreements completed within the agreed upon budget	***$0***	
	Calculation		0.0%
II.A.5	Number of Service Agreements with Completion Reports	***1***	
	Calculation		100.0%

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Percent Utilization (UC Regional Office)

SOPs II.C.1 II.C.2 II.C.3 Name	Category	Objective measure of time spent working under service agreements in %	Objective measure of time working on small projects (<$10,000) in %	Objective measure of time worked on overhead (K-accounts) in %
UC	By your Service Provider Organization (SPO)	***5***	***85***	***10***
	By each working group within your SPO? (Insert working groups and respective percentages. Add rows as needed.)			
Design		***5***	***85***	***10***
	By positions/individuals within your SPO? (Insert positions/names (optional) and respective percentages. Add rows as needed.)			
Civil Engineer, GS-11		***0***	***98***	***2***
Technician (Civil), GS -8		***10***	***85***	***5***
Civil Engineer, GS-12		***10***	***85***	***5***
Civil Engineer, GS-9		***0***	***90***	***10***
Civil Engineer, GS-12		***0***	***90***	***10***
Mechanical Engineer, GS-12		***5***	***90***	***5***
Supervisory Civil Engineer,GS-13		***10***	***45***	***45***

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Customer Satisfaction with the overall project

SOP II.B

Service Provider Organization (SPO) Code List (used for sorting/reporting by SPO)

Technical Service Center =	TSC
PN Regional Office =	PN
GP Regional Office =	GP
MP Regional Office =	MP
LC Regional Office =	LC
UC Regional Office =	UC
Provo Area Office =	PRO
Four Corners Construction Office =	FCCO
Mid-Pacific Construction Office =	MPCO
Drill Crew =	DC
Outsourced Contractor =	OC

Note: Key success factors and challenges should accompany all ratings.

SPO Code	Project/Activity Name	*Rating*		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
UC	***Fontenelle Community Homes***	***1 (poor) to 5***	Average Rating		***The 5-plex was changed to a 3-plex after the design was complete. No attempt was made to amend the agreement.***
	Cost Effectiveness	***5***			
	Activity Understanding	***5***			
	Timeliness	***4***			
	Technical Knowledge	***4***			
	Problem Solving	***4***			
	Responsiveness	***4***			
	Calculation	26	4.3		

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Product Delivery (LC ESO)

SOP	Data Requested for FY 2010	*Data Reported*	Results Reported
II.A	Total Number of Service Agreements in FY 2010	***75***	
II.A	Total Number of Service Agreements Completed in FY 2010	***28***	
II.A	Total $ Value of Service Agreements Completed in FY 2010	***$1,964,746***	
II.A.1	Total number of Service Agreements completed by the agreed upon final completion date	***24***	
	Calculation		85.7%
II.A.2	Total number of Service Agreements completed within the agreed upon budget	***23***	
	Calculation		82.1%
II.A.3	Dollar value of Service Agreements completed by the agreed upon final completion date	***$1,682,935***	
	Calculation		85.7%
II.A.4	Dollar value of Service Agreements completed within the agreed upon budget	***$1,612,935***	
	Calculation		82.1%
II.A.5	Number of Service Agreements with Completion Reports	***20***	
	Calculation		71.4%

Does Not Reflect Service Agreements Executed Prior to FY2010 Even if Work Still Performed in FY2010

Service Agreements Initiated in FY 2010

FY 2010 Service Agreements Completed in FY 2010

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Percent Utilization (LC ESO)

SOPs II.C.1 II.C.2 II.C.3 Name	Category	Objective measure of time spent working under service agreements in %	Objective measure of time working on small projects (<$10,000) in %	Objective measure of time worked on overhead (K-accounts) in %
ESO	By your Service Provider Organization (SPO)			***16***
	By each working group within your SPO? (Insert working groups and respective percentages. Add rows as needed.)			
Business/Administration				***48***
Safety				***5***
Design-Civil				***18***
Design-Mechanical and Electrical				***10***
Contract Admnistration				***20***
Construction Management				***3***
Examination of Existing Structures/Safety of Dams				***13***
	By positions/individuals within your SPO? (Insert positions/names (optional) and respective percentages. Add rows as needed.)			
Not Individual Positions, but Groups of Positions				
	Administrative Assistant, GS-5			***65%***
	Administrative Assistant, GS-6			***63%***
	Administrative Officer, GS-12			***68%***
	Civil Engineer, GS-11			***9%***
	Civil Engineer, GS-12			***17%***
	Civil Engineer, GS-5/7/9			***16%***
	Construction Control Inspector, GS-7/8/9			***3%***
	Construction Control Representative, GS-10			***6%***
	Electrical Engineer, GS-12			***6%***
	Engineering Technician, GS-10			***9%***
	Engineering Technician, GS-11			***5%***
	Engineering Technician, GS-5/6/7			***14%***
	Mechanical Engineer, GS-12			***13%***
	Mechanical Engineer, GS-5			***4%***
	Mechanical Engineer, GS-7			***27%***

Program Assistant, GS-6			***42%***
Safety Program Manager, GS-13			***5%***
Supervisory Civil Engineer, GS-13			***21%***
Supervisory Civil Engineer, GS-14			***2%***
Supervisory Construction Control Representative, GS-12			***0%***
Supervisory Electrical Engineer, GS-13			***9%***
Supervisory General Engineer, GS-13			***26%***

This section is intended to measure Customer Satisfaction with the overall project

SOP	**Service Provider Organization (SPO) Code List (used for sorting/reporting by SPO)**		
II.B	Technical Service Center =	TSC	
	PN Regional Office =	PN	
	GP Regional Office =	GP	
	MP Regional Office =	MP	
	LC Regional Office =	LC	No Completion Reports requested by LC-ESO in FY10
	UC Regional Office =	UC	
	Provo Area Office =	PRO	
	Four Corners Construction Office =	FCCO	
	Mid-Pacific Construction Office =	MPCO	
	Drill Crew =	DC	
	Outsourced Contractor =	OC	

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Product Delivery (TSC)

SOP	Data Requested for FY 2010	*Data Reported*	Results Reported
II.A	Total Number of Service Agreements in FY 2010	**1976**	
II.A	Total Number of Service Agreements Completed in FY 2010	**1029**	
II.A	Total $ Value of Service Agreements Completed in FY 2010	**$49,430,046**	
II.A.1	Total number of Service Agreements completed by the agreed upon final completion date	**966**	
	Calculation		93.9%
II.A.2	Total number of Service Agreements completed within the agreed upon budget	**990**	
	Calculation		96.2%
II.A.3	Dollar value of Service Agreements completed by the agreed upon final completion date	**$47,065,579**	
	Calculation		95.2%
II.A.4	Dollar value of Service Agreements completed within the agreed upon budget	**$48,061,448**	
	Calculation		97.2%
II.A.5	Number of Service Agreements with Completion Reports	***0***	
	Calculation		0.0%

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Percent Utilization (TSC)

SOPs II.C.1 II.C.2 II.C.3 Name	Category	Objective measure of time spent working under service agreements in %	Objective measure of time working on small projects (<$10,000) in %	Objective measure of time worked on overhead (K-accounts) in %
TSC	**Technical Service Center**	87.3%	3.0%	12.7%
	By each working group within your SPO? (Insert working groups and respective percentages. Add rows as needed.)			
	Client Sppt & Tech Pres	78.8%		21.2%
	Structural Analysis	92.0%		8.0%
	Structural & Architectural	92.8%		7.2%
	Waterways/Concrete Dams	92.1%		7.9%
	Water Conveyance	93.3%		6.7%
	Est, Specs, & Constr Mgmt	94.9%		5.1%
	Materials Engineering Lab	93.3%		6.7%
	Water Supply & Cons/Econ	87.0%		13.0%
	Ecological Research/Desal	86.4%		13.6%
	Sedimentation & River Hydr	91.4%		8.6%
	Flood Hydrology/Met/GIS	87.2%		12.8%
	Fisheries Appilcations	90.4%		9.6%
	Geotechnical Engineering - 1	85.9%		14.1%
	Geotechnical Engineering - 2	89.2%		10.8%
	Geotechnical Engineering - 3	91.9%		8.1%
	Geology & Geo Sppt &Yucca Mtn	85.5%		14.5%
	Seismotectonics/Geophysics	88.5%		11.5%
	Instrumentation & Inspections	88.7%		11.3%
	Mechanical Equipment	92.9%		7.1%
	Hydraulic Equipment	88.9%		11.1%
	Electrical Design	87.8%		12.2%
	Hydropower Tech Sppt	81.6%		18.4%
	Hydraulic Investig & Lab	86.1%		13.9%

Org Code	GS	By positions/individuals within your SPO? (Insert positions/names (optional) and respective percentages. Add rows as needed.)			
8668000	SES	DIRECTOR, TECHNICAL SVC CENTER	100%		*0%*
8668000	9	EXECUTIVE ASSISTANT	100%		*0%*
8668010	9	TECHNICAL EDITOR	94%		*6%*
8668010	12	HISTORIAN	74%		*26%*
8668010	7	BUDGET ASSISTANT	99%		*1%*
8668010	7	TECHNICAL OPERATIONS ASSISTANT	79%		*21%*
8668010	12	TECHNICAL WRITER EDITOR	72%		*28%*
8668010	8	EDITORIAL ASSISTANT	99%		*1%*
8668010	12	TECHNICAL WRITER EDITOR	98%		*2%*
8668010	15	PROGRAM MANAGER	57%		*43%*
8668010	9	TECHNICAL EDITOR	93%		*7%*
8668010	14	FINANCIAL MGMT	100%		*0%*
8668010	4	CLERK	17%		*83%*
8668010	7	BUDGET TECHNICIAN	74%		*26%*
8668010	11	PROGRAM ANALYST	98%		*2%*
8668010	8	EDITORIAL ASSISTANT	87%		*13%*
8668010	8	EDITORIAL ASSISTANT	98%		*2%*
8668010	11	PROGRAM ANALYST	75%		*25%*
8668010	14	CLIENT SERVICES MANAGER	17%		*83%*
8668100	15	SUPVY STRUCTURAL ENGINEER	29%		*71%*
8668100	7	SECRETARY (OA)	16%		*84%*
8668110	13	STRUCTURAL ENGINEER	95%		*5%*
8668110	11	CIVIL ENGINEER	96%		*4%*
8668110	9	CIVIL ENGINEER	89%		*11%*
8668110	11	CIVIL ENGINEER	93%		*7%*
8668110	8	CIVIL ENGINEERING TECHNICIAN	95%		*5%*
8668110	12	STRUCTURAL ENGINEER	97%		*3%*
8668110	12	STRUCTURAL ENGINEER	100%		*0%*
8668110	11	CIVIL ENGINEER	82%		*18%*
8668110	12	STRUCTURAL ENGINEER	98%		*2%*
8668110	14	SUPVY CIVIL ENGINEER	84%		*16%*
8668110	14	STRUCTURAL ENGINEER	~~93%~~		*7%*
8668110	13	STRUCTURAL ENGINEER	94%		*6%*
8668110	12	CIVIL ENGINEER	99%		*1%*
8668110	13	STRUCTURAL ENGINEER	84%		*16%*
8668110	11	CIVIL ENGINEER	96%		*4%*

8668110	11	CIVIL ENGINEER	93%		*7%*
8668110	12	CIVIL ENGINEER	99%		*1%*
8668110	11	CIVIL ENGINEER	98%		*2%*
8668120	13	STRUCTURAL ENGINEER	97%		*3%*
8668120	14	STRUCTURAL ENGINEER	66%		*34%*
8668120	6	SECRETARY (OFFICE AUTOMATION)	17%		*83%*
8668120	11	CIVIL ENGINEER	98%		*2%*
8668120	11	ENVIRONMENTAL ENGINEER	100%		*0%*
8668120	13	STRUCTURAL ENGINEER	100%		*0%*
8668120	12	STRUCTURAL ENGINEER	100%		*0%*
8668120	13	ENVIRONMENTAL ENGINEER	98%		*2%*
8668120	11	CIVIL ENGINEER	99%		*1%*
8668120	9	STRUCTURAL ENGINEER	91%		*9%*
8668120	11	ENVIRONMENTAL ENG	100%		*0%*
8668120	13	ENVIRONMENTAL ENGINEER	99%		*1%*
8668120	11	STRUCTURAL ENGINEER	98%		*2%*
8668120	12	ENVIRONMENTAL ENGINEER	98%		*2%*
8668120	12	ARCHITECT	100%		*0%*
8668120	12	STRUCTURAL ENGINEER	99%		*1%*
8668120	14	STRUCTURAL ENGINEER	92%		*8%*
8668120	13	LANDSCAPE ARCHITECT	99%		*1%*
8668120	11	CIVIL ENGINEERING TECHNICIAN	96%		*4%*
8668120	13	STRUCTURAL ENGINEER	99%		*1%*
8668120	12	STRUCTURAL ENGINEER	100%		*0%*
8668120	11	STRUCTURAL ENGINEER	99%		*1%*
8668130	11	CIVIL ENGINEER	95%		*5%*
8668130	12	CIVIL ENGINEER	99%		*1%*
8668130	13	CIVIL ENGINEER	96%		*4%*
8668130	13	CIVIL ENGINEER	94%		*6%*
8668130	13	CIVIL ENGINEER	99%		*1%*
8668130	12	CIVIL ENGINEER	99%		*1%*
8668130	14	CIVIL ENGINEER	100%		*0%*
8668130	12	CIVIL ENGINEER	100%		*0%*
8668130	13	CIVIL ENGINEER	100%		*0%*
8668130	13	CIVIL ENGINEER	100%		*0%*
8668130	13	CIVIL ENGINEER	98%		*2%*
8668130	11	CIVIL ENGINEER	99%		*1%*
8668130	11	CIVIL ENGINEER	96%		*4%*
8668130	14	SUPERVISORY CIVIL ENGINEER	52%		*48%*

8668130	9	CIVIL ENGINEER	94%		*6%*
8668130	13	CIVIL ENGINEER	97%		*3%*
8668130	11	CIVIL ENGINEERING TECHNICIAN	99%		*1%*
8668130	13	CIVIL ENGINEER	99%		*1%*
8668130	6	SECRETARY (OA)	16%		*84%*
8668130	12	CIVIL ENGINEER	97%		*3%*
8668130	13	CIVIL ENGINEER	98%		*2%*
8668130	13	CIVIL ENGINEER	100%		*0%*
8668130	9	CIVIL ENGINEER	87%		*13%*
8668140	12	CIVIL ENGINEER	100%		*0%*
8668140	13	CIVIL ENGINEER	100%		*0%*
8668140	13	CIVIL ENGINEER	95%		*5%*
8668140	13	CIVIL ENGINEER	100%		*0%*
8668140	12	CIVIL ENGINEER	98%		*2%*
8668140	12	CIVIL ENGINEER	100%		*0%*
8668140	12	CIVIL ENGINEER	99%		*1%*
8668140	14	SUPERVISORY CIVIL ENGINEER	71%		*29%*
8668140	11	CIVIL ENGINEER	99%		*1%*
8668140	11	CIVIL ENGINEER	100%		*0%*
8668140	10	MECHANICAL ENGRG TECHN	100%		*0%*
8668140	9	CIVIL ENGINEER	97%		*3%*
8668140	12	CIVIL ENGINEER	72%		*28%*
8668140	11	CIVIL ENGINEER	99%		*1%*
8668140	6	SECRETARY (OA)	32%		*68%*
8668140	12	CIVIL ENGINEER	99%		*1%*
8668140	13	CIVIL ENGINEER	100%		*0%*
8668140	13	CIVIL ENGINEER	100%		*0%*
8668140	12	CIVIL ENGINEER	100%		*0%*
8668140	11	CIVIL ENGINEER	100%		*0%*
8668140	12	CIVIL ENGINEER	98%		*2%*
8668140	12	CIVIL ENGINEER	98%		*2%*
8668170	11	CIVIL ENGINEER	99%		*1%*
8668170	12	CIVIL ENGINEER	98%		*2%*
8668170	14	SUPERVISORY CIVIL ENGINEER	33%		*67%*
8668170	7	Student Trainee (CIVIL ENGINEER)	97%		*3%*
8668170	6	SECRETARY (OFFICE AUTOMATION)	95%		*5%*
8668170	12	CIVIL ENGINEER	100%		*0%*
8668170	13	CIVIL ENGINEER	100%		*0%*
8668170	12	CIVIL ENGINEER	97%		*3%*

8668170	12	CIVIL ENGINEER	100%		*0%*
8668170	13	CIVIL ENGINEER	98%		*2%*
8668170	10	CIVIL ENGINEERING TECHNICIAN	100%		*0%*
8668170	12	CIVIL ENGINEER	100%		*0%*
8668170	13	CIVIL ENGINEER	96%		*4%*
8668170	14	CIVIL ENGINEER	92%		*8%*
8668170	14	CIVIL ENGINEER	92%		*8%*
8668170	9	CIVIL ENGINEERING TECHNICIAN	90%		*10%*
8668170	12	ELECTRICAL ENGINEER	93%		*7%*
8668170	12	CIVIL ENGINEER	99%		*1%*
8668170	12	CIVIL ENGINEER	97%		*3%*
8668170	12	CIVIL ENGINEER	97%		*3%*
8668170	12	CIVIL ENGINEER	100%		*0%*
8668170	11	CIVIL ENGINEER	93%		*7%*
8668170	12	CIVIL ENGINEER	98%		*2%*
8668170	12	ELECTRICAL ENGINEER	100%		*0%*
8668172	12	CIVIL ENGINEER	100%		*0%*
8668180	12	CIVIL ENGINEER	97%		*3%*
8668180	4	CLERK	100%		*0%*
8668180	14	RESEARCH CIVIL ENGINEER	97%		*3%*
8668180	4	CLERK	100%		*0%*
8668180	12	CIVIL ENGINEER	99%		*1%*
8668210	12	PHYSICAL SCIENTIST	98%		*2%*
8668180	12	GEOLOGIST	93%		*7%*
8668180	11	CIVIL ENGINEER	96%		*4%*
8668180	14	SUPERVISORY CIVIL ENGINEER	59%		*41%*
8668180	12	MATERIALS ENGINEER	99%		*1%*
8668180	6	SECRETARY (OFFICE AUTOMATION)	63%		*37%*
8668180	9	CIVIL ENGINEER			*100%*
8668180	12	CIVIL ENGINEER	96%		*4%*
8668180	4	ENG TECH (CIVIL)	100%		*0%*
8668180	11	MATERIALS ENGINEERING TECH	95%		*5%*
8668180	9	CIVIL ENGINEER	95%		*5%*
8668180	9	CIVIL ENGINEER	100%		*0%*
8668180	11	MATERIALS ENGINEER	94%		*6%*
8668180	12	CHEMIST	93%		*7%*
8668180	5	MECHANICAL ENGINEER	100%		*0%*
8668180	13	CIVIL ENGINEER	94%		*6%*
8668180	13	MATERIALS ENGINEER	94%		*6%*
8668180	11	MATERIALS ENGINEER	98%		*2%*

8668180	13	ELECTRONICS ENGINEER	97%	*3%*
8668180	13	MATERIALS ENGINEER	98%	*2%*
8668180	13	CIVIL ENGINEER	97%	*3%*
8668200	15	SUPVY GENERAL ENGINEER	18%	*82%*
8668200	7	SECRETARY (OFFICE AUTOMATION)	1%	*99%*
8668210	14	HYDRAULIC ENGINEER	100%	*0%*
8668210	13	CIVIL ENGINEER	88%	*12%*
8668210	12	CIVIL ENGINEER	86%	*14%*
8668210	12	ENVIRONMENTAL ENGINEER	92%	*8%*
8668210	13	HYDRAULIC ENGINEER	99%	*1%*
8668210	13	HYDRAULIC ENGINEER	100%	*0%*
8668210	13	HYDRAULIC ENGINEER	99%	*1%*
8668210	12	HYDROLOGIST	100%	*0%*
8668210	12	CIVIL ENGINEER	100%	*0%*
8668210	14	SUPVY HYDRAULIC ENGINEER	27%	*73%*
8668210	13	HYDRAULIC ENGINEER	97%	*3%*
8668210	9	HYDRAULIC ENGINEER	78%	*22%*
8668212	12	SOCIAL SCIENCE ANALYST	98%	*2%*
8668212	13	ECONOMIST	96%	*4%*
8668212	12	ECONOMIST	100%	*0%*
8668212	12	ECONOMIST	100%	*0%*
8668212	13	ECONOMIST	90%	*10%*
8668212	12	ECONOMIST	79%	*21%*
8668212	12	ECONOMIST	100%	*0%*
8668212	13	ECONOMIST	95%	*5%*
8668212	13	ECONOMIST	98%	*2%*
8668212	11	SOCIOLOGIST	79%	*21%*
8668220	13	HYDRAULIC ENGINEER	97%	*3%*
8668220	12	FISH BIOLOGIST	99%	*1%*
8668220	6	SECRETARY (OFFICE AUTOMATION)	0%	*100%*
8668220	9	CIVIL ENGINEER		*100%*
8668220	14	SUPVY BIOLOGICAL SCIENTIST	56%	*44%*
8668220	13	RESEARCH AQUATIC SCIENTIST	99%	*1%*
8668220	12	BOTANIST	100%	*0%*
8668220	13	RESEARCH CHEMIST	100%	*0%*
8668220	12	RESEARCH AQUATIC SCIENTIST	100%	*0%*
8668220	13	BIOLOGIST	50%	*50%*

8668220	13	RESEARCH AQUATIC BIOLOGIST	98%		*2%*
8668220	11	BOTANIST	100%		*0%*
8668220	11	PHYSICAL SCIENTIST	98%		*2%*
8668220	12	AQUATIC SCIENTIST	100%		*0%*
8668221	10	CHEMICAL ENGINEERING TECH	17%		*83%*
8668221	13	PHYSICAL SCIENTIST	100%		*0%*
8668221	11	CHEMICAL ENGINEER	94%		*6%*
8668221	11	CHEMICAL ENGINEER	98%		*2%*
8668221	14	CHEMICAL ENGINEER	100%		*0%*
8668221	14	RESEARCH CHEMIST	99%		*1%*
8668221	11	CHEMICAL ENGINEER	87%		*13%*
8668221	11	MECHANICAL ENGINEER	100%		*0%*
8668240	13	HYDRAULIC ENGINEER	92%		*8%*
8668240	12	HYDRAULIC ENGINEER	98%		*2%*
8668240	13	HYDRAULIC ENGINEER	96%		*4%*
8668240	12	PHYSICAL SCIENTIST	77%		*23%*
8668240	12	HYDRAULIC ENGINEER	95%		*5%*
8668240	13	HYDRAULIC ENGINEER	95%		*5%*
8668240	13	HYDRAULIC ENGINEER	94%		*6%*
8668240	12	GEOLOGIST	95%		*5%*
8668240	12	HYDRAULIC ENGINEER	97%		*3%*
8668240	14	HYDRAULIC ENGINEER	96%		*4%*
8668240	12	HYDRAULIC ENGINEER	97%		*3%*
8668240	13	GEOLOGIST	98%		*2%*
8668240	12	HYDRAULIC ENGINEER	93%		*7%*
8668240	13	HYDRAULIC ENGINEER	94%		*6%*
8668240	13	HYDRAULIC ENGINEER	88%		*12%*
8668240	12	PHYSICAL SCIENTIST	92%		*8%*
8668240	14	SUPERVISORY HYDRAULIC ENGINEER	36%		*64%*
8668240	12	HYDRAULIC ENGINEER	95%		*5%*
8668240	12	HYDRAULIC ENGINEER	97%		*3%*
8668240	12	HYDRAULIC ENGINEER	96%		*4%*
8668240	12	PHYSICAL SCIENTIST	100%		*0%*
8668250	11	HYDRAULIC ENGINEER	60%		*40%*
8668250	12	HYDRAULIC ENGINEER	97%		*3%*
8668250	14	HYDRAULIC ENGINEER	97%		*3%*
8668250	13	HYDRAULIC ENGINEER	96%		*4%*
8668250	14	SUPV HYDRAULIC ENGINEER	22%		*78%*

8668250	5	SECRETARY (OFFICE AUTOMATION)	13%		*87%*
8668250	13	HYDRAULIC ENGINEER	100%		*0%*
8668250	13	HYDRAULIC ENGINEER	100%		*0%*
8668250	11	CIVIL ENGINEER (HYDRAULICS)	97%		*3%*
8668250	12	HYDRAULIC ENGINEER	98%		*2%*
8668250	13	CIVIL ENGINEER	100%		*0%*
8668250	12		91%		*9%*
8668250	13	LEAD TECHNICAL WRITER-EDITOR	57%		*43%*
8668250	9		93%		*7%*
8668250	11	HYDRAULIC ENGINEER	95%		*5%*
8668250	11	METEOROLOGIST	100%		*0%*
8668250	12	EMERG MGMT	87%		*13%*
8668250	12	HYDRAULIC ENGINEER	96%		*4%*
8668250	12	WILDLIFE BIOLOGIST	96%		*4%*
8668250	12	HYDRAULIC ENGINEER	97%		*3%*
8668251	12	PHYSICAL SCIENTIST	93%		*7%*
8668251	13	PHYSICAL SCIENTIST	100%		*0%*
8668251	13	PHYSICAL SCIENTIST	98%		*2%*
8668251	12	PHYSICAL SCIENTIST	100%		*0%*
8668251	13	PHYSICAL SCIENTIST	79%		*21%*
8668251	13	PHYSICAL SCIENTIST	100%		*0%*
8668251	12	PHYSICAL SCIENTIST			*100%*
					100%
8668290	13	WILDLIFE BIOLOGIST	96%		*4%*
8668290	11	FISH BIOLOGIST	94%		*6%*
8668290	12	NATURAL RESOURCE SPECIALIST	88%		*12%*
8668290	12	FISH BIOLOGIST	99%		*1%*
8668290	13	FISH BIOLOGIST	98%		*2%*
8668290	12	PHYSICAL SCIENTIST	80%		*20%*
8668290	7	FISH BIOLOGIST	73%		*27%*
8668290	12	RESEARCH FISHERY BIOLOGIST	99%		*1%*
8668290	1	OFFICE AID	99%		*1%*
8668290	12	WILDLIFE BIOLOGIST	99%		*1%*
8668290	12	FISH BIOLOGIST	91%		*9%*
8668290	13	NATURAL RESOURCE SPECIALIST	82%		*18%*
8668290	11	FISH BIOLOGIST	88%		*13%*
8668290	11	FISH BIOLOGIST	94%		*6%*
8668290	11	FISH BIOLOGIST	89%		*11%*
8668300	07	SECRETARY (OFFICE AUTOMATION)	8%		*92%*

8668300	15	SUPERVISORY CIVIL ENGINEER	27%		*73%*
8668311	14	CIVIL ENGINEER	81%		*19%*
8668311	11	CIVIL ENGINEER	91%		*9%*
8668311	12	CIVIL ENGINEER	96%		*4%*
8668311	13	CIVIL ENGINEER	100%		*0%*
8668311	13	CIVIL ENGINEER	97%		*3%*
8668311	14	SUPVY CIVIL ENGINEER	66%		*34%*
8668311	7	(Student Trainee) CIVIL ENGINEER	57%		*43%*
8668311	11	CIVIL ENGINEER	94%		*6%*
8668311	12	CIVIL ENGINEER	95%		*5%*
8668311	14	CIVIL ENGINEER	74%		*26%*
8668311	6	SECRETARY (OFFICE AUTOMATION)	30%		*70%*
8668311	13	CIVIL ENGINEER	97%		*3%*
8668311	13	CIVIL ENGINEER	98%		*2%*
8668311	11	CIVIL ENGINEER (GEOTECHNICAL)	98%		*2%*
8668311	12	CIVIL ENGINEER	93%		*7%*
8668311	13	CIVIL ENGINEER	99%		*1%*
8668312	11	CIVIL ENGINEER	97%		*3%*
8668312	11	CIVIL ENGINEER	97%		*3%*
8668312	14	CIVIL ENGINEER	92%		*8%*
8668312	11	CIVIL ENGINEER	95%		*5%*
8668312	12	PHYSICAL SCIENTIST	78%		*22%*
8668312	6	SECRETARY (OFFICE AUTOMATION)	25%		*75%*
8668312	4	ENG TECH	63%		*37%*
8668312	12	CIVIL ENGINEER	93%		*7%*
8668312	14	SUPVY CIVIL ENGINEER	96%		*4%*
8668312	13	CIVIL ENGINEER	99%		*1%*
8668312	12	CIVIL ENGINEER	97%		*3%*
8668312	12	CIVIL ENGINEER	100%		*0%*
8668312	14	CIVIL ENGINEER	96%		*4%*
8668312	12	CIVIL ENGINEER	96%		*4%*
8668312	12	CIVIL ENGINEER	98%		*2%*
8668312	13	CIVIL ENGINEER	92%		*8%*
8668313	9	STUDENT TRAINEE (CIVIL ENGR)	70%		*30%*
8668313	12	CIVIL ENGINEER	85%		*15%*
8668313	13	CIVIL ENGINEER	100%		*0%*
8668313	12	CIVIL ENGINEER	97%		*3%*
8668311	14	CIVIL ENGINEER	96%		*4%*

8668313	13	CIVIL ENGINEER	96%	*4%*
8668313	12	CIVIL ENGINEER	86%	*14%*
8668313	14	CIVIL ENGINEER (TECH SPEC)	94%	*6%*
8668313	11	STUDENT TRAINEE (CIVIL ENGR)	95%	*5%*
8668313	13	CIVIL ENGINEER	96%	*4%*
8668313	13	CIVIL ENGINEER	97%	*3%*
8668313	9	STUDENT TRAINEE (CIVIL ENGR)	100%	*0%*
8668313	14	SUPERVISORY CIVIL ENGINEER	61%	*39%*
8668313	13	CIVIL ENGINEER	96%	*4%*
8668313	9	STUDENT TRAINEE (CIVIL ENGR)		*100%*
8668313	12	CIVIL ENGINEER	94%	*6%*
8668313	12	CIVIL ENGINEER	91%	*9%*
8668320	14	SUPERVISORY GEOLOGIST	24%	*76%*
8668320	12	GEOLOGIST		*100%*
8668320	13	CIVIL ENGINEER	99%	*1%*
8668320	4	ENG TECH	15%	*85%*
8668320	13	GEOLOGIST	94%	*6%*
8668320	12	GEOLOGIST	94%	*6%*
8668320	4	ENG TECH	26%	*74%*
8668320	9	GEOLOGIST	94%	*6%*
8668320	12	GEOLOGIST	100%	*0%*
8668320	12	GEOLOGIST	99%	*1%*
8668320	13	GEOLOGIST	96%	*4%*
8668320	11	GEOLOGIST		*100%*
8668320	12	GEOLOGIST	100%	*0%*
8668322	11	CIVIL ENGINEERING TECHNICIAN	93%	*7%*
8668322	9	PHYSICAL SCIENCE TECHNICIAN	100%	*0%*
8668322	10	CIVIL ENGINEERING TECHNICIAN	92%	*8%*
8668322	9	CIVIL ENGINEERING TECHNICIAN	96%	*4%*
8668322	9	CIVIL ENGINEERING TECHNICIAN	100%	*0%*
8668330	13	GEOPHYSICIST	98%	*2%*
8668330	11	ELECTRONICS TECHNICIAN	82%	*18%*
8668330	11	GEOLOGIST	86%	*14%*
8668330	13	IT SPECIALIST	97%	*3%*
8668240	14	GEOLOGIST	63%	*37%*
8668330	9	GEOPHYSICIST	91%	*9%*
8668330	13	GEOPHYSICIST	100%	*0%*
8668330	4	STUDENT TRAINEE (PHYS SCI)	98%	*2%*

8668330	13	GEOPHYSICIST	75%	*25%*
8668330	12	GEOLOGIST	97%	*3%*
8668330	12	GEOPHYSICIST	100%	*0%*
8668330	7	GEOPHYSICIST	91%	*9%*
8668330	13	GEOPHYSICIST	93%	*7%*
8668360	14	GENERAL ENGINEER	91%	*9%*
8668360	14	SUPERVISORY CIVIL ENGINEER	3%	*97%*
8668360	14	CIVIL ENGINEER	98%	*2%*
8668360	12	CIVIL ENGINEER	84%	*16%*
8668360	12	CIVIL ENGINEER	100%	*0%*
8668360	13	CIVIL ENGINEER	97%	*3%*
8668360	13	IT SPECIALIST (APPSW)	100%	*0%*
8668360	8	CIVIL ENGINEERING TECHNICIAN	97%	*3%*
8668360	6	CIVIL ENGINEERING TECHNICIAN	100%	*0%*
8668360	13	CIVIL ENGINEER	99%	*1%*
8668360	9	CIVIL ENGINEERING TECHNICIAN	100%	*0%*
8668360	6	SECRETARY	0%	*100%*
8668360	10	CIVIL ENGINEERING TECHNICIAN	100%	*0%*
8668360	12	IT SPECIALIST (OS)	100%	*0%*
8668360	7	DATA TECHNICIAN	100%	*0%*
8668360	3	CLERK	1%	*99%*
8668110	12	STRUCTURAL ENGINEER	100%	*0%*
8668360	9	CIVIL ENGINEERING TECHNICIAN	99%	*1%*
8668360	13	CIVIL ENGINEER	100%	*0%*
8668360	9	CIVIL ENGINEERING TECHNICIAN	100%	*0%*
8668360	13	CIVIL ENGINEER	98%	*2%*
8668360	14	CIVIL ENGINEER	97%	*3%*
8668360	12	CIVIL ENGINEER	100%	*0%*
8668360	13	CIVIL ENGINEER	95%	*5%*
8668360	10	CIVIL ENGINEERING TECHNICIAN	99%	*1%*
8668360	12	CIVIL ENGINEER	95%	*5%*
8668360	13	CIVIL ENGINEER	99%	*1%*
8668360	13	CIVIL ENGINEER	98%	*2%*
8668360	13	CIVIL ENGINEER	91%	*9%*
8668400	15	SUPVY GENERAL ENGINEER	59%	*41%*
8668400	7	SECRETARY	1%	*100%*
8668460	5	SECRETARY	1%	*99%*
8668440	6	SECRETARY	0%	*100%*
8668400	6	SECRETARY (OA)	2%	*98%*

8668410	12	MECHANICAL ENGINEER	100%		*0%*
8668410	14	MECHANICAL ENGINEER	98%		*2%*
8668410	11	MECHANICAL ENGINEER	97%		*3%*
8668410	11	MECHANICAL ENGINEER	96%		*4%*
8668410	13	MECHANICAL ENGINEER	100%		*0%*
8668410	9	MECHANICAL ENGINEER	93%		*7%*
8668410	14	SUPVY MECHANICAL ENGINEER	25%		*75%*
8668410	13	MECHANICAL ENGINEER	100%		*0%*
8668410	11	MECHANICAL ENGINEER	78%		*22%*
8668410	13	MECHANICAL ENGINEER	100%		*0%*
8668410	11	MECHANICAL ENGINEER	96%		*4%*
8668410	13	MECHANICAL ENGINEER	100%		*0%*
8668410	12	MECHANICAL ENGINEER	99%		*1%*
8668410	12	MECHANICAL ENGINEER	99%		*1%*
8668410	12	MECHANICAL ENGINEER	98%		*2%*
8668410	13	SUPVY GENERAL ENGINEER	100%		*0%*
8668410	11	MECHANICAL ENGINEER	100%		*0%*
					100%
8668420	7	MECHANICAL ENGINEER	82%		*18%*
8668420	14	MECHANICAL ENGINEER	100%		*0%*
8668420	9	MECHANICAL ENGINEER	87%		*13%*
8668420	14	SUPVY MECHANICAL ENGINEER	32%		*69%*
8668420	12	MECHANICAL ENGINEER	100%		*0%*
8668420	13	MECHANICAL ENGINEER	100%		*0%*
8668420	9	MECHANICAL ENGINEER	72%		*28%*
8668420	12	MECHANICAL ENGINEER	100%		*0%*
8668420	12	MECHANICAL ENGINEER	95%		*5%*
8668420	7	MECHANICAL ENGINEER	64%		*36%*
8668420	13	MECHANICAL ENGINEER	97%		*3%*
8668420	12	MECHANICAL ENGINEER	91%		*9%*
8668420	12	MECHANICAL ENGINEER	100%		*0%*
8668420	12	MECHANICAL ENGINEER	97%		*3%*
8668420	13	MECHANICAL ENGINEER	99%		*1%*
8668430	11	ELECTRICAL ENGINEER	96%		*4%*
8668430	12	ELECTRICAL ENGINEER	96%		*4%*
8668430	12	ELECTRICAL ENGINEER	97%		*3%*
8668430	12	ELECTRICAL ENGINEER	99%		*1%*
8668430	12	ELECTRICAL ENGINEER	98%		*2%*
8668430	13	ELECTRICAL ENGINEER	100%		*0%*

8668430	14	SUPVY ELECTRICAL ENGINEER	55%		*45%*
8668430	12	ELECTRICAL ENGINEER	95%		*5%*
8668430	12	ELECTRICAL ENGINEER	100%		*0%*
8668430	6	SECRETARY	0%		*100%*
8668430	9	ELECTRICAL ENGINEER	77%		*23%*
8668430	11	ELECTRICAL ENGINEER	77%		*23%*
8668430	11	ELECTRICAL ENGINEER	82%		*18%*
8668430	12	ELECTRICAL ENGINEER	100%		*0%*
8668430	12	ELECTRICAL ENGINEER	100%		*0%*
8668430	12	ELECTRICAL ENGINEER	95%		*5%*
8668430	11	ELECTRICAL ENGINEER	95%		*5%*
8668430	9	STUDENT ELECTRICAL ENGINEER	51%		*49%*
8668430	14	ELECTRICAL ENGINEER	98%		*2%*
8668430	14	ELECTRICAL ENGINEER	99%		*1%*
8668430	12	ELECTRICAL ENGINEER	98%		*2%*
8668430	7	ELECTRICAL ENGINEER	44%		*56%*
8668440	13	ELECTRICAL ENGINEER	83%		*17%*
8668440	12	COMPUTER ENGINEER	99%		*1%*
8668440	13	ELECTRICAL ENGINEER	99%		*1%*
8668440	12	ELECTRICAL ENGINEER	94%		*6%*
8668440	12	ELECTRICAL ENGINEER	90%		*10%*
8668440	14	SUPVY ELECTRICAL ENGINEER	96%		*4%*
8668440	13	ELECTRICAL ENGINEER	99%		*1%*
8668440	11	ELECTRICAL ENGINEER	97%		*3%*
8668440	9	ELECTRICAL ENGINEER	70%		*30%*
8668440	1	CLERK	0%		*100%*
8668440	10	ELECTRONICS TECHNICIAN	67%		*33%*
8668440	4	STUDENT TRAINEE	7%		*93%*
8668440	12	ELECTRICAL ENGINEER	71%		*29%*
8668440	13	ELECTRONICS ENGINEER	99%		*1%*
8668440	13	ELECTRICAL ENGINEER	88%		*12%*
8668440	13	ELECTRICAL ENGINEER	87%		*13%*
8668440	14	ELECTRICAL ENGINEER	94%		*6%*
8668440	12	ELECTRICAL ENGINEER	99%		*1%*
8668440	11	IT SPECIALIST (OS)	91%		*9%*
8668440	13	ELECTRICAL ENGINEER	91%		*9%*
8668440	9	ELECTRICAL ENGINEER	50%		*50%*
8668440	12	ELECTRICAL ENGINEER	84%		*16%*
8668440	9	ELECTRICAL ENGINEER	96%		*4%*
8668440	9	ELECTRICAL ENGINEER	71%		*30%*

8668440	11	ELECTRICAL ENGINEER	86%		*14%*
8668440	13	ELECTRICAL ENGINEER	95%		*5%*
8668440	13	ELECTRICAL ENGINEER	96%		*4%*
8668440	13	ELECTRICAL ENGINEER	96%		*4%*
8668440	9	ELECTRICAL ENGINEER	36%		*64%*
8668440	11	ELECTRICAL ENGINEER	97%		*3%*
8668440	14	SUPVY ELECTRICAL ENGINEER	3%		*97%*
8668460	10	CIVIL ENGINEERING TECHNICIAN	82%		*18%*
8668460	0	RESEARCH LAB MODEL MAKER	89%		*11%*
8668460	0	RESEARCH LABORATORY MACHINIST	94%		*6%*
8668460	14	SUPVY HYDRAULIC ENG	36%		*64%*
8668460	13	RESEARCH HYDRAULIC ENGINEER	81%		*19%*
8668460	13	RESEARCH HYDRAULIC ENGINEER	94%		*6%*
8668460	12	HYDRAULIC ENGINEER	99%		*1%*
8668460	13	HYDRAULIC ENGINEER	96%		*4%*
8668460	9	HYDRAULIC ENGINEER	89%		*11%*
8668460	12	HYDRAULIC ENGINEER	74%		*26%*
8668460	13	HYDRAULIC ENGINEER	96%		*4%*
8668460	11	HYDRAULIC ENGINEER	90%		*10%*
8668460	9	HYDRAULIC ENGINEER	89%		*11%*
8668460	12	HYDRAULIC ENGINEER	97%		*3%*
8668460	13	HYDRAULIC ENGINEER	87%		*13%*
8668460	13	HYDRAULIC ENGINEER	89%		*11%*

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Product Delivery (FCCO)

SOP	Data Requested for FY 2010	***Data Reported***	Results Reported
II.A	Total Number of Service Agreements in FY 2010	***92***	
II.A	Total Number of Service Agreements Completed in FY 2010	***92***	
II.A	Total $ Value of Service Agreements Completed in FY 2010	***$8,649,000***	
II.A.1	Total number of Service Agreements completed by the agreed upon final completion date **Calculation**	***92***	100.0%
II.A.2	Total number of Service Agreements completed within the agreed upon budget **Calculation**	***80***	87.0%
II.A.3	Dollar value of Service Agreements completed by the agreed upon final completion date **Calculation**	***$8,621,630***	99.7%
II.A.4	Dollar value of Service Agreements completed within the agreed upon budget **Calculation**	***$8,621,630***	99.7%
II.A.5	Number of Service Agreements with Completion Reports **Calculation**	***0***	0.0%

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Percent Utilization (FCCO)

SOPs II.C.1 II.C.2 II.C.3 Name	Category	Objective measure of time spent working under service agreements in %	Objective measure of time working on small projects (<$10,000) in %	Objective measure of time worked on overhead (K-accounts) in %
FCCO	By your Service Provider Organization (SPO)	***95***	***0***	***5***
	By each working group within your SPO? (Insert working groups and respective percentages. Add rows as needed.)			
Design		***95***	***0***	***5***
Construction		***95***	***0***	***5***
Geology		***95***	***0***	***5***
	By positions/individuals within your SPO? (Insert positions/names (optional) and respective percentages. Add rows as needed.)			
Civil Engineer, GS-15		***100***	***4***	***4***
Civil Engineer, GS-13		***100***	***5***	***2***
Civil Engineer, GS-12		***100***	***14***	***1***
Civil Engineering Tech, GS-13		***100***	***1***	***1***
Civil Engineer, GS-13		***100***	***2***	***0***
Civil Engineering Tech, GS-12		***100***	***0***	***0***
Civil Engineer, GS-11		***100***	***1***	***1***
Civil Engineering Tech, GS-11		***100***	***0***	***0***
Civil Engineering Tech, GS-9		***100***	***0***	***0***
Civil Engineer, GS-11		***100***	***2***	***0***
Civil Enginering Tech, GS-13		***100***	***0***	***2***
Civil Engineering Tech, GS-11		***100***	***0***	***0***
Civil Engineering Tech, GS-9		***100***	***3***	***1***
Civil Engineering Tech, GS-9		***100***	***0***	***0***
Civil Engineering Tech, GS-9		***100***	***0***	***0***
Electrical Engineer, GS-12		***100***	***5***	***0***
Civil Engineer, GS-12		***100***	***4***	***0***
Civil Engineer, GS-11		***100***	***8***	***0***
Civil Engineer, GS-11		***100***	***2***	***0***
Civil Engineer, GS-11		***100***	***3***	***1***

Civil Engineering Tech, GS-13	*100*	*1*	*0*
Civil Engineer, GS-11	*100*	*7*	*0*
Construction Representative, GS-12	*100*	*0*	*0*
Construction Representative, GS-11	*100*	*0*	*0*
Construction Inspector, GS-9	*100*	*0*	*0*
Civil Engineer, GS-12	*100*	*0*	*0*
Electrical Engineering Tech, GS-11	*100*	*1*	*0*
Civil Engineering Tech, GS-11	*100*	*0*	*0*
Construction Representative, GS-10	*100*	*0*	*0*
Materials Engineering Tech, GS-6	*100*	*0*	*0*
First Fill Monitor, GS-4	*100*	*0*	*0*
First Fill Monitor, GS-4	*100*	*0*	*0*
First Fill Monitor, GS-4	*100*	*0*	*0*
First Fill Monitor, GS-4	*100*	*0*	*0*
First Fill Monitor, GS-4	*100*	*0*	*0*
Construction Inspector, GS-9	*100*	*0*	*0*
Construction Representative, GS-10	*100*	*0*	*0*
Electrical Engineering Tech, GS-10	*100*	*1*	*0*
Construction Representative, GS-10	*100*	*0*	*0*
Construction Inspector, GS-9	*100*	*1*	*0*
Construction Inspector, GS-9	*100*	*1*	*0*
Construction Inspector, GS-6	*100*	*0*	*0*
Civil Engineering Tech, GS-9	*100*	*1*	*0*
Industrial Equipment Mechanic, WG-10	*100*	*0*	*0*
Electrician, WG-10	*100*	*0*	*0*
Civil Engineering Tech, GS-7	*100*	*1*	*1*
Electrical Engineer, GS-12	*100*	*0*	*0*
Mechanical Engineer, GS-12	*100*	*1*	*0*
Resource Program Manager, GS-13	*100*	*1*	*1*
Photographer, GS-9	*100*	*0*	*0*
Geologist, GS-9	*100*	*0*	*0*
Geologist, GS-9	*100*	*0*	*0*
Civil Engineering Tech, GS-9	*100*	*3*	*0*
Geologist, GS-9	*100*	*0*	*0*

Construction Rep, GS-11	*100*	*0*	*0*
Construction Rep, GS-10	*100*	*0*	*0*
Surveying Tech, GS-8	*100*	*0*	*0*
Materials Engineering Tech, GS-11	*100*	*0*	*0*
Materials Engineering Tech, GS-7	*100*	*0*	*0*
Materials Engineering Tech, GS-7	*100*	*0*	*0*
Materials Engineering Tech, GS-10	*100*	*0*	*0*
Materials Enginering Tech, GS-9	*100*	*0*	*0*
Materials Engineering Tech, GS-7	*100*	*0*	*0*
Materials Engineering Tech, GS-7	*100*	*0*	*0*

This section is intended to measure Customer Satisfaction with the overall project

SOP II.B

Service Provider Organization (SPO) Code List (used for sorting/reporting by SPO)

Technical Service Center =	TSC	
PN Regional Office =	PN	
GP Regional Office =	GP	
MP Regional Office =	MP	
LC Regional Office =	LC	
UC Regional Office =	UC	
Provo Area Office =	PRO	
Four Corners Construction Office =	FCCO	FCCO is a service provider for itself. No ratings provided.
Mid-Pacific Construction Office =	MPCO	
Drill Crew =	DC	
Outsourced Contractor =	OC	

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Product Delivery (Provo)

SOP	Data Requested for FY 2010	***Data Reported***	Results Reported
II.A	Total Number of Service Agreements in FY 2010 (Note: Total includes new agreements entered into in FY 2010, as well as ongoing agreements initiated prior to FY2010)	***27***	
II.A	Total Number of Service Agreements Completed in FY 2010	***7***	
II.A	Total $ Value of Service Agreements Completed in FY 2010	***$145,600***	
II.A.1	Total number of Service Agreements completed by the agreed upon final completion date	***7***	
	Calculation		100.0%
II.A.2	Total number of Service Agreements completed within the agreed upon budget	***7***	
	Calculation		100.0%
II.A.3	Dollar value of Service Agreements completed by the agreed upon final completion date	***$145,600***	
	Calculation		100.0%
II.A.4	Dollar value of Service Agreements completed within the agreed upon budget	***$145,600***	
	Calculation		100.0%
II.A.5	Number of Service Agreements with Completion Reports	***0***	
	Calculation		0.0%

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Percent Utilization (Provo)

SOPs II.C.1 II.C.2 II.C.3 Name	Category	Objective measure of time spent working under service agreements in %	Objective measure of time working on small projects (<$10,000) in %	Objective measure of time worked on overhead (K-accounts) in %
PRO	By your Service Provider Organization (SPO)	***90***	***8***	***2***
	By each working group within your SPO? (Insert working groups and respective percentages. Add rows as needed.)			
Field Engineering Division I				
Inspection Group I		***100***	***0***	***0***
Engineering Equipment Group		***83***	***7***	***10***
Field Egineering Division II				
Inspection Group II		***99***	***1***	***0***
Surveys Group		***85***	***10***	***5***
Materials Engineering Group		***95***	***0***	***5***
Office Engineering Division				
Geology Group		***98***	***1***	***1***
Contract Administration Group		***100***	***0***	***0***
Drilling Operations Group		***94***	***0***	***6***
Design Group		***94***	***5***	***1***
	By positions/individuals within your SPO? (Insert positions/names (optional) and respective percentages. Add rows as needed.)			
Field Engineering Division I				
Supervisory Civil Engineer, GS-13		***95***	***2***	***1***
Civil Engineer, GS-12		***95***	***2***	***1***
Civil Engineer, GS-12		***75***	***0***	***0***
Inspection Group I				
Supervisory Construction Representative, GS-11		***100***	***0***	***0***
Construction Representative, GS-10		***100***	***0***	***0***
Construction Inspector, GS-9		***100***	***0***	***0***
Construction Inspector, GS-8		***25***	***0***	***0***
Construction Inspector, GS-9		***60***	***0***	***0***
Engineering Equipment Group				
Lead Operator, WL-10		***70***	***5***	***5***

Equipment Operator, WG-10	*90*	*0*	*2*
Equipment Operator, WG-10	*90*	*0*	*2*
Equipment Operator, WG-10	*100*	*0*	*0*
Equipment Operator, WG-10	*100*	*0*	*0*
Equipment Operator, WG-10	*100*	*0*	*0*
Equipment Operator, WG-10	*95*	*0*	*0*
Equipment Operator, WG-8	*100*	*0*	*0*
Equipment Operator, WG-10	*100*	*0*	*0*
Equipment Operator, WG-10	*100*	*0*	*0*
Equipment Operator, WG-10	*100*	*0*	*0*
Lead Civil Engineering Tech, GS-10	*75*	*2*	*0*
Civil Engineering Tech, GS-9	*75*	*2*	*0*
Civil Engineering Tech, GS-9	*75*	*2*	*0*
Civil Engineering Tech, GS-9	*75*	*2*	*0*
Field Engineering Division II			
Supervisory Civil Engineer, GS-13	*100*	*0*	*0*
Inspection Group II			
Supervisory Construction Representative, GS-12	*100*	*0*	*0*
Construction Inspector, GS-8	*100*	*0*	*0*
Construction Inspector, GS-9	*100*	*2*	*0*
Construction Inspector, GS-8	*100*	*0*	*0*
Construction Control Representative, GS-11	*100*	*0*	*0*
Construction Inspector, GS-8	*100*	*0*	*0*
Construction Inspector, GS-8	*100*	*0*	*0*
Surveys Group			
Supervisory Survey Technician, GS-12	*90*	*10*	*5*
Survey Technician, GS-X	*90*	*10*	*5*
Survey Technician, GS-X	*90*	*10*	*5*
Survey Technician, GS-X	*90*	*10*	*5*
Materials Engineering Group			
Supervisory Materials Engineering Tech, GS-12	*95*	*0*	*5*
Materials Engineering Tech, GS-X	*95*	*0*	*5*
Materials Engineering Tech, GS-8	*95*	*0*	*5*
Materials Engineering Tech, GS-8	*95*	*0*	*5*
Materials Engineering Tech, GS-5	*95*	*0*	*5*

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

Office Engineering Division			
Supervisory Civil Engineer, GS-13	*90*	*0*	*0*
Geology Group			
Supervisory Geologist, GS-X	*100*	*1*	*5*
Geologist, GS-X	*90*	*0*	*0*
Geologist, GS-X	*100*	*0*	*0*
Geologist, GS-X	*100*	*0*	*0*
Contract Administration Group			
Civil Engineer, GS-X	*10*	*0*	*0*
Civil Engineering Technician, GS-X	*100*	*0*	*0*
Civil Engineering Technician, GS-X	*100*	*0*	*0*
Design Group			
Supervisory Civil Engineer, GS-12	*90*	*0*	*2*
Civil Engineering Technician, GS-X	*95*	*0*	*0*
Civil Engineer, GS-11	*95*	*0*	*1*
Civil Engineer, GS-X	*95*	*0*	*0*
Drilling Operation Group			
Lead Driller, WL-X	*100*	*0*	*20*
Driller, WG-X	*100*	*0*	*5*
Driller, WG-X	*100*	*0*	*5*
Driller, WG-X	*100*	*0*	*5*
Driller Helper, WG-X	*100*	*0*	*5*
Driller Helper, WG-X	*100*	*0*	*5*
Driller Helper, WG-X	*100*	*0*	*5*
Driller Helper, WG-X	*100*	*0*	*5*
Driller Helper, WG-X	*100*	*0*	*5*
Driller Helper, WG-X	*100*	*0*	*5*
Driller Helper, WG-X	*100*	*0*	*5*

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Customer Satisfaction with the overall project

SOP II.B

Service Provider Organization (SPO) Code List (used for sorting/reporting by SPO)

Technical Service Center =	TSC
PN Regional Office =	PN
GP Regional Office =	GP
MP Regional Office =	MP
LC Regional Office =	LC
UC Regional Office =	UC
Provo Area Office =	PRO
Four Corners Construction Office =	FCCO
Mid-Pacific Construction Office =	MPCO
Drill Crew =	DC
Outsourced Contractor =	OC

Note: Key success factors and challenges should accompany all ratings.

	SPO Code	Project/Activity Name	*Rating*		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
1	***PRO***	***Green Mountain Reservoir Recreation Site Improvement (Forest Service)***	***1 (poor) to 5***	Average Rating	***Good communication with Forest Service as public input changed the focus of the study.***	***Forest Service had political pressure from the County to locate recreation facilities at certain locations, which our report did not support.***
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***5***			
		Technical Knowledge	***5***			
		Problem Solving	***5***			
		Responsiveness	***5***			
	$30,000	**Calculation**	30	5.0		

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

	SPO Code	Project/Activity Name	*Rating*		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
2	***PRO***	***Provo Reservoir Canal Enclosure Project Construction Management (PRWUA)***	***1 (poor) to 5***	Average Rating		***Ongoing.***
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***4***			
		Technical Knowledge	***5***			
		Problem Solving	***5***			
		Responsiveness	***4***			
	$3,800,000	**Calculation**	28	4.7		
	SPO Code	Project/Activity Name	*Rating*		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
3	***PRO***	***Utah Lake Drainage Basin Water Delivery System (ULS) Construction Management (CUWCD)***	***1 (poor) to 5 (excellent)***	Average Rating		***Ongoing.***
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***5***			
		Technical Knowledge	***5***			
		Problem Solving	***4***			
		Responsiveness	***5***			
	$3,300,000	**Calculation**	29	4.8		

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

	SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
4	***PRO***	***AV Watkins Crest Raise Feasibility Study (WBWCD)***	***1 (poor) to 5***	Average Rating		***Ongoing.***
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***5***			
		Technical Knowledge	***5***			
		Problem Solving	***5***			
		Responsiveness	***5***			
	$1,000,000	**Calculation**	30	5.0		
	SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
5	***PRO***	***Ute Tribe Rock Creek Survey (BIA)***	***1 (poor) to 5***	Average Rating		***Weather***
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***3***			
		Technical Knowledge	***5***			
		Problem Solving	***5***			
		Responsiveness	***5***			
	$5,000	**Calculation**	28	4.7		

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

	SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
6	***PRO***	***Virgin River Fish Barrier (BLM)***	***1 (poor) to 5***	Average Rating	***Ongoing.***	***Drilling has shown that pile support is not feasible and other methods need to beused to build the fish barrier.***
		Cost Effectiveness	***4***			
		Activity Understanding	***5***			
		Timeliness	***2***			
		Technical Knowledge	***5***			
		Problem Solving	***4***			
		Responsiveness	***3***			
	$103,000	**Calculation**	23	3.8		
	SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
7	***PRO***	***Crooked Creek Dam Rehabilitation (Forest Service)***	***1 (poor) to 5***	Average Rating	***Working with the Forest Serviceto locate outlet to fit their preferred outlet channel.***	***Several changes by Forest Service late in the process on design and field locations. Ongoing.***
		Cost Effectiveness	***4***			
		Activity Understanding	***5***			
		Timeliness	***5***			
		Technical Knowledge	***5***			
		Problem Solving	***4***			
		Responsiveness	***3***			
	$525,000	**Calculation**	26	4.3		

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

	SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
8	***PRO***	***Crystal Lake Dam Rehabilitation (Forest Service)***	***1 (poor) to 5 (excellent)***	Average Rating	***No work yet.***	***Ongoing.***
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***5***			
		Technical Knowledge	***5***			
		Problem Solving	***5***			
		Responsiveness	***5***			
	$35,000	**Calculation**	30	5.0		
9	***PRO***	***Echo Dam L-23 Survey (WRWUA)***	***1 (poor) to 5***	Average Rating		***None.***
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***5***			
		Technical Knowledge	***5***			
		Problem Solving	***5***			
		Responsiveness	***5***			
	$2,100	**Calculation**	30	5.0		

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

	SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
10	***PRO***	***Big Sandy Bathometric Survey (WYST)***	***1 (poor) to 5***	Average Rating		***None.***
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***4***			
		Technical Knowledge	***5***			
		Problem Solving	***4***			
		Responsiveness	***5***			
	$23,000	**Calculation**	28	4.7		
	SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
11	***PRO***	***East Juab Water Efficiency Project - Ph. 2 (CUWCD)***	***1 (poor) to 5 (excellent)***	Average Rating		***None.***
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***5***			
		Technical Knowledge	***5***			
		Problem Solving	***5***			
		Responsiveness	***5***			
	$50,000	**Calculation**	30	5.0		

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

	SPO Code	Project/Activity Name	*Rating*		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
12	***PRO***	***Scofield Dam Spillway Gatehouse Construction Management (CWCD)***	***1 (poor) to 5***	Average Rating		***None.***
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***5***			
		Technical Knowledge	***5***			
		Problem Solving	***5***			
		Responsiveness	***5***			
	$11,500	**Calculation**	30	5.0		
	SPO Code	Project/Activity Name	*Rating*		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
13	***PRO***	***Sanpete WCD Environmental and Technical Services***	***1 (poor) to 5 (excellent)***	Average Rating		***Not Completed in FY 2010.***
		Cost Effectiveness				
		Activity Understanding				
		Timeliness				
		Technical Knowledge				
		Problem Solving				
		Responsiveness				
	$164,000	**Calculation**	0	0.0		

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

	SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
14	***PRO***	***Cedar View Dam Rehab and Recreation Enhancement (BIA)***	***1 (poor) to 5***	Average Rating		***Ongoing.***
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***5***			
		Technical Knowledge	***5***			
		Problem Solving	***5***			
		Responsiveness	***5***			
	$3,900,000	**Calculation**	30	5.0		
	SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
15	***PRO***	***Lake Powell Pipeline Project (UTST)***	***1 (poor) to 5 (excellent)***	Average Rating		***Not completed in FY 2010.***
		Cost Effectiveness				
		Activity Understanding				
		Timeliness				
		Technical Knowledge				
		Problem Solving				
		Responsiveness				
	$54,000	**Calculation**	0	0.0		

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

	SPO Code	Project/Activity Name	Rating		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
16	***PRO***	***Willard Bay State Park South Marina Campground Inspection (Utah State Parks and Rec.)***	***1 (poor) to 5 (excellent)***	Average Rating		***None.***
		Cost Effectiveness	***5***			
		Activity Understanding	***4***			
		Timeliness	***4***			
		Technical Knowledge	***3***			
		Problem Solving	***5***			
		Responsiveness	***5***			
	$24,000	**Calculation**	26	4.3		
	SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
17	***PRO***	***JA-4 Relocation Inspection for SR-92 (UDOT/JVWCD)***	***1 (poor) to 5 (excellent)***	Average Rating	***Ongoing.***	***Weather, traffic.***
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***5***			
		Technical Knowledge	***5***			
		Problem Solving	***5***			
		Responsiveness	***5***			
	$120,000	**Calculation**	30	5.0		

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

	SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
18	***PRO***	***Scofield Dam Spillway Modification Project (SOD)***	***1 (poor) to 5***	Average Rating	***Ongoing.***	***Weather.***
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***5***			
		Technical Knowledge	***5***			
		Problem Solving	***5***			
		Responsiveness	***5***			
	Ongoing	**Calculation**	30	5.0		
	SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
19	***PRO***	***Echo Dam Spillway Modification Project (SOD)***	***1 (poor) to 5 (excellent)***	Average Rating	***Ongoing.***	***None.***
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***5***			
		Technical Knowledge	***5***			
		Problem Solving	***5***			
		Responsiveness	***5***			
	Ongoing	**Calculation**	30	5.0		

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

	SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
20	***PRO***	***Deer Creek Dam Modification Project - Ph. 3 (SOD)***	***1 (poor) to 5***	Average Rating	***Ongoing.***	
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***5***			
		Technical Knowledge	***5***			
		Problem Solving	***5***			
		Responsiveness	***5***			
	Ongoing	**Calculation**	30	5.0		
	SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
21	***PRO***	***Hyrum Dam Modification Project (SOD)***	***1 (poor) to 5 (excellent)***	Average Rating	***Ongoing,***	
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***4***			
		Technical Knowledge	***5***			
		Problem Solving	***5***			
		Responsiveness	***4***			
	Ongoing	**Calculation**	28	4.7		

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

	SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
22	***PRO***	***Laguna Ponds (LC Region)***	***1 (poor) to 5***	Average Rating		***Ongoing.***
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***5***			
		Technical Knowledge	***5***			
		Problem Solving	***5***			
		Responsiveness	***5***			
	$20,000	**Calculation**	30	5.0		
	SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
23	***PRO***	***Hart Mine Marsh***	***1 (poor) to 5 (excellent)***	Average Rating		***Ongoing.***
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***5***			
		Technical Knowledge	***5***			
		Problem Solving	***5***			
		Responsiveness	***5***			
	$1,300,000	**Calculation**	30	5.0		

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

	SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
24	***PRO***	***Leads Hazardous Waste Remediation (EPA)***	***1 (poor) to 5***	Average Rating		***Not Completed***
		Cost Effectiveness	***4***			
		Activity Understanding	***5***			
		Timeliness	***4***			
		Technical Knowledge	***5***			
		Problem Solving	***5***			
		Responsiveness	***5***			
		Calculation	28	4.7		
	SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
25	***PRO***	***Farmington, NM (NIPP)***	***1 (poor) to 5 (excellent)***	Average Rating	***Ongoing.***	***Job went well with no real challenges.***
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***5***			
		Technical Knowledge	***5***			
		Problem Solving	***5***			
		Responsiveness	***5***			
	$70,000	**Calculation**	30	5.0		

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

	SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
26	***PRO***	***Black River (LC Region)***	***1 (poor) to 5***	Average Rating	***Drilling. Ongoing.***	***Depth of holes and rock formation were challenging.***
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***5***			
		Technical Knowledge	***5***			
		Problem Solving	***5***			
		Responsiveness	***5***			
	$1,000,000	**Calculation**	30	5.0		
	SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
27	***PRO***	***Priest Lake Dam Rehabilitation (Forest Service)***	***1 (poor) to 5 (excellent)***	Average Rating	***no work yet***	***Ongoing.***
		Cost Effectiveness	***5***			
		Activity Understanding	***5***			
		Timeliness	***5***			
		Technical Knowledge	***5***			
		Problem Solving	***5***			
		Responsiveness	***5***			
	$35,000	**Calculation**	30	5.0		

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Product Delivery (MPCO)

SOP	Data Requested for FY 2010	***Data Reported***	Results Reported
II.A	Total Number of Service Agreements in FY 2010	***65***	
II.A	Total Number of Service Agreements Completed in FY 2010	***6***	
II.A	Total $ Value of Service Agreements Completed in FY 2010	***$66,500***	
II.A.1	Total number of Service Agreements completed by the agreed upon final completion date	***6***	
	Calculation		100.0%
II.A.2	Total number of Service Agreements completed within the agreed upon budget	***6***	
	Calculation		100.0%
II.A.3	Dollar value of Service Agreements completed by the agreed upon final completion date	***$66,500***	
	Calculation		100.0%
II.A.4	Dollar value of Service Agreements completed within the agreed upon budget	***$66,500***	
	Calculation		100.0%
II.A.5	Number of Service Agreements with Completion Reports	***5***	
	Calculation		83.3%

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Percent Utilization (MPCO)

SOPs II.C.1 II.C.2 II.C.3 Name	Category	Objective measure of time spent working under service agreements in %	Objective measure of time working on small projects (<$10,000) in %	Objective measure of time worked on overhead (K-accounts) in %
MPCO	By your Service Provider Organization (SPO)	***90***	***4***	***6***
	By each working group within your SPO? (Insert working groups and respective percentages. Add rows as needed.)			
Office of Construction Engineer		***94***		***6***
Preaward and Project Management		***77***	***6***	***17***
Office Engineering		***96***		***4***
Field Engineering		***98***		***2***
Materials Branch		***91***	***8***	***1***
	By positions/individuals within your SPO? (Insert positions/names (optional) and respective percentages. Add rows as needed.)			
Construction Engineer, GS-15		***83***		***17***
Safety & Occupational Health Manager, GS-12		***85***		***15***
Deputy Construction Engineer		***76***		***24***
Civil Engineer, GS-12		***58***	***18***	***24***
Civil Engineer, GS-7		***73***	***9***	***18***
Civil Engineer, GS-12		***100***		
Office Engineer, GS-13		***84***		***16***
Civil Engineer, GS-12		***100***		
Engineering Technician (Civil), GS-12		***100***		
Mechanical Engineer, GS-7		***100***		
Civil Engineer, GS-7		***100***		
Civil Engineer, GS-5		***100***		
Mechanical Engineer, GS-5		***100***		
Engineering Technician (Civil), GS-12		***100***		
Civil Engineer, GS-7		***99***		***1***
Student Trainee (Engineering), GS-4		***85***		***15***
Engineering Technician (Civil), GS-11		***100***		
Civil Engineer, GS-9		***100***		
Electrical Engineer, GS-9		***74***		***26***

Engineering Technician (Civil), GS-12	*100*		
Civil Engineer, GS-11	*100*		
Field Engineer (Supervisory Civil Engineer), GS-13	*90*		*10*
Field Engineer (Supervisory Construction Representative), GS-13	*72*		*28*
Engineering Technician (Civil), GS-12	*100*		
Construction Control Representative, GS-11	*100*		
Engineering Technician, GS-12	*100*		
Civil Engineer, GS-11	*100*		
Construction Control Representative, GS-11	*100*		
Civil Engineer, GS-11	*100*		
Civil Engineer, GS-11	*100*		
Engineering Technician(Civil), GS-12	*100*		
Engineering Technician(Civil), GS-12	*100*		
Civil Engineer (Rotation), GS-9	*93*		*7*
Construction Control Representative, GS-11	*100*		
Construction Control Representative, GS-9	*100*		
Construction Control Representative, GS-8	*100*		
Construction Control Representative, GS-8	*100*		
Construction Control Representative, GS-8	*100*		
Construction Control Representative, GS-9	*98*		*2*
Construction Control Representative, GS-11	*99*		*1*
Construction Control Representative, GS-8	*100*		
Construction Control Representative, GS-8	*100*		
Construction Control Representative, GS-9	*100*		
Construction Control Inspector, GS-8	*100*		
Office Clerk, GS-3	*100*		
Engineering Technician (Civil), GS-12	*100*		
Construction Management Specialist, GS-11	*100*		
Civil Engineer, GS-12	*100*		
Civil Engineer, GS-12	*100*		
Student Trainee (Engineering), GS-4	*100*		
Office Automation Clerk, GS-4	*100*		
Civil Engineer, GS-7	*100*		

Engineering Technician (Materials), GS-5	*95*	*5*	
Engineering Technician (Materials), GS-9	*95*	*5*	
Engineering Technician (Materials), GS-7	*95*	*1*	*4*
Engineering Technician (Materials), GS-9	*98*	*2*	
Engineering Technician (Materials), GS-7	*94*	*5*	*1*
Engineering Technician (Materials), GS-9	*93*	*6*	*1*
Engineering Technician (Materials), GS-5	*93*	*7*	
Supervisory Engineering Technician (Materials), GS-12	*81*	*16*	*3*
Engineering Technician (Materials), GS-9	*100*		
Engineering Technician (Materials), GS-6	*69*	*31*	

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

This section is intended to measure Customer Satisfaction with the overall project (MPCO)

SOP II.B

Service Provider Organization (SPO) Code List (used for sorting/reporting by SPO)

Technical Service Center =	TSC
PN Regional Office =	PN
GP Regional Office =	GP
MP Regional Office =	MP
LC Regional Office =	LC
UC Regional Office =	UC
Provo Area Office =	PRO
Four Corners Construction Office =	FCCO
Mid-Pacific Construction Office =	MPCO
Drill Crew =	DC
Outsourced Contractor =	OC

Note: Key success factors and challenges should accompany all ratings.

SPO Code	Project/Activity Name	*Rating*		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
MPCO	***TCID Roadwork***	***1 (poor) to 5***	Average Rating	***1) Good specifications from the TSC Design Office; 2) Good inspection from the MP Construction Office.***	***The work being completed by the irrigation district, but they learned how to increase their efficiency.***
	Cost Effectiveness	***5***			
	Activity Understanding	***5***			
	Timeliness	***5***			
	Technical Knowledge	***5***			
	Problem Solving	***5***			
	Responsiveness	***5***			
	Calculation	30	5.0		

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
MPCO	***Chiloquin Dam Removal - Close out Phase***	***1 (poor) to 5***	Average Rating	***1) Timely response and performance; 2) Excellent documentation; 3) Efficient use of funds to complete required close out tasks.***	***1) Project closeout was challenging due to the lengthy nature of this 7 year planning and construction project.***
	Cost Effectiveness	***5***			
	Activity Understanding	***5***			
	Timeliness	***5***			
	Technical Knowledge	***5***			
	Problem Solving	***5***			
	Responsiveness	***5***			
	Calculation	30	5.0		
SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
MPCO	***O'Neil Unit 4160 Switchgear Breaker - Preaward Phase***	***1 (poor) to 5***	Average Rating	***1) Emphasizing and managing the contract legal procedures and requirements.***	***1) Not using an OGR/COTR with expertise in the relevant field of the contract.***
	Cost Effectiveness	***3***			
	Activity Understanding	***3***			
	Timeliness	***3***			
	Technical Knowledge	***2***			
	Problem Solving	***3***			
	Responsiveness	***2***			
	Calculation	16	2.7		

FY 2010 Coordination and Oversight Group (COG) Annual Report Data Call

SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or project and overcoming challenges.	Challenges encountered during the project or activity.
MPCO	***New Melones Engine Generator - Preaward Phase - RAX #271***	***1 (poor) to 5***	Average Rating	***1) None***	***1) MPCO technical knowledge of the electrical system is lacking. Comments and reviews from MPCO on the SpecD and drawings are not technical in nature but mostly about format and grammar.***
	Cost Effectiveness	***2***			
	Activity Understanding	***2***			
	Timeliness	***3***			
	Technical Knowledge	***2***			
	Problem Solving	***2***			
	Responsiveness	***3***			
	Calculation	14	2.3		
SPO Code	Project/Activity Name	***Rating***		Key factors that led to success in managing the activity or	Challenges encountered during the project or
MPCO	***New Melones Exciter -Preaward Phase - RAX #261***	***1 (poor) to 5 (excellent)***	Average Rating	***1) Once NTP was issued, MPCO provided some support to move forward with the construction planning and activities.***	***1. More electrical technical knowledge from the MPCO staff to help CCAO manage the electrical construction projects. CCAO shouldered heavy burden on providing answers to the Contractor on what's in the specifications and drawings. 2. The procurement process took at least 2 years to complete from the time the design package SpecB was finalized to the award date by MP-3800.***
	Cost Effectiveness	***3***			
	Activity Understanding	***3***			
	Timeliness	***2***			
	Technical Knowledge	***3***			
	Problem Solving	***3***			
	Responsiveness	***2***			
	Calculation	16	2.7		

Appendix G

Reports Developed or Transmitted by the COG in FY 2010

Appendix G

Reports Developed or Transmitted by the COG in FY 2010

Table G-1 is a list of Annual Reports and One-Time Reports that the Coordination and Oversight Group (COG) developed and/or transmitted in fiscal year (FY) 2010. Those with shading in the far-right column indicate the report was delivered by the due date. In some cases, the due dates are self-imposed by the COG. The data indicates that the COG has met their due dates about 88% of the time.

Table G-1. FY 2010 COG Reports

Reports Assigned/Required	Report Due Date	Actual Date Report Provided
Annual Reports		
Transmit Advance Planning Worksheets for FY 2011 and FY 2012	March 2010 (self-imposed)	April 23, 2010
Transmit Technical Capability Report - analysis of Reclamation's technical capabilities (using November 2009 data) and identification of specific endangered skill sets	Due date not provided. Future Technical Capability Reports will be part of the Annual Report.	July 1, 2010
Draft COG Annual Report to the Deputy Commissioner of Operations (DCO)	January 28, 2011 (self- imposed)	January 28, 2011
Final COG Annual Report to the DCO	Final report due within 30 days of receipt of DCO's comments (self-imposed)	By the end of March 2011
One Time or "As Required" Reports		
Action Plans for "endangered" capabilities	See table H-1	
Issued permanent Policy (CMP P10) - Bureau of Reclamation's Business Model for Managing Technical Services	Temporary release expired October 5, 2010	September 29, 2010
Issued permanent Directives and Standards (D&S) (CMP 10-01) - Advance Planning for Technical Services Work	Temporary release expired October 2, 2010	September 28, 2010
Issued permanent D&S (CMP 10-02) - Fee-for-Service Business Practices for Technical Services Work	Temporary release expired October 2, 2010	September 28, 2010
Issued permanent D&S (CMP 10-03) - Workload Distribution Practices for Technical Services Work	Temporary release expired October 2, 2010	September 28, 2010

Appendix H

COG Recommendations to the Deputy Commissioner for Operations and Resulting Decisions

Appendix H

COG Recommendations to the Deputy Commissioner for Operations and Resulting Decisions

Table H-1 is a list of recommendations to the Deputy Commissioner of Operations (DCO) and the decisions rendered by the DCO. The list includes all of the Coordination Oversight Group's (COG) recommendations to the DCO and resulting decisions. The Action Plans are included in the list for tracking purposes, and the status/progress on those Action Plans that are noted as "pending" will be monitored by the COG.

Table H-1. Fiscal Year (FY) 2010 COG Recommendations to the Deputy Commissioner for Operations and Decisions Rendered

COG Recommendations to the DCO	Decision Rendered
COG recommendation to fill construction manager position in the Pacific Northwest Region. (This recommendation was made prior to FY 2010.)	Accepted.
COG recommendation to leave language in the Customer Collaboration Directives and Standards (CMP 10-04) as is, which applies only to construction at or on reserved and transferred works.	Accepted.
COG recommendation regarding the Lower Colorado Region's request to use advanced funding agreements in FY 2011.	Accepted.
COG recommendation on how to distribute the costs of the Electronic Service Agreement Model development and system operation and maintenance.	Accepted.
COG Action Plan for Endangered Capability – structural analysis and design of plant facilities (powerplants). This Action Plan originated from review of FY 2009 data.	Pending.
COG Action Plan for Endangered Capability – structural and hydraulic analysis, evaluation, and design of concrete dams (nonlinear structural analysis). This Action Plan originated from review of FY 2009 data.	The Action Plan concluded that the capability is no longer endangered.
COG Action Plan for Endangered Capability – design and analysis of temperature control/selective withdrawal structures. This Action Plan originated from review of FY 2009 data.	Pending.
COG Action Plan for Endangered Capability – analysis of hydraulic transients in power system waterways. This Action Plan originated from review of FY 2010 data.	Pending.

From: Wirkus, Karl E

Sent: Saturday, June 13, 2009 1:10 PM

To: Ehat, Fred P (Rick); McDonald, John (Bill)

Cc: Allard, James; Arroyave, Pablo R; Boyle, Mark W; Dent, Richard E; Horsburgh, Bryan R; Knight, Karen A; Muller, Bruce C; Peterson, Roxanne E; Relf, Michael M; Scott, Rick L.; Stock, Karl J; Virden, Edward (Ed)G; Welsh, Richard A.

Subject: RE: PN Construction Management Issue to COG

Bill, Rick, & COG;

I am very impressed by and appreciative of the thoughtful and detailed recommendation to fill the CE position in PN, and I readily concur. It is extremely gratifying to see this tree bear fruit!

Rick and COG members, I really appreciate you sticking with it and putting in the effort it has taken to get this far. I'm also really looking forward to getting Commissioner Connor briefed, probably soon after Bill and I meet with you next month.

Karl Wirkus
Deputy Commissioner, Operations
1849 C St NW
Washington, DC 20240
Office (202) 513-0617
Mobile (208) 859-7819

From: Ehat, Fred P (Rick)

Sent: Friday, June 12, 2009 11:44 AM

To: McDonald, John (Bill)

Cc: Wirkus, Karl E; Allard, James; Arroyave, Pablo R; Boyle, Mark W; Dent, Richard E; Horsburgh, Bryan R; Knight, Karen A; Muller, Bruce C; Peterson, Roxanne E; Relf, Michael M; Scott, Rick L.; Stock, Karl J; Virden, Edward (Ed)G; Welsh, Richard A.

Subject: PN Construction Management Issue to COG

Bill,

See below for a response to your request to the COG to analyze, from a corporate perspective, the Construction Engineer/Manager (CE) position in PN.

I have some worry that we have addressed your specific concerns and should this not be the case, please clarify and we will re-group.

Clearly the COG is less than a fully functioning group, however, we applied the principles we have formulated, the subject matter experts we had available, and the data which we had at our disposal to reach these findings.

The information we considered was:

1. The current basic structure of the PN construction management organization with positions (probably close, but likely imprecise), current expertise level, and functions.

2. Data available from the COG's efforts in "advance planning" which is the technical services estimate for FY 10 and 11. Some discussion of the data received from PN was focused purposefully on realism of actual work occurring.

3. Cursory assessment of the current and future prognosis of the SOD program in PN.

4. COG data is incomplete at this time related to what we have termed identification of technical "endangered species"(for the Biologist in you!) or "at risk" capabilities. Therefore, we considered several COG members personal knowledge of Reclamation capabilities and the information available to some of the COG members who overlap on the RDCCT group. The RDCCT actively discusses workforce and work in the CM areas.

5. A "sustainability model" developed by the COG to rate the risk associated with workforce structure.

Although, we believe there may be other options available to you, our COG corporate perspective recommendation to you is to maintain an appropriately small CM organization and fill the CE position. This recommendation is based upon the following findings:

1. The future PN workload clearly is dominated (nearly 75%) by electrical/mechanical (EM) work which appears to be easily sustainable on a "long term" basis. Note that "long term" in today's Reclamation is difficult to bracket and the term may be misleading. For the purposes of this report, it is considered greater than 2 to 3 years. It is noted that EM work will always involve some civil. More predominate basic civil work appears to involve approx. 1,000 Staff Days in FY 10 and increasing in FY 11 (primarily due to Minidoka spillway). We believe the basic civil CM focused work will likely continue beyond the 2 to 3 years due to the basic type of responsibilities Reclamation has and the age of our infrastructure.

2. The existing CM staff (neighborhood of 20 positions split between Grand Coulee, Yakima, and Boise) would benefit greatly by the expertise and leadership provided by a CM. In particular in providing the leadership required in the planning, design data collection, contract administration oversight, technical adviser to design, interface with O&M and customers,

technical day to day CM decision making necessary to keep pace with construction, providing a focal point for construction contractors, etc. It would appear, a large number of contracts (albeit low quantum) will be likely which increase the level of effort necessary by a CM staff.

3. The corporate technical capabilities for CEs is qualitatively an at risk capability. This is based upon our workforce "sustainability model" and that likely there are less than 10 individuals corporately qualified (progressively increasing responsibilities and 15 yrs +/- CM experience) for the position. Considering mobility issues, we believe it will be a challenge to provide a large corporate candidate pool.

4. Based upon our corporate "at risk" capability conclusion, we believe it is critical to the organization to fill the position.

5. The heavy EM workload would indicate there may be an opportunity for Reclamation to have available a CE with heavy emphasis on this specialty area. We recommend efforts be made to work with HR in recruiting in such a way which provides opportunities to those with strong EM backgrounds.

We appreciated greatly both the opportunity to be handed a real time issue (after dealing with implementation questions for such a long time) and your obvious interest in walking the talk. Our hats go off to you.

Please consider this COG report number 1 to the DCO. Note this summary has not been peer reviewed by the COG in the interest of time, however, the issues were vetted. Therefore, I would invite other opinions from the COG to be provided directly to you.

Sincerely,

Rick Ehat
COG Chairman

Appendix I

Outsourcing of Technical Services

Appendix I

Outsourcing of Technical Services

The annual review of technical services work outsourced or contracted provides critical data which contributes to the goal of ensuring Reclamation's use of cost-effective and quality services, as well as the maintenance of core technical capability. The Coordination Oversight Group (COG) collected data, maintained records, and provided reports on the total amount of technical services contracted or outsourced annually. The data collected from the regions are summarized in table I-1.

During the annual review of technical services procurements, the COG referred to the list of endangered technical capabilities. The annual data for technical services contracted and outsourced in a given year were reviewed in order to identify status and trends associated with the utilization and proper staffing of mission-essential capabilities in Reclamation.

2010 Annual Report Contracts									
Region	NAICS Code 54-13-30, 5413-50, 54-13-60, 54-13-70, 54-13-80	NAICS Description	Product or Service Description	Title	Vendor	Endangered Capability	Amount	Comment Code	Reclamation Capability Outsourced (in dollars)
LC	541370	SURVEYING AND MAPPING (EXCEPT GEOPHYSICAL) SERVICES	GEOPHYSICAL STUDIES	ELECTRICAL LEAK LOCATION SURVEY AT THE DROP 2 STORAGE RESERVOIR PROJECT SITE NEAR EL CENTRO, CA, IN SUPPORT OF DOI BUREAU OF RECLAMATION INITIATIVES	LEAK LOCATION SERVICES INC	N	$115,000.00	1	$0.00
MP	541370	SURVEYING AND MAPPING (EXCEPT GEOPHYSICAL) SERVICES	OTHER ENVIR SVC/STUD/SUP	KLAMATH RIVER LIDAR AND MAPPING	WOOLPERT, INC.	N	$443,967.47	1	$0.00
MP	541370	SURVEYING AND MAPPING (EXCEPT GEOPHYSICAL) SERVICES	OTHER ENVIR SVC/STUD/SUP	KLAMATH RIVER LIDAR AND MAPPING	WOOLPERT, INC.	N	$103,840.68	1	$0.00
PN	541330	ENGINEERING SERVICES	OTHER ARCHITECTS & ENGIN GEN	TASK ORDER FOR PHASE IIB OF ASSISTNACE WITH PREPARATION OF ENV. IMPACT STATEMENT AND OTHER ENVIRONMENTAL COMPLIANCE ACTIVITIES FOR ODESSA SUBAREA SPECIAL STUDY IN CENTRAL WASHINGTON.	CH2M HILL INC	N	$1,169,937.00	2	$292,484.25
PN	541330	ENGINEERING SERVICES	A/E SVCS. (INCL LANDSCAPING INTERIO	ANALYSIS/REFINEMENT OF PREFERRED ALTERNATIVE AND PREPARATION OF DESIGNS AND SPECIFICATIONS FOR THE FOREMAN HABITAT IMPROVEMENT PROJECT IN THE ENTIATE RIVER SUBBASIN IN WASHINGTON.	ANCHOR ENVIRONMENTAL LLC	N	$157,463.00	2	$39,365.75
PN	541330	ENGINEERING SERVICES	A/E SVCS. (INCL LANDSCAPING INTERIO	A-E DESIGN SERVICES FOR 8 CROSSINGS ON CHUMSTICK CREEK IN THE WENATCHEE RIVER SUBBASIN, WA.	JONES & STOKES ASSOCIATES INC	N	$137,832.33	2	$34,458.08
PN	541330	ENGINEERING SERVICES	OTHER ARCHITECTS & ENGIN GEN	TASK ORDER FOR A-E SERVICES FOR DESIGN & PROGRAM IMPLENTATION SUPPORT FOR THE TRINITY RIVER RESTORATION PROGRAM (TRRP) IN WEAVERVILLE, CA.	CH2M HILL INC	N	$349,673.00	2	$87,418.25
PN	541330	ENGINEERING SERVICES	OTHER ARCHITECTS & ENGIN GEN	MOD 1 DELETES SOME UNNEEDED SERVICES AND ADDS ADDITIONAL CONSULTATIONS AND SUBTASKS.	CH2M HILL INC	N	$224,725.00	2	$56,181.25
PN	541330	ENGINEERING SERVICES	OTHER ARCHITECTS & ENGIN GEN	TASK ORDER FOR PART I OF THE YAKIMA RIVER BASIN STUDY & INTEGRATED WATER MANAGEMENT PLAN, YAKIMA WA. THIS BASIN STUDY IS BEING CONDUCTED UNDER THE DEPT. OF INTERIOR'S WATERSMART PROGRAM.	HDR ENGINEERING, INC.	N	$490,105.73	2	$122,526.43

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PN	541330	ENGINEERING SERVICES	OTHER ARCHITECTS & ENGIN GEN	TASK ORDER FOR FEASIBILITY STUDY TO ADD A POWER PLANT AT ARTHUR R BOWMAN DAM, CROOK COUNTY, OREGON.	HDR ENGINEERING, INC.	N	$140,941.49	2	$35,235.37
PN	541330	ENGINEERING SERVICES	OTHER ARCHITECTS & ENGIN GEN	TASK ORDER FOR PART II OF YAKIMA RIVER BASIN STUDY & INTEGRATED WATER MANAGEMENT PLAN, YAKIMA, WA.	HDR ENGINEERING, INC.	N	$1,469,802.41	2	$367,450.60
PN	541330	ENGINEERING SERVICES	A/E SVCS. (INCL LANDSCAPING INTERIO	PHASE IIB OF ENGINEERING DESIGNS FOR MODIFICATIONS/UPGRADES TO TWO PASSENGER ELEVATORS LOCATED IN THE 3RD POWER PLANT AT GRAND COULEE DAM, WA	CH2M HILL INC	N	$111,750.00	2	$27,937.50
PN	541330	ENGINEERING SERVICES	OTHER ARCHITECTS & ENGIN GEN	TASK ORDER FOR CONCEPT FORMULATION FOR ANADROMOUS FISHERY HABITAT IMPROVEMENTS IN THE BIRD ISLAND REACH OF METHOW RIVER, WA.	ANCHOR ENVIRONMENTAL LLC	N	$160,708.00	2	$40,177.00
PN	541330	ENGINEERING SERVICES	OTHER ARCHITECTS & ENGIN GEN	TASK ORDER FOR PROJECT CONCEPT FORMULATION FOR ANADROMOUS FISHERY HABITAT IMPROVEMENTS IN THE O'BANION REACH OF THE METHOW RIVER, WA.	ANCHOR ENVIRONMENTAL LLC	N	$160,988.00	2	$40,247.00
PN	541330	ENGINEERING SERVICES	A/E SVCS. (INCL LANDSCAPING INTERIO	TASK ORDER FOR SCREENING & PASSAGE DESIGN AT LITTLE CREEK DIVERSION #1, GRANDE RONDE SUBBASIN, OR	CH2M HILL INC	N	$100,327.00	2	$25,081.75
PN	541330	ENGINEERING SERVICES	A/E SVCS. (INCL LANDSCAPING INTERIO	TASK ORDER FOR PHASE I OF LOWER WHITE PINE/NASON CREEK CHANNEL RECONNECTION PROJECT, WENATCHEE RIVER SUBBASIN, WA	JONES & STOKES ASSOCIATES INC	N	$499,640.33	2	$124,910.08
PN	541330	ENGINEERING SERVICES	OTHER ARCHITECTS & ENGIN GEN	TASK ORDER FOR INSPECTION AND INVENTORY OF ALL FIRE DOORS THROUGHOUT THE GRAND COULEE POWER OFFICE FACILITIES IN GRAND COULEE, WA.	CH2M HILL INC	N	$126,374.00	2	$31,593.50
PN	541330	ENGINEERING SERVICES	OTHER ARCHITECTS & ENGIN GEN	TASK ORDER FOR COMPLETION OF THE TYEE ALTERNATIVE EVALUATION REPORT, PERMITTING ASSISTANCE, AND PREPARATION OF 50% DESIGN PACAKAGE FOR AN ANADROMOUS FISHERY HABITAT IMPROVEMENT PROJECT. THE TYEE PROJECT IS LOCATED IN THE PRESTON REACH OF THE ENTIAT RIVER IN WASHINGTON.	JONES & STOKES ASSOCIATES INC	N	$495,963.68	2	$123,990.92

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PN	541330	ENGINEERING SERVICES	OTHER ARCHITECTS & ENGIN GEN	TASK ORDER FOR PHASE I OF A SPECIAL STUDY OF WATER SUPPLY ON TEH HENRYS FORK OF THE SNAKE RIVER, IDAHO.	CH2M HILL INC	N	$238,391.00	2	$59,597.75
PN	541330	ENGINEERING SERVICES	A/E SVCS. (INCL LANDSCAPING INTERIO	TAS::14 0681::TAS THIS TASK ORDER IS FUNDED WITH MONIES MADE AVAILABLE TO RECLAMATION UNDER THE AMERICAN RECOVERY & REINVESTMENT ACT OF 2009 AND IS ONE OF THE ACTIONS INCLUDED UNDER BUREAU TRACKING NO. 98.000. THIS TASK ORDER IS A FOLLOW-ON TO TASK ORDER R09PD10R03. IN THIS 2ND PHASE OF THE PROJECT, THE CONTRACTOR WILL DEVELOPE DESIGNS & SPECIFICATIONS FOR A HABITAT IMPROVEMENT PROJECT IN THE PRESTON REACH OF THE ENTIAT RIVER IN WASHINGTON AND ALSO PROVIDE ENGINEERING SUPPORT DURING CONSTRUCITON OF THE PROJECT	JONES & STOKES ASSOCIATES INC	N	$189,354.80	2	$47,338.70
PN	541330	ENGINEERING SERVICES	OTHER ARCHITECTS & ENGIN GEN	TASK ORDER FOR MEETING FACILITATION SERVICES AND TECHNICAL ASSISTANCE FOR THE YAKIMA RIVER BASIN WATER ENHANCEMENT PROJECT (YRBWEP) 2009 WORK GROUP MEETINGS - PHASE II.	HDR ENGINEERING, INC.	N	$176,822.66	2	$44,205.67
PN	541330	ENGINEERING SERVICES	OTHER ARCHITECTS & ENGIN GEN	GENERAL SUPPORT SERVICES TASK ORDER FOR THE PLANNING OF THE OVERHAULS OF THE SIX GENERATING UNITS IN THE 3RD POWER PLANT IN GRAND COULEE DAM, WA.	MWH AMERICAS, INC.	N	$250,000.00	2	$62,500.00
PN	541330	ENGINEERING SERVICES	OTHER ARCHITECTS & ENGIN GEN	GENERAL SUPPORT SERVICES FOR ANADROMOUS FISHERY HABITAT IMPROVEMENT PROJECTS IN THE JOHN DAY RIVER SUBBASINS, OREGON.	GRANT SOIL & WATER CONSERVATION DISTRICT	N	$250,000.00	2	$62,500.00
PN	541330	ENGINEERING SERVICES	OTHER ARCHITECTS & ENGIN GEN	TASK ORDER FOR GENERAL SUPPORT A-E SERVICES FOR THE PLANNED OVERHAUL OF THE POWER GENERATING UNITS IN THE 3RD POWER PLANT AT GRAND COULEE DAM, WA. THIS TASK ORDER REPLACES TASK ORDER 09A6101711 UNDER THE SAME ID/IQ CONTRACT.	MWH AMERICAS, INC.	N	$209,315.58	2	$52,328.90
PN	541330	ENGINEERING SERVICES	OTHER ARCHITECTS & ENGIN GEN	MOD 008 IS A BILATERAL MOD FOR COMPLETION OF THE STUDY.	HDR ENGINEERING, INC.	N	$134,935.61	2	$33,733.90

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PN	541330	ENGINEERING SERVICES	A/E SVCS. (INCL LANDSCAPING INTERIO	TAS::14 0681::TAS THIS TASK ORDER WAS FUNDED USING FUNDS MADE AVAILABLE TO RECLAMATION UNDER THE AMERICAN RECOVERY & REINVESTMENT ACT (ARRA). THIS TASK ORDER IS FOR ARCHITECT-ENGINEERING SERVICES TO PREPARE DESIGNS AND SPECIFICATIONS FOR IMPROVEMENTS TO THE WATER SUPPLY INTAKE/FISHSCREEN STRUCTURE, WATER SUPPLY INTAKE CONDUIT, WATER SUPPLY PUMPING PLANT, AND WATER SUPPLY LINE TO THE EXISTING HATCHERY SAND SETTLING BASIN OF THE LEAVENWORTH NATIONAL FISH HATCHERY NEAR LEAVENWORTH	CH2M HILL INC	N	$106,922.00	2	$26,730.50
PN	541370	SURVEYING AND MAPPING (EXCEPT GEOPHYSICAL) SERVICES	OTHER ARCHITECTS & ENGIN GEN	TASK ORDER FOR SITE SURVEYS OF CATHERINE CREEK & VALLEY SEGMENT OF GRANDE RONDE RIVER, OREGON.	ANDERSON PERRY AND ASSOCIATES INCORPORATED	N	$212,050.10	2	$53,012.53
UC	541330	ENGINEERING SERVICES	OTHER ARCHITECTS & ENGIN GEN	HYDROGRAPHIC DATA COLLECTION PHASE 1 PART B RIVER MILE-83 2010	TETRA TECH INCORPORATED	N	$127,938.08	3	$127,938.08
UC	541330	ENGINEERING SERVICES	OTHER ARCHITECTS & ENGIN GEN	THE PURPOSE OF THESE TASK ORDERS IS TO PERFORM HYDROGRAPHIC DATA COLLECTION SERVICES FOR THE MIDDLE RIO GRANDE PROJECT. THE CONTRACTOR WILL PROVIDE SURVEYED CROSS-SECTIONS OF THE ACTIVE RIVER CHANNEL AT INTERVALS OF APPROXIMATELY 1,000 FEET, UTILIZING A SURVEY GRADE GPS UNIT AND SEVERAL LOCAL CONTROL POINTS PROVIDED BY THE GOVERNMENT.CROSS-SECTIONS SHALL BE SURVEYED PROGRESSIVELY FROM UPSTREAM TO DOWNSTREAM OR DOWNSTREAM TO UPSTREAM, WITH NO MORE THAN 5 CALENDAR DAYS BETWEEN CROSS-SECTION SURVEYS.	TETRA TECH INCORPORATED	N	$222,103.13	3	$222,103.13
UC	541370	SURVEYING AND MAPPING (EXCEPT GEOPHYSICAL) SERVICES	OTHER ARCHITECTS & ENGIN GEN	THIS IS A FOLLOW-ON TASK ORDER FOR LIDAR DEVELOPMENT, DTM VERIFICATION AND CERTIFICATION.	WOOLPERT, INC.	N	$166,458.53	1	$0.00

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UC	541370	SURVEYING AND MAPPING (EXCEPT GEOPHYSICAL) SERVICES	OTHER ARCHITECTS & ENGIN GEN	TASK ORDER FOR MATT JONES' NAVAJO GALLUP PROJECT UNDER AERIAL PHOTOGRAPHY, A&E, IDIQ CONTRACT. KTR TO PROVIDE CONTOUR MAPPING & ORTHOPHOTOGRAPHS FOR A PIPE ALIGNMENT IN NEW MEXICO. PROJECT AREA CONSISTS OF CORRIDOR 1000 FT. WIDE & APPROX. 150 MILES LONG & IS 50 MILES SOUTHWEST OF DURANGO.	WOOLPERT, INC.	N	$245,383.75	1	$0.00
UC	541370	SURVEYING AND MAPPING (EXCEPT GEOPHYSICAL) SERVICES	OTHER ARCHITECTS & ENGIN GEN	THIS TASK ORDER IS TO CONDUCT GENERAL PROJECT PLANNING STUDIES OF THE KLAMATH PROJECT AND TO ACQUIRE TYPOGRAPHY FOR THE STUDIES.	WOOLPERT, INC.	N	$402,619.37	1	$0.00
UC	541370	SURVEYING AND MAPPING (EXCEPT GEOPHYSICAL) SERVICES	OTHER ARCHITECTS & ENGIN GEN	CONTRACTOR IS TO PROVIDE ADDITIONAL 116.2 MILES OF 5-BAND MULTISPECTRAL SCANNER IMAGERY AND ANALYSIS TO IDENTIFY WATER LEAKS FOR A LEAK DETECTION STUDY OF CONTROLLED CANAL REACHES IN THE MID-PACIFIC, PACIFIC NORTHWEST, UPPER COLORADO, LOWER COLORADO, AND GREAT PLAINS REGIONS OF THE BUREAU OF RECLAMATION. TAS::14 0681::TAS TRACKING NO. 8.000	AERO-METRIC, INC	N	$211,132.46	1	$0.00
UC	541370	SURVEYING AND MAPPING (EXCEPT GEOPHYSICAL) SERVICES	OTHER ARCHITECTS & ENGIN GEN	SAN FELIPE CONSTRUCTION STAKING.	SURVEYING SERVICES INCORPORATED	N	$4,712,152.58	3	$4,712,152.58
UC	541370	SURVEYING AND MAPPING (EXCEPT GEOPHYSICAL) SERVICES	OTHER ARCHITECTS & ENGIN GEN	MRGP - NEW MEXICO SA RANGELINES - SAN ACACIA DIVERSION DAM TO UPSTREAM OF ARROYO DE LA PARIDA. PURPOSE OF TASK ORDER IS FOR CONTRACTOR TO PREPARE EXISTING RANGELINES FOR SUBSEQUENT HYDROGRAPHIC DATA COLLECTION BY BRUSHING THE LINES AND CHECKING ENDPOINT ACCURACY.	SURVEYING SERVICES INCORPORATED	N	$100,214.40	3	$100,214.40
UC	541370	SURVEYING AND MAPPING (EXCEPT GEOPHYSICAL) SERVICES	OTHER ARCHITECTS & ENGIN GEN	SURVEYING SERVICES / SO RANGELINES ¿ NEAR ARROYO DE LA PARIDA TO SAN MARCIAL RAILROAD BRIDGE. PREPARE EXISTING RANGELINES FOR SUBSEQUENT HYDROGRAPHIC DATA COLLECTION BY BRUSHING LINES & CHECKING ENDPOINT ACCURACY.	SURVEYING SERVICES INCORPORATED	N	$141,791.20	3	$141,791.20

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UC	541370	SURVEYING AND MAPPING (EXCEPT GEOPHYSICAL) SERVICES	OTHER ARCHITECTS & ENGIN GEN	SURVEYING SERVICES ARE REQUIRED FOR THE LOW FLOW CONVEYANCE CHANNEL (LFCC) AND TO UPDATE THE CENTERLINE STATIONING AND THE TYPICAL CROSS-SECTION. TAS::14 0681::TAS. "THE BUREAU PROJECT NUMBER IS 65.000"	SURVEYING SERVICES INCORPORATED	N	$193,442.94	3	$193,442.94
					Total Dollar Amount of Reclamation Capability Outsourced				**$7,388,648.01**

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